

ORGANIZATIONAL TYPOLOGIES AND PERFORMANCE OF MUTUAL FUND MANAGERS



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The constant development of asset management on behalf of a third party, whether it be in terms of direct management or collective investment funds (UCITS)¹, is a general phenomenon on global financial markets. In a context where financial markets have become increasingly complex and particularly risky for inexperienced investors, many are the investors who have recourse to professional asset managers to make investments on financial markets for them. Portfolios are managed by an IMC in which a manager or management team decides on investment policies. However, despite the importance now given to IMCs – their role having such a significant impact on the operation and financing of contemporary economies – they have been little explored by the social sciences. Admittedly, IMCs operate in a field dominated by the efficient-market theory (Fama, 1970), which still remains one of the foundations of modern financial theory in spite of the significant criticisms levelled at it (Albouy, 2005). Efficiency theory rejects any attempt to detect overvalued or undervalued securities by the financial markets and implicitly predicts that in the long run no mutual fund manager (and therefore no IMC) can outstrip the market. Unsurprisingly, many studies in the field have therefore essentially been aimed at verifying the efficiency hypothesis by assessing portfolio manager performance. The central issue raised by these studies is to establish whether managers are able to outdo the market and thus achieve exceptional levels of performance. Nevertheless, in spite of the abundance of work measuring portfolio manager performance, this approach does not help highlight factors upstream. Indeed, managers see their roles restricted to varying degrees by rules that are inherent to the institutional or regulatory framework that regulate their activities and to their organizational structure. The decisions that they make are thus bound by this context. The studies that focus on performance measurement should be completed by more qualitative approaches analyzing the

operational context of fund managers. Certain authors have already used this kind of approach to account for fund manager behaviour, including Tadjeddine (2006) and Marsat & Tadjeddine (2008), who use qualitative interviews to capture the conventional and mimetic nature of the financial decisions made by managers. Others, like Bar et alii (2008) and Han et alii (2008), analyze working party methods and their impact on performance. Yet it remains to be seen whether the organizational context of an IMC can condition the level of manager performance. This issue was addressed in a previous article (Moussavou, 2006), where a causal analysis of data based on the models of structural equations (PLS) indeed established a link between organization and performance. The purpose of the present study is to complete the causal analysis by means of a typological analysis and to examine whether or not in IMCs we find organizational typologies, some of which may be considered as evidence of performance or, on the contrary, of non-performance with regard to the range of managed portfolios.

First, an outline will be given of the constitutive elements of the analytical framework used for this study, followed by the methodology used for data collection and samples, the typological analysis and the results obtained.

■ I. PROPOSED ANALYTICAL FRAMEWORK

One of the limits of economic approaches to finance is to construe investors as agents operating in an individual framework. Yet there are other ways of construing the behaviour of investors on financial markets. In IMCs, even if a portfolio manager is responsible for his investment decisions, those concerning the purchase and sale of securities are conditioned by a wide range of considerations that are inherent to the IMC context. For beyond the question of the specific characteristics of a portfolio manager, he has to respect a set of rules defined both by the regulatory or institutional framework

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and by the organization that employs him. In this respect, the neo-institutionalist framework initiated by North (1990) and Williamson (2000) seems to us to be appropriate for integrating into the same analysis the different levels required for understanding portfolio manager behavior. The neo-institutionalist approach indeed provides a unified framework for gaining a general understanding of the socio-economic factors that shape individual and organizational behaviour, and identifies three players in economic activity: individuals, organizations and institutions. According to the definitions given by North (1990):

■ *Institutions* represent the fundamental rules of the game, influencing every interaction, whether emanating from individuals or from organizations. The rules may be formal (law, codes, charters, and so on) or informal (social norms). Institutions restrict the range of choices available for individual or collective action by creating sanctions. Lastly, they help to reduce the degree of uncertainty specific to a given sector or the economic world.

■ *Organizations* also condition individual interactions by creating specific rules for a restricted group of individuals.

■ *Individuals* make up the third and final level: their actions are determined by their cognitive capacities and by the influence of the institutions and organizations to which they belong.

Applied to the context of the present study, the following remarks address the three levels of analysis defined by neo-institutionalist theory from the point of view of their influence on the organizational behavior of IMCs and their portfolio managers.

1.1. A REGULATORY FRAMEWORK AS VECTOR OF CONSTRAINTS FOR IMC ORGANIZATION

The daily operational activities of IMCs are subject to the demands of their regulatory environment. Indeed, IMCs respond to an ever-increasing number of constraints imposed by national monitoring authorities such as the AMF² or the *Commission Bancaire*³, and by European regulations imposed by MiFID⁴ or UCITS directives. These market authorities that regulate IMCs encourage the formalization and monitoring of activities by imposing a strict regulatory framework aimed at protecting investor savings. As such, IMCs are required to provide evidence that everything is done to ensure the safety of investors' funds before securing an investment management contract. In order to orientate the behavior of their portfolio managers, IMC directors are therefore inclined to devise a highly formalized system of internal monitoring that extends across the entire process of management. Thus, the importance of conforming to the norms laid down by a regulatory framework is today a major challenge for IMCs, which emphasize "compliance" in their structure so that prudential rules are respected. We can consequently question the impact of such rules on manager performance.

1.2. COORDINATION MECHANISMS AND FACTORS OF INTERNAL INFLUENCE

1.2.a. Risk control and the formalization of activities

IMCs set up internal procedures for monitoring risks which are partly regulatory but which also reflect market discipline, since IMCs seek to operate in the most favourable conditions. Portfolio managers are thus generally subject to organizational regulations (choice of Risk-Return ratio, investment prospects, choice of reference portfolios on which management policies are built, specific management constraints, etc.) that may limit their degree of leeway in the decision-making process. The risk monitoring procedures are thus designed to ensure that the orders taken by a manager fall within his managerial prerogatives. This conception of the organization is naturally favored in *mechanical* or *bureaucratic* types of organization. According to Mintzberg (1979), "organizations formalize behaviour to reduce variability, and ultimately to predict and control it". We can therefore reasonably question the impact of such organizational behavior on manager performance in the specific framework of IMCs.

1.2.b. The prevalence of information factor

Empirical research shows that in IMCs the players – and especially portfolio managers – exhibit natural interactivity with the economic sectors as a whole which are sources of permanent uncertainty. To deal with the element of uncertainty, affiliation with a network of partners often serves to strengthen the operational capacity of those who can mobilize this resource. Thus, in the daily activity of portfolio managers, numerous ongoing exchanges of information, expectations and points of view on market conditions continually interact with individual decisions. These relations are most often a precious source of data interpretation concerning the evolution and the state of increasingly international markets, and often take the shape of formal contracts within the different decision-making authorities (investment, management or strategy committees, etc.) that operate in most IMCs and through which investment strategies are often elaborated. They can also be observed in spontaneous exchanges between the colleagues and players who are internal and/or external to the IMC in question. The kind of organizational behaviour emerging here is reminiscent of Mintzberg's *adhocratic* model (1979) defined by mutual adjustment, work in "task constellations", or project groups. Powel (1990) evokes the network notion when speaking of such forms of exchange occurring in a social framework and the patterns of "relations" that develop therein. For Powel, networks are particularly efficient when processing information. The question that arises is whether the existence of such relations in an IMC helps to explain portfolio manager performance.

1.2.c. The immediate context of IMCs

In practice, even though IMCs operate in the same sector of activity, numerous immediate contextual factors – the number of employees, the number of managed

funds, the total value of managed funds, an affiliation to a parent company, and so on – may impact the organizational behavior adopted by an IMC. Moreover, several studies have shown that contextual factors operate as a determinant of the behavior adopted by an organization (Pugh et al., 1963; Stinchcombe, 1965; Hall, 1974; Kalika, 1984, 1995, 1998). It therefore seems justified to ask if the relation between organizational behaviour and manager performance could vary in intensity, depending on the immediate context of the IMC.

Lastly, beyond institutional or organizational factors, decisions taken by managers may present some degree of subjectivity linked to the cognitive aspects of a manager's personality.

1.3. THE CONSIDERATION OF THE COGNITIVE ASPECTS OF A MANAGER'S INVESTMENT DECISION

The orthodox point of view concerning an individual who takes an investment decision in a situation of uncertainty is the utility theory developed by Neumann and Morgenstern (1947), and implies extreme rationality on the part of the players. However, the rationality hypothesis has recently been much debated, notably by writers in the field of behavioural finance who argue that players take decisions based on non-rational (Aftalion, 2005) and subjective representations of reality (Wirtz, 2002). Thus, the rationality postulated in financial models does not seem able to provide a comprehensive account of certain observed behavior. Several writers in the field seem unanimous in pointing out that decisions whereby the individual is confronted with complex, ambiguous and uncertain choices are heavily biased (Evans, 1989; Ghiglione & Richard, 1999). This stems from the fact that individuals have limited cognitive capacities for processing and memorizing information (Simon, 1957). A number of studies have identified a wide range of heuristics and *cognitive biases* that may influence a decision-maker (Tversky & Kahneman, 1973) in terms of data selection and interpretation, supposed causal patterns, the presumed influence that the decision-maker thinks he/she has on events, the operational context, and so on (Charreaux, 2005). The principal cognitive biases and their impact on the management of individual portfolios were identified by Broihanne and alii (2005) and by Aftalion (2005). For example, cases of over-reaction observed on stock markets were analysed by De Bondt and Thaler (1985). For Romelaer & Lambert (2001), when decision-makers are faced with investment decisions that appear to have ambiguous consequences, the decision-making process is going to be shaped to a significant degree by constraints, values and even feelings. Situating the behavior of managers in this analytical context is useful: on financial markets, investors and notably portfolio managers select securities in a world in which projection is difficult and in which a decision taken and an investment made are the fruit of the whole process of the integration by the portfolio manager of economic, financial and strategic information. This is the kind of environment where *cognitive biases* phenomena are most

likely to appear and, incidentally, where they may impact manager performance.

The neo-institutional framework provides a deeper understanding of the behavior of the portfolio manager and avoids a reductive conception whereby his/her behavior is seen as individual and isolated, detached from rules established by both regulations and by the organization, and which may have a crucial impact on his/her decisions.

Having identified the potential influential factors of the organizational behavior of portfolio managers, it is necessary to establish a set of observable and relevant data to test the effect of organizational factors on performance and provide an answer to the issues raised in the introduction to our study. This point is addressed in the following presentation of the analysis of variables.

II. ANALYSIS OF VARIABLES

The following analysis is based on four groups of variables capable of characterizing the organization of IMCs and portfolio manager performance. Two groups of variables pertain to *formal organizational factors* and *interaction factors* between players and are based on the well-known formal organization/informal organization dialectic. A third group of variables pertain to contextual variables following organizational contingency theory (Lawrence and Lorsch, 1967). Lastly, the analysis was completed by the variable pertaining to *performance measurement* (Risk-Return ratio). The specificities of the different variables are now enumerated.

II.1. VARIABLES OF FORMAL STRUCTURE

The formal structure variables include the full range of measures taken by IMC directors to structure the behavioural space of their portfolio managers. To formalize these, we based our approach mainly on the work by the Aston group (Pugh et al. 1963; Stinchcombe, 1965; Hall, 1974), which still – in spite of their age – remain the reference model. Another essential reference is the work of Kalika (1984, 1995, 1998) on the organizational structures of French companies. In addition, Desreumaux & Romelaer (2001) identified several organizational factors relating to the decision-making process in organizations and their research also served as a basis for us to work from. Among the variables listed, we retained six:

- The *degree of structuring*, which takes into consideration the weight of the decision structure. The degree of structuring is apprehended through the degree of *horizontal or functional specialization* (“width of the organization chart”), indicating the number of departments, and the degree of *vertical specialization* (“height of the organization chart”), which measures the number of hierarchical levels, *i.e.* the length of the “chain of command”.
- The *degrees of standardization and formalization* enabling an assessment to be made of the degree of existence of written or unwritten rules or norms imposed on the members of a given organization and enabling an area of stability for their behaviour to be created.

■ The *degree of monitoring* is understood here as “an orientation process for behavior within the organization” (De Bodt and Bouquin, 2001). The degree of monitoring is often analysed together with the concept of strategic planning: there can be no monitoring without preliminary planning and plans lose all efficiency if there is no follow-up *i.e.* monitoring. Thus, according to the definition given by Mintzberg (1979), “two kinds of planning and monitoring systems can be distinguished: “the performance monitoring system” (or result monitoring system), which is general in nature and focuses on the results of action taken, and “action planning”, which takes place before the facts are known”. Within the framework of the present study, only the monitoring of portfolio manager performance – notably through the frequency of monitoring – will be analyzed.

■ In addition to these rather classical features of organizational analysis, the present study includes another, which apprehends the *degree of consultation*. Analysis of the *degree of consultation* is based on the number of collective decision-making authorities (investment committees, management committees and so on). These entities often bring together the “powers behind the throne” of an IMC. Here the main orientations for the asset allocation to which the managers should conform are often adopted formally. The introduction of this variable thus enables us to evaluate the degree of integration of the portfolio managers into the investment policies of the IMC

■ Finally, the *leadership style* practised by cooperation-based bodies is useful for establishing the extent to which portfolio managers are involved in the definition of large-scale strategic orientations. It is within the different cooperation-based bodies that portfolio managers are able to express their point of view concerning their organizational hierarchy.

II.2. VARIABLES OF INTERACTION BETWEEN PLAYERS

Unlike the group of formal structure variables, which are essentially based on concepts drawn from earlier studies, the methods of the group of interaction variables governing relations between players are largely the product of practical observation. Two distinct levels of analysis were chosen to formalize the interaction variables:

■ a first level, relating to interactions between internal players: the intensity of interpersonal communications within the organization and the exchange of information and expertise between operators working in the IMC.

■ a second level, concerning interactions with external agents, apprehended through the intensity of exchanges between the organization and external players. The relations with the other specialized intermediaries and the exchanges of information with external colleagues all clearly contribute to the decision-making process of portfolio managers.

II.3. VARIABLES OF CONTEXT

In order to formalize the operational context of IMCs, we largely drew from studies which analyze organizational contingency theory, Kalika (1984, 1995) and Desrumeaux and Romelaer (2001). Two context variables were selected:

■ the size, generally assumed to play a role in the organizational behaviour of companies. Several empirical studies show for instance a positive correlation, for example, between the size and the degree of structuring of the organization (Kalika, 1984, 1995). Three major criteria are taken into consideration: the number of employees, the number and total value of managed funds;

■ the type of organization (subsidiary or independent), that is to say the dependence or independence of the company in relation to an external entity. Certain studies have shown that a dependent company controlled by an external entity will in fact tend to formalize most of its behaviour, since directors are required to justify the results of their actions to a third party.

II.4. THE VARIABLE RELATIVE TO MANAGED FUND PERFORMANCE

Since the mean-variance model proposed by Markowitz (1952), the Risk-Return pair has been at the heart of portfolio management performance assessment. Several methodologies taken principally from the classic work of Treynor (1965), Sharpe (1966) and Jensen (1968) provide a highly concrete representation of these two parameters. But because of the many analytical tools⁵ available, the choice of methodology is a delicate one: it may moreover depend on a number of factors (the choice of a reference index, the choice of a means of measuring risk, the choice of a risk-free rate, the choice of the duration of the performance measurement period, and so on). For the present study, Treynor’s method and its derivatives were ruled out, since they use coefficient β for risk assessment, which seems appropriate only for funds entirely invested in shares and notably those invested on the same market. Jensen’s method and its derivatives [taken from the Arbitrage Price Theory (APT) model]⁶ were also ruled out, in particular because of the inherent difficulty of selecting and determining the number of factors to be integrated into the method. Sharpe’s ratio initially seemed appropriate because of its universal application: the risk is assessed using the standard deviation, which is suitable in the context of funds invested in any category of asset (shares, bonds and so on) and on any market. However, because it uses the zero risk rate, the Sharpe ratio was also ruled out. Given that the fund yield is often lower than the zero risk rate, the Sharpe index often generates negative results – an issue already raised by Jacquillat and Solnik (1997) and Aftalion and Poncet (1991), among others. Furthermore, on the subject of Sharpe’s ratio, the comparison of the fund yield and the zero risk rate should be of interest only to the underwriter who, within the framework of his/her investment decision, opts for either a risky or a risk-free investment. Ultimately, only the information ratio was retained for our study. The information ratio involves ascribing a reference (or benchmark) to a fund, often the market portfolio where the fund is invested, instead of the zero risk rate (in comparison with Sharpe’s ratio). The information ratio is useful for viewing an issue from the managing body’s standpoint, since it enables an assessment to be made of

performance or counter-performance of the asset allotment strategies in terms of their adaptability to the prediction of fluctuations on the markets in which portfolios are invested. The performances of an IMC and its players can consequently be compared with the performances of competitors investing on the same markets. Moreover, in practice, a good many portfolio managers adopt an “active” form of management whereby the objective is to track and outstrip an index. The information ratio characterizes this situation best.

2.4.1. The information ratio as a measurement of performance

If we consider a portfolio *p* and a reference portfolio *m*, the information ratio is the relation between the excess yield of the portfolio *p* in relation to the reference portfolio *m*, taking into account the excess risk taken by the manager deviating from the reference portfolio. It therefore constitutes a measurement of the success of “active” management with regard to a reference (or benchmark), the numerator being the yield spread obtained, which may be positive or negative and the denominator being the risk taken to be deviated from the reference portfolio. This gives:

$$IR_p = (R_p - R_m) / \int (R_p - R_m) \tag{1}$$

where *I_p* is the information index; (*R_p* - *R_m*) is the excess or deficit of the portfolio yield (*R_p*) on the market portfolio yield (*R_m*); and $\sigma (R_p - R_m)$ is the degree of risk taken of being deviated from the reference portfolio. This last element is called *tracking error*. It can be represented by the classic formula of the standard deviation :

$$Tracking\ error = \sqrt{\frac{1}{T-1} \sum_1^T [(R_p - R_m) - (\overline{R_p - R_m})]^2} \tag{2}$$

where *T* is the number of observations.

The standard deviation considers both positive and negative deviations from the mean as a potential risk. Thus, in this case, overperformance relative to the mean is penalized just as much underperformance. To address this anomaly, we must use another risk measure.

2.4.2. Lower partial moments (LPM) as risk measurement

According to Bawa and Lindenberg (1977) and Fishburn (1977), LPM (also called *downside risk*) is a good alternative to variance or standard deviation. LPMs depend on the attitude of the investor facing the risk of a return below a given threshold. It is therefore important to control the risk in order to keep returns above this threshold. The option is thus to replace the variance by LPMs that take account only of fluctuations in risk lower than the threshold set.

In general, the *n*-order lower partial moment of the return of a portfolio *R_p* in relation to a target *m* (generally the mean of the return, unless a required return is established at the start, or the market portfolio return) is calculated by the formula:

$$LPM_n = \sum_{R_p = -\infty}^m P_p (m - R_p)^n = \sum_{p=1}^K P_p [\min(0, R_p - m)]^n \tag{3}$$

where *P_p* is the probability of obtaining the return *p*, and *R_p* is a discrete random variable that represents the portfolio return. It takes *K* values; *n* is the LPM degree; the expression [*min*(0, *R_p* - *m*)] signifies that if a given return is higher than the target (*m*), the deviation between the return (*R_p*) and the target (*m*) is replaced by 0; otherwise the deviation is taken into account for its value in the sum.

The moment that interests us is the square of the negative deviations with the mean, also called *semivariance* or *second-order lower partial moments* (LPM₂). In terms of tracking error, the LPM₂ is calculated as follows:

$$\begin{aligned} & \text{If } (R_p - R_m) > (\overline{R_p - R_m}) \\ & \text{then } (R_p - R_m) - (\overline{R_p - R_m}) = 0 \\ & \text{If } (R_p - R_m) \leq (\overline{R_p - R_m}) \\ & \text{then include the result of } (R_p - R_m) - (\overline{R_p - R_m}) \\ & \text{in equation (2)} \end{aligned}$$

From an empirical point of view, there is disagreement over whether the LPM approach leads to results significantly different from the mean-variance approach. In fact, everything depends on the distribution of the returns; the more that returns diverge from the normal distribution, the more the two approaches may lead to empirically different results (Lee and Rao, 1988). The most recent studies generally favor the models based on the LPM (Harlow, 1991); (Guedhami, Roy, and To, 1999). Portfolio management using LPM has also been attracting practitioners’ attention more recently.

Having defined the different analysis variables, there now follows a description of the methods of data collection and the samples used in the present study.

III. DATA AND SAMPLES

Data collection and samples were based on qualitative and quantitative information pertaining respectively to organizational variables and to the performance measurement variable.

III.1. ORGANIZATIONAL DATA

The organizational data cover the period from early 1998 to late 2000. The data was collected, on the one hand using exploratory interviews with about fifteen portfolio managers and, on the other hand, through a postal survey accompanied by telephone calls preceding and following the dispatch of questionnaires to respondents. The questionnaires were sent to portfolio managers, as key players in IMCs. The data collection produced a sample of 59 IMCs, that is to say nearly 20% of the total number of IMCs working on the Paris stock market at the time the study was conducted. The IMCs in the sample were managing approximately 500 billion Euros, representing more than 76% of the total assets

of the funds managed on the Paris stock market at the time the study was made. The sample thus represented over two-thirds of the total value of funds managed in France at the time of the study and is consequently highly representative of the total population.

III.2. FINANCIAL DATA

The collection of financial data overlaps with the data from the organizational survey. The financial data was collected between the first week of 1993 and the final week of 2003, that is to say, over a period of ten complete years. The interest of this particular period is that it was characterized by several (bullish and bearish) stock market movements and was thus considered worthy of inclusion in this study. The results are evidently contingent on the period studied. Incorporating UCITS into the study therefore required the availability of all the weekly liquidation values throughout the period, thereby raising the issue of survivorship bias. Survivorship bias relates to the inclusion* or non-inclusion of the returns of certain portfolios existing at a given moment in the period of the study, but not throughout the period, and this would generate a significant bias in the ranking of portfolios in any given sample. The survivorship bias is said to tend to overestimate the returns or performances of the funds included in the sample, since the funds that disappear are generally the lowest-performing funds (or those with the lowest returns). Therefore, only the best performing funds are included in the sample. Several observations that are likely to limit the effects of the survivorship bias may nonetheless be made. First of all, poor performances (or low returns) are not the only causes of funds disappearing. For example, there may be the combining of one fund with other funds, notably during the takeover of an investment management institution by another. This may also be for commercial reasons (assets too low, or the presence of competitors in the same UCITS network). It may be a simple change of name for reasons relating to the marketing of promotional networks, which may appear misleadingly to imply that some funds have disappeared. The disappearance of funds can also be explained by the economic situation or political reasons. Such is the case of certain funds centred on fiscal policy (notably PEA)* and interest rates, for example, or in high-risk geographical areas, where the non-performance of the funds invested is independent of the investment manager's expertise: this was illustrated by the UCITS invested in Asia at the time of the Asian crisis. Be that as it may, the survivorship bias does exist. Certain academic studies [Gruber and Blake (1996), Goetzmann, Ibbotson and Ross (1992), Carhart (1996), Brown and Goetzmann (1995)] estimate that the survivorship bias increases performances by 0.16% to 6.67% per year. In the sample used for this study, the UCITS disposed of represent less than 50% of the initial sample. The impact of the survivorship bias is therefore low. Moreover, it is of little importance given the objective of the present study, since the aim is just to measure IMC performances, not to highlight the ranking of the performances.

In the process of our data collection, the choice of a sample of funds invested mainly in risk assets was intentionally adopted, for although fund managers possess expertise, they prefer its practical application in asset management. In addition, the data concerns commercialized funds, that is to say funds with portfolio shares that can be freely acquired by underwriters. However, certain funds were deliberately excluded from the sample on the grounds that they were not relevant to the present study (protected funds, indexed funds, monetary funds, "multi-manager" funds and hedge funds). Lastly, given all the selection criteria, a total of 324 French UCITS (126 mutual funds [FCP] and 198 unit trusts [SICAV]) were included in the study. "EuroPerformance", one of the largest databases on mutual funds in France, kindly agreed to provide all the weekly market values.

It was on the basis of the organizational and financial data collected as described above that our typological study was carried out, and the methodology of assessment now follows.

IV. TYPOLOGICAL STUDY

Generally speaking, a typological analysis is useful for studying heterogeneous populations by identifying sub-groups of individuals that present similarities among a given range of characteristics (Borgen and Barnett, 1987). In the present study, the typological analysis first classifies the IMCs in the sample with regard to their similarities in terms of the organizational variables used in the study. An ascending hierarchical classification is used to subdivide the initial sample into sub-groups of IMCs. I then specify the modalities or variables that account for these divisions. The next step involves examining the relation between the different sub-groups and the level of performance to define the organizational typology (or typologies) of IMCs. The final step, designed as a means of further refining the analysis, focuses on the contributions of the variables in the various organizational typologies pertaining to an account of performance. It is assumed that the relation between an organizational typology and performance can be attributed to the effect of a given variable or to the conjunction of several organizational variables.

IV.1. DEVISING AND DESCRIBING THE ORGANIZATIONAL TYPOLOGIES

IV.1.a. The elaboration of typologies

The method of *ascending hierarchical classification* (AHC) – which seems to be in practice the most commonly used technique – was used in order to comprehend how the IMCs in the sample are related. AHC is useful for understanding how individuals in a set of statistical individuals gather in homogeneous groups in view of their characteristic indicators (in this case, organizational variables). The issue therefore is to devise a typology that involves pairing the two most similar individuals, and to repeat the process until the grouping is complete, with the last class including the entire population in the sample.

The first step involves specifying the distance required between two groups of individuals. "Ward's method" was selected among the existing distance indicators because it seemed the best adapted to small samples⁷. Ward's method involves agglomerating groups or classes in such a way that the trace of a loss of interclass inertia (dispersion in a given class) is minimal.

The hierarchical tree (or *dendogram*) that resulted from the classification using SPSS software (*Quick cluster* in the SPSS prosoftware for Windows) enabled us to visualize the membership of an IMC in a given group at each level of aggregation. The hierarchical tree highlighted by the SPSS software subdivides the sample of IMCs into eight groups or classes of varying size. In practice, the number of groups or classes to be retained depends on the structure of the hierarchical tree and the degree of accuracy required for the segmentation. Given the rate of dispersion or inertia between the eight classes – reflecting incidentally the degree of homogeneity between the different groups – we established a division of the 59 IMCs in the sample into two groups, including respectively 47 and 12 companies, referred to henceforth as class 1 and class 2.

Following this segmentation, the next step involves identifying the profiles of the different classes of companies by analysing their characteristic variables.

IV.1.b. The organizational profiles of the classes of companies

The PLS procedure (*Partial Least Squares Discriminant Analysis*) based on SIMCA-P software was used to define the profiles of the different classes. The procedure

generates a discriminant analysis designed to determine the main features that distinguish one or several groups of individuals (in this case, the characteristics that differentiate the two classes of companies retained at the previous stage).

In Table 1, the first column specifies the VIP (*Variable Importance in the Projection*). The VIP indicates, in order of importance, the main characteristics that differentiate the two classes of companies. The second and third columns indicate, for each class (\$DA1 = Class 1; \$DA2 = Class 2), the weight and relative significance (positive or negative importance) of each variable within the group.

Analysis of the VIP indicates that the IMCs included in the two classes differ mainly by virtue of the total value of managed funds (TVMF), property type (TYPE: independent IMC or subsidiary IMC), the number of employees (EMPL) and the number of managed UCITS (NUCI). Next in line are the number of hierarchical levels, i.e. vertical differentiation (NNHI), the degree of standardization (STAND), the degree of control (CONT), the degree of formalization (FORM), the significance of cooperation mechanisms (COOP), the age of the IMC (AGE), the number of services, i.e. horizontal differentiation (NSERV), the degree of shared knowledge between internal agents (SHAK), leadership style (LEAD) and finally the degree of market interaction (MINT).

In Histogram 1, the highest characteristics are the most discriminant, and the lowest characteristics are the least discriminant. Except for the age of the company, we can observe that the most important discriminating factors are clearly those connected with the operational context of

Table 1. Results of the discriminant analysis of the different classes of companies

| | VIP[1] (cum) | \$DA1 CoeffCS[1] | \$DA2 CoeffCS[1] |
|-------|-----------------|---------------------|---------------------|
| TVMF | 3,06319 | -0,324847 | 0,324847 |
| TYPE | 1,08818 | -0,1154 | 0,1154 |
| EMPL | 1,01225 | -0,107348 | 0,107348 |
| NUCI | 0,845239 | -0,0896365 | 0,0896365 |
| NNHI | 0,716885 | -0,0760247 | 0,0760247 |
| STAND | 0,650966 | -0,0690342 | 0,0690342 |
| CONT | 0,458601 | -0,048634 | 0,048634 |
| FORM | 0,457733 | -0,048542 | 0,048542 |
| COOP | 0,350674 | -0,0371885 | 0,0371885 |
| AGE | 0,342999 | 0,0363746 | -0,0363746 |
| NSERV | 0,203695 | -0,0216016 | 0,0216016 |
| SHAK | 0,194294 | -0,0206046 | 0,0206046 |
| LEAD | 0,0958008 | 0,0101596 | -0,0101596 |
| MINT | 0,0843301 | 0,0089431 | -0,0089431 |

the company. More precisely, size factors (the total value of managed funds, number of employees and number of UCITS) and property type (subsidiary or independent IMC) clearly differentiate the companies included in the two classes. Among the organizational variables, the number of hierarchical levels ranks top, while leadership style and the degree of market interaction discriminate the organizational behaviour of the two classes of company only to a very limited extent.

Table 2 shows the relative importance of variables in the two classes of IMCs based on the data presented in Table 1.

We can observe that the companies in class 1 are characterized by the low value of total managed funds and the number of managed UCITSs. They are also independent IMCs⁸, employing a small workforce, with limited vertical differentiation (number of hierarchical levels) and limited horizontal differentiation (number of services), standardizing, monitoring and formalizing to a very limited extent their daily activities, with a low level of shared knowledge and cooperation, no doubt because of the limited number of employees. By contrast, they are also characterized by a greater age, strong leadership – indicating a greater degree of autonomy granted to portfolio managers – and a high degree of market interaction, which can be explained by the low level of horizontal differentiation (number of departments) and the low number of employees, generally causing agents to resort to external partners. These characteristics lead us to qualify the IMCs in this class as “simple structures”. In practice, they are small-scale IMCs in which the portfolio manager is in charge of almost all management tasks. In addition, Class 1 companies are very old (unlike companies that operate according to the organizational logic described below), since for the most part they were founded by former brokers/portfolio managers compelled by the

law passed on August 2-1989 (law n°89-531) to register their activities as IMCs.

In practice, the reverse organizational logic, which opposes the methods of class 1 companies and those of class 2 companies, is applied by large management entities that may appear to use more complex management processes. The IMCs included in this class may therefore be described as “complex structures”. In class 2 IMCs, we observe the importance of the various criteria of size [number of employees (EMPL), number of UCITS (NUCI) and total value of managed funds (TVMF)], and the importance of the degrees of vertical differentiation (NNHI) and horizontal differentiation (NSERV). We will also observe the importance of control (CONT), cooperation (COOP), formalization (FORM) and standardization (STAND), often developing the socialization of the agents involved, probably because of the sheer size of the entities. The high degree of shared knowledge among internal agents (SHAK) is also observed and can be accounted for by the high number of employees and may result in a higher intensity of interactions between operators internally. Entity type (TYPE) in class 2 companies corresponds in practice to subsidiary-type IMCs. Now, it is the subsidiary-type IMCs in large-scale networks that present the most significant criteria of size, in terms of the number of employees, the total value of managed funds and the number of managed UCITSs. Conversely, the criterion of age (AGE) seems to be of little importance in class 2 companies, which stands to reason given that the subsidiarization policies operated by large-scale collection networks based on AMF recommendations were only initiated in the late 1990s. Class 2 companies are thus more recent entities than the characteristically small-scale managerial structures of class 1 companies. Lastly, leadership style (LEAD) and the degree of market interaction (MINT) appear to be of little importance in class 2 companies. On the one hand, even

Table 2. Profiles of the classes

| Least important characteristics for class 1 and most important characteristics for class 2 | Most important characteristics for class 2 and least important characteristics for class 1 |
|--|--|
| Total value of managed funds (MFGE) | |
| Entity type (TYPE) | |
| Number of employees (EMPL) | |
| Number of managed UCITS (NUCI) | Age (AGE) |
| Number of hierarchical levels (NNHI) | Leadership style (LEAD) |
| Degree of standardization (STAND) | Degree of market interaction (MINT) |
| Degree of control (CONT) | |
| Degree of formalization (FORM) | |
| Importance of cooperation bodies (COOP) | |
| Number of services (NSERV) | |
| Shared knowledge (SHAK) | |

if portfolio managers are often involved in the definition of broad management strategies in the various auxiliary cooperation entities, they are usually given fixed investment criteria to attain or not exceed. The leadership style adopted in class 2 companies may be considered as rather autocratic. On the other hand, large-scale management structures are often directed towards mass management, where the presence of many departments in the value chain may be deemed useful. Portfolio managers often have at their disposal more internal logistics resources – hence the importance of vertical differentiation (NNHI) and horizontal differentiation (NSERV).

Having elaborated the organizational typologies and observed their profile-types, an analysis of the links between the typologies and performance can now be made.

IV.2. COMPARING PERFORMANCES IN THE OBSERVED ORGANIZATIONAL TYPOLOGIES

The issue here is to establish whether class 1 IMCs (“simple structures”) and class 2 IMCs (“complex structures”) achieve on average the same levels of performance. In order to do so, we used a statistical test postulating the hypothesis that both classes of IMCs achieve on average the same levels of performance (the “null hypothesis”). In this instance, the procedure based on the comparison of “T-TEST” averages using SPSS software was adopted.

IV.2.a. T-Test comparison of averages

The purpose of this statistical test is to compare the averages of two independent groups or samples, bearing in mind that their dependent variable (here, performance) is quantitative. In other words, the aim is to establish whether the two groups are statistically different in terms of their mean (in this case, performance mean).

For a test comparing averages, two statistical hypotheses are required:

■ The first – the null hypothesis (H₀) – postulates that there are no differences between the averages of the two groups;

■ The second – the alternative hypothesis (H₁) – postulates, unlike the null hypothesis, that there is a difference between the averages of the two groups.

If the result of the test is negative, i.e. if the null hypothesis is rejected, we can say that on average the two groups differ significantly. In the opposite case, no conclusions can be drawn.

Here, our aim is to compare the means of two groups of IMCs – those with a simple structure and those with a complex structure – in order to verify the hypothesis according to which, on average, the performances of the two groups differ. To this end, referring to the logic of a test involving the comparison of averages, the following statistical hypotheses may be postulated.

The first hypothesis (H₀) postulates that the performances of class 1 IMCs (m_1) are on average identical to the performances of class 2 IMCs (m_2) (i.e. $m_1 = m_2$).

The second hypothesis (H₁) postulates that the performances of class 1 IMCs are on average different from the performances of class 2 IMCs (i.e. $m_1 \neq m_2$).

Given hypothesis H₁, two alternative hypotheses are possible:

Either the financial performances of class 1 IMCs are on average higher than the financial performances of class 2 IMCs (i.e. $m_1 > m_2$).

Or the financial performances of class 1 IMCs are on average lower than the financial performances of class 2 IMCs (i.e. $m_1 < m_2$).

The following section presents the results.

IV.2.b. The results of the comparison of averages test

The application of the test requires verification beforehand that the samples used are drawn from data regulated by a normal law (MARTIN, 1994), in particular when the size of the sample is below 30, which is the case of one of the two samples of the two classes of companies. A Kolmogorov-Smirnov normality test contained in the SPSS software was used for this purpose. The results of the test showed that the financial performances observed in both classes of IMCs were regulated by a normal law with the significance threshold $\alpha = 5\%$. A test comparing the performance averages of the two classes of companies may therefore be conducted. Table 3 presents the results obtained.

Two data are required to interpret this table:

■ The mean difference between the two classes of companies, for which the interpretive rule is to establish whether the difference is significant according to hypothesis H₀. A second datum helps to validate or invalidate the result.

■ The value of Sig. (2-tailed), i.e. the probability or risk of being mistaken in stating that there is a difference between the two groups of IMCs (when their variances are equal: equal variances assumed), at the significance threshold $\alpha = 5\%$ (5 chances in 100 of being mistaken). In this case, two results are possible:

■ If the value of Sig. (2-tailed) is higher than α , i.e. 5%, then we should accept the null hypothesis and conclude that there is no significant difference between the two groups of IMCs.

■ If the value of Sig. (2-tailed) is by contrast lower than α , then we should reject the null hypothesis and conclude that there is a significant difference between the two groups of IMCs.

The results presented in Table 3 indicate: $m_1 - m_2$ (mean difference) = 1.026^b – 0.2. According to this result, the performances of class 1 IMCs (“simple structures”) appear on average to be higher than those of class 2 IMCs (“complex structures”) since $m_1 > m_2$. But it is important to verify if this difference is significant by considering the value of Sig. (2-tailed). The result shows that Sig. (2-tailed) is higher than α (i.e. 0.620 > 0.5).

Hypothesis H₀ is therefore retained. Thus: The hypothesis postulating that the performances of class 1 IMCs are on average equal to those of class 2 IMCs is probable.

This result suggests that there is no significant difference between the performance levels of IMCs with a “simple structure” and those presenting a “complex structure”.

Table 3. Results of the test comparing the averages of the financial performance of class 1 and class 2 companies

T-Test

Group Statistics

| | CLASSE | N | Mean | Std. Deviation | Std. Error Mean |
|------|--------|----|-----------|----------------|-----------------|
| PERF | 1,00 | 47 | - 4,6E-02 | 6,8130E-02 | 9,94E-03 |
| | 2,00 | 12 | - 5,6E-02 | 3,9951E-02 | 1,15E-02 |

Independent Samples Test

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|------|-----------------------------|---|------|------------------------------|--------|-----------------|-----------------|-----------------------|---|----------|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| PERF | Equal variances assumed | 5,305 | ,025 | ,498 | 57 | ,620 | 1,026E-02 | 2,059E-02 | - 3,1E-02 | 5,15E-02 |
| | Equal variances not assumed | | | ,674 | 29,510 | ,505 | 1,026E-02 | 1,522E-02 | - 2,1E-02 | 4,14E-02 |

IV.2.c. The interpretation of the results of the test comparing averages

The result highlighted above tends to indicate that, on average, IMCs achieve high performance levels and lower performance levels, both in IMCs with a “simple structure” and those presenting a “complex structure”. Therefore, the distinguishing criteria do not seem to be particularly significant from one IMC to another, if we only consider the mean of the published performances, which tends to suggest that IMCs operating on financial markets are relatively homogeneous. Their homogeneity can be explained by the fact that IMCs operate in the same environment and are therefore subject to the same institutional and organizational constraints, and even the same market dynamics. This may generate mimetic behavior that leads on average to similar levels of performance. Mimetic behavior – a factor that merits further analysis – may originate from the regulations laid down by monitoring authorities, from the habits or conditions of the market, and from the organization of the IMC itself.

■ Mimetic behaviour generated by an institutional framework and market dynamics

For a portfolio manager, institutional and market regulations may entail constraints or reasoning models that limit deviation, thus compelling him/her to imitate other agents operating in the same area. This is particularly the case of prudential regulations, the demand for liquidities, the focus on identical financial information and the normalization of theoretical models.

Prudential regulations generating collective movements.

Legal or regulatory constraints may sometimes impose targeted allocations or even management regulations in the exclusive interest of underwriters. Thus, in order to limit the risks borne by underwriters of UCITS shares, European regulations restrict the range of markets and the constitutive securities of portfolios (coordinated UCITS) made available to the general public. The agreement attributed to the fund also requires that the management

company accredited beforehand provide a complete prospectus detailing the object of the fund, its status and statutes and the chosen strategy. The promoters of the fund must therefore agree to comply with a number of constraints, in particular for the composition of the portfolio to ensure minimal diversification: rules of distribution defined according to the nature of the securities owned (restriction to 10% of the asset for securities such as cash vouchers, promissory notes, etc.) and a restriction of the possession of securities by the same issuer (5% of the asset). Managers must thus integrate these general rules into their investment decisions in order to comply with market discipline.

Demand for liquidity. One important feature of financial securities is their liquidity, i.e. the possibility of trading them rapidly without significant price variation. Managers are interested in this feature of financial securities because it enables them to alter the content of their portfolio more or less rapidly: the higher the liquidity of a security, the easier it will be to purchase or sell. If the search for liquidity becomes a priority for a manager, individual decisions will be shaped by the regulations structuring the markets. Every financial crisis (including today’ subprime crisis) triggers a race for liquidity, with each fund manager seeking to limit their losses by selling their highest risk securities and by attempting to buy safer securities, i.e. the securities with the highest degree of liquidity. Liquidity thus induces collective movements dictated by the institutional nature of securities.

Focus on financial information. Portfolio managers are avid users of information pertaining to market activity and their economic and financial environment, and are constantly on the lookout for expert analyses. As shown by Schiller (2001), the media, for example, focus on specific information and specific companies. To diverge from this principle is to run the risk of not benefiting from the sudden “craze” of interest in these companies, which tend to be more widely spoken of as they are widely known, and as their share quotation increases. Managers are

therefore compelled to focus exclusively on securities in which the financial community already shows an interest. Informational cascades are now the preferred explanation for herd behaviour (Bikhchandani et al, 1998). Informational cascades occur when the observation of the actions of other investors is in direct conflict with the observation of private indications perceived by a given investor.

The normalizing nature of the CAPM. The development of traditional asset management is based on the model used for pricing financial assets, or CAPM, which is indicative of a core belief: managers “believe” in this specific model and refer to it by way of grounding their reasoning methods. Given certain hypotheses and within a risk expectation plan, the model demonstrates the existence of efficient portfolios: every level of risk corresponds to an optimal portfolio located on the capital market line. Combined with the market efficiency hypothesis, this factor has served to justify the emergence and development of indexed management. Here, the index is often considered to be the best approximation of the market portfolio. This is the prevailing management style in asset management. The activity of fund managers is limited in such cases to creating a portfolio similar to the portfolio of a stock market index such as the CAC 40 index. On the scale of a category of indexes, indexed management legitimises the existence of a norm, a reference, a benchmark enabling the assessment of manager performance to be made. Hence, believing in efficiency in the sense that it is statistically impossible for a manager to beat the market naturally encourages managers to imitate their benchmark.

■ An IMC: a source of mimetic behaviour

The objective of an IMC is not necessarily the same as the objective of the manager if he/she is not the owner. To ensure its sustainability, an IMC implements procedures designed on the one hand to maximize global profit (by satisfying clients' needs, ensuring fund performance, creating new funds) and on the other to minimize the risks taken by managers which may lead to losses or even the disappearance of the company. An organization thus sets up procedures that constrain the action of the fund manager. These procedures also generate herd behavior, for example:

Compliance with client needs. By putting funds and management companies in competition with each other, client pressure creates a constraint for portfolio managers. Clients (both individual and institutional) compare fund performance. They may rely for this purpose on frequently published league tables or on the reference index included in the prospectus. The reference index is also the parameter used by clients to evaluate the performance of a management company. If the fund in question performs better than others, new underwriters will offer their services and fundholders will be satisfied. Fund managers are thus prompted to imitate the behavior of their competitors, even if they have access to private information that directs them to a different allocation for fear of being unable to attract new clients or of being sanctioned by their superiors if performances are below average. Client pressure therefore leads to a normalization of portfolios based on the reference index and average

collective performance; procedures designed to compel the fund manager to comply with the norm defined by the benchmark are implemented, whilst seeking to perform better than competing funds.

Risk control. IMCs set up internal procedures for controlling regulatory or organizational risks. In large management organizations, for example, risk control is the responsibility of an independent department which is often attached to the executive board. Risk control procedures are designed to ensure that the decisions taken by the portfolio manager comply with specific prerogatives (markets, securities, quantity) and respect the rules of diversification and the objectives defined by the fund and internally-defined limits. One common procedure is the use of tracking error, which measures the risk for a fund in relation to its reference index. The higher the tracking error (the standard deviation of the relative performances of a fund in relation to its reference index), the further the fund is, in terms of risk, from its reference index. Generally, the tracking error limits are defined internally and compel fund managers to avoid taking excessive risks in relation to the reference index.

The product of different prudential texts, the conventional nature of information or of theoretical models and the very organization of an IMC itself seems to contribute to the development of herd behavior. This collective behavior occurs because identical rules require compliance, whether consciously or unconsciously, or because consensus limits the risks. The room for manoeuvre that a portfolio manager has is thus restricted and tends towards majority opinion, generating similar average levels of performance. In view of the results noted above, it could be admitted that portfolio managers operate according to the same “convention” or interpretative model (Orlean, 2001, Lavigne 2005, Tadjeddine 2006). The reason portfolio managers identify with the same convention is that their activities are regulated by the same institutional framework and also because they use the same theoretical models to determine the price of securities or because they share the same contextual elements in their interactions with the market.

Following the analysis of the link between organizational typologies and performance, the next step is to analyze the function of organizational variables to explain performance. The significant difference absence between the average performance levels in the two organizational typologies does not perhaps exclude the possibility that organizational variables (or combinations of variables) in the two typologies have a positive or negative impact on performance.

IV.3. ANALYSIS OF THE FUNCTION OF VARIABLES TO EXPLAIN PERFORMANCE OF THE DIFFERENT CLASSES OF COMPANIES

PLS regression from SIMCA-P software was used for the purposes of this analysis, its advantage being the possibility of carrying out a regression of the variable Y on variables $X_1 \dots X_p$ that can be highly correlated⁹. Likewise, the regression is able to process matrices that have a

greater number of explanatory variables than the number of observations. Finally, since PLS regression is based on the NIPALS algorithm (Non Linear Iterative Partial Least Square) (WOLD, 1975), it can process matrices that present missing data without having to erase the individuals affected by missing data¹⁰. Here the issue is to apply PLS regression to the variables X_j that describe, for each class of company, the relevant organizational variables, in relation to variable Y , describing the level of performance. Firstly, we will present the results of the analysis of the function of variables to explain the performance of “simple structure” IMCs and then detail the results of the analysis for “complex structure” IMCs.

IV.3.a. Analysis of the function of variables to explain the performance of “simple-structure” IMCs

The results of the PLS regression of SIMCA-P software show the contributions of every explanatory variable X_j (within a group of explanatory variables X_p) in relation to the explained variable Y , based on the calculation of the corresponding partial correlation coefficients. The partial correlations measure the linear relation of each explanatory variable with the explained variable Y , once the linear effect of the remaining explanatory variables has been removed. Table 4 provides a visual representation of the partial correlation coefficients provided by SIMCA-P software, with R^2 representing the common indicator of the overall quality of the model. It is interpreted as the percentage of variance of the explained variable (in this case, performance) generated by the model. The closer it is to 1, the closer the observed values and the values measured by the model tend to be. It is often expressed as a percentage. Here, the value of R^2 is 0.32. Once the value is expressed as a percentage, the determination coefficient can be interpreted as follows: 32% of the variance of the performance of “simple structure” IMCs could be accounted for by organizational variables included in the present study. Though low, the percentage appears to be acceptable. For Croutsche (1997), R^2 must be above 15% for a model in the social sciences to be deemed acceptable. Nonetheless, it could be argued that many other organizational variables not included in the model outlined in this paper could account for the performance of “simple structure” IMCs.

For IMCs with “simple structures”, the results show partial correlation coefficients that are higher concerning the degree of market interaction (MINT), number of employees (EMPL) and cooperation (COOP). This increase increase of these criteria could thus be associated positively with performance in “simple structure” entities, thereby constituting guarantees of performance. We may therefore foresee that, rather than relying on individual expertise, portfolio managers operating in this kind of organization should develop a greater degree of interaction with external partners and consolidate internal cooperation, this cooperation being optimally promoted by a high number of employees. The results outlined above also indicate negative partial correlation coefficients for the degree of formalization (FORM) and control (CONT). These variables could therefore be less decisive to explain

the financial performance of “simple structure” IMCs. In particular, this would mean that the association of the use of written procedures and control in IMCs that have a “simple structure” does not lead to better performance. It should be recognized that in “simple structure” entities, where portfolio managers often operate at the interface of highly diverse tasks, a certain flexibility of action would enable managers to react swiftly to the demands of the market. However, it seems to us that the sensitivity of asset management activities, which deal with substantial amounts of money, requires a minimum of formalism and monitoring, in spite of the limited leeway which portfolio managers have. This should also constitute a response to the demands of the monitoring authorities for protecting investor savings.

Having presented the analysis of the contributions of variables to account for the performance of IMCs that have a “simple structure”, there follows that of the performance of IMCs that have a “complex structure”.

IV.3.b. Analysis of the contributions of variables to explain the performance of “complex structure” IMCs

The partial correlation coefficients indicated by SIMCA-P software for IMCs with a “complex structure” are shown in Table 5. The largely satisfactory value of R^2 is 0.82. Therefore, 82% of the performance could be explained by the organizational variables included in the present study for the IMCs that have a “complex structure”.

Table 4. Contributions of variables to account for the financial performance of class 1 companies (“simple structures”)

| CoeffCS[1] | PERF ($R^2 = 0,32$) |
|---------------------------------------|-----------------------|
| Market interaction (MINT) | 0.271507 |
| Number of employees (EMPL) | 0.220883 |
| Cooperation (COOP) | 0.115611 |
| Shared knowledge (SHAK) | 0.0929954 |
| Leadership (LEAD) | 0.0883445 |
| Total value of managed UCITS (NUCI) | 0.0751269 |
| Total value of managed funds (TVMF) | 0.0728035 |
| Property type (TYPE) | 0.0368237 |
| Degree of standardization (STAND) | 0.0241617 |
| Age of the company (AGE) | 0,0108299 |
| Number of hierarchical levels (NNHI) | 0.010589 |
| Number of services (NSERV) | 0.00183089 |
| Degree of formalization (FORM) | - 0.00816055 |
| Degree of control (CONT) | - 0.056741 |

The results show a level of performance that can be explained positively, and in decreasing order, by: the intensity of shared knowledge (SHAK), the degree of cooperation (COOP), the number of employees (EMPL), the total value of managed funds (TVMF) and the number of managed UCITS (NUCI). On the one hand, the degree of interaction between the members of the same work team as well as the degree of cooperation appear to constitute a collegial response to situations of uncertainty and risk on the markets, the work team thus becoming a “means” for mastering these factors by sharing knowledge or expertise. On the other hand, the different size parameters can be associated [number of employees (EMPL), the total value of managed funds (TVMF) and the number of managed UCITS (NUCI)] with the degree of cooperation (COOP) and shared knowledge (SHAK). Indeed, the more the greater the criteria of size, the greater the need to have recourse to cooperation mechanisms and shared knowledge (Moussavou, 2000). In particular, we consider that this situation is related to the co-existence of several management products and to often diverging objectives within this type of company. In a context such as this, the different categories of UCITS bring with them their own set of specific problems and different management styles, which often need to be incorporated into overall objectives. The multiplication of management products often generates increased specialisation and increased division of labour, which implies a need to develop a management of cooperation that enables individuals to meet on

a frequent basis and to resolve potential conflict; this also helps to integrate managers in internal investment policies. Lastly, the results indicate degrees of standardization (STAND), control (CONT) and formalization (FORM) with negative partial correlation coefficients. These findings would appear to imply that a high number of procedures, the significant recourse to written documents and the intensity of control might have negative effects on the performance of IMCs that have “complex structures”. However, as noted above, this result could be explained by the sensitivity of the sector, especially concerning the control and formalization of activities. The standardization of procedures is characteristic of a financial sphere that has become increasingly procedural today as a result of its many regulations.

V. CONCLUSION

The purpose of this article was to examine the connection between organizational typologies and IMC performance. An ascending hierarchical classification enabled two categories of organization to be identified: IMCs with a “simple structure” and those with a “complex structure”. Relating the two typologies to performance shows that on average the performance of portfolio managers is independent of the organizational typologies observed. There are as many performing or non-performing IMCs in IMCs with a “simple structure” as there are among those with a “complex structure”. This finding would seem to indicate a certain homogeneity of behavior within the organizational structure of IMCs. Indeed, there are common constraints and reasoning methods which are very much present in the decision-making processes used by portfolio managers and which often generate identical courses of action. Whether at the institutional level (AMF¹¹ regulations, liquidity requirements, the normative dimension of the CAPM) or at the organizational level (risk control, or even pressure from clients), a portfolio manager often has only a limited degree of leeway and cannot go against the trend of the market. This, on average, leads to the same level of performance irrespective of the kind of organization in which the portfolio manager operates. Moreover, the analysis of the contributions of the variables to explain performance within different organizational typologies also shows that certain variables are associated positively or negatively with performance. Among the “positive” variables, interpersonal relations (formal and informal) and inter-organizational relations are notably important: portfolio managers constantly interact with each other or with other players on the markets to exchange information, expertise or knowledge. In that respect, the very probability that a large number of portfolio managers operate in the same way is clearly present. An initially minority opinion may spread very rapidly throughout networks and thus generate mimetic situations leading on average to similar levels of performance irrespective of the kind of organization. Among the variables associated negatively with performance, the importance of formalism and of activity monitoring should be noted. In our view, the very specificity of

Table 5. Contributions of variables to account for the financial performance of class 2 companies (“complex structures”)

| CoeffCS[1] | PERF (R ² = 0,82) |
|--------------------------------------|------------------------------|
| Shared knowledge (SHAK) | 0.187355 |
| Degree of cooperation (COOP) | 0.177094 |
| Number of employees (EMPL) | 0.145231 |
| Total value of managed funds (TVMF) | 0.142287 |
| Number of managed UCITS (NUCI) | 0.137673 |
| Leadership style (LEAD) | 0.077598 |
| Degree of market interaction (MINT) | 0.0593489 |
| Number of hierarchical levels (NNHI) | 0.0543857 |
| Entity type (TYPE) | 0.0410048 |
| Number of services (NSERV) | 0.030937 |
| Age (AGE) | 0.0167752 |
| Degree of standardization (STAND) | - 0.179418 |
| Degree of control (CONT) | - 0.192248 |
| Degree of formalization (FORM) | - 0.250252 |

asset management activities, based on the use of large amounts of liquidities, requires a minimum of formalism and monitoring, despite the limited degree of leeway granted to the portfolio manager. The implementation of such a management system by IMC directors should meet the requirements of the monitoring authorities in protecting investors' savings.

Lastly, far from being the kind of autonomous individual postulated by the classical conception of *homo oeconomicus*, mutual funds managers do not operate in isolation on financial markets: they are subject to constraints and observe one another, going so far as to adopt mimetic behaviour that generates, on average, similar performances. Studies that focus on performance measurement need to be supplemented by more qualitative approaches that analyse upstream investment strategies, with factors such as arbitrage and discussions between players. Such research work would enrich our understanding of the behavior of mutual funds managers operating on financial markets. The slightest shock that affects markets has a knock-on effect for the economy as a whole and potentially impacts employment and consumption. Understanding the mechanisms that govern market dynamics is thus a major scientific issue – and perhaps it will be the key to controlling the markets. ■

- 1 Undertaking for Collective Investments in Transferable Securities (SICAV – unit trusts, and FCP – mutual funds).
- 2 Autorité des marchés financiers (the French securities market's external regulatory).
- 3 The French Banking Commission.
- 4 Markets in Financial Instruments Directive.
- 5 P. Cogneau provides a synthetic overview of the different methods in "The 101 ways to measure portfolio performance", forthcoming in the *Journal of Performance Measurement*.
- 6 The ranking of portfolio performances is largely dependent on the reference index used to measure portfolio performance. During the ranking process, performance measurement will be completely arbitrary if the selected index is inefficient. In order to get round the problem that results from the choice of only one reference index, numerous so-called "multi-factor" methods have been devised to incorporate in particular the multiplicity of (exogenous and endogenous) factor categories that may impact prices and the yield of the observed portfolios or assets. These methods, closely related to the Jensen model, are drawn from the theoretical framework of the APT or Arbitrage's Assessment Method.
- 7 SAS Institute Inc., SAS/STA User's Guide, Version 6, Fourth Edition, Vol. 1, Cary, 1989, p. 536.
- 8 Entity type is represented by 1 or 2 in the survey questionnaire. 1 corresponds to independent IMCs and 2 to subsidiary IMCs. The fact that entity type is among the least significant characteristics is indicative of the presence of independent IMCs in the relevant class.
- 9 This is a common issue that tends to limit classic regression analyses.
- 10 A description of this algorithm is provided in TENENHAUS M. (1998), *La régression PLS. Théorie et pratique*, chap.7.
- 11 Autorité des marchés financiers (the French securities market's external regulatory).

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