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## Italian asset management companies: governance structure and mutual funds

### Abstract

This paper investigates corporate governance of Italian asset management companies (AMCs) by observing a sample of banking and independent AMCs in 2012.

Asset management is a very important sector of the Italian financial system, so its corporate governance and ownership structure is a key issue. Consequences for investors are important in the light of potential conflict of interest characterizing the sector, its recent low performance and the high commissions charged to mutual fund subscribers. The authors, therefore, also explore the products (mutual funds) offered by AMCs.

In particular, the purpose of our research is to establish whether the ownership of Italian AMCs (independent or captive asset managers) influences the attributes, risk and performance of mutual funds. We use *Seemingly Unrelated Regression* (SUR), the statistical multi-equational method formulated by Zellner (1962).

Results show that the ownership of Italian AMCs may affect mutual fund attributes, their performance and risk. Finally, a better ownership structure of asset managers could contribute to improving the Italian asset management market and customer satisfaction.

**Keywords:** asset management companies, ownership, mutual funds, performance, risk.

**JEL Classification:** G15, G20, G32.

### Introduction

Corporate governance (CG) is a widely debated topic, and is particularly relevant to the context of asset management, which is an important sector in Italy and abroad (Mazzoleni, 2009; Stoughton et al., 2011).

Italian asset management is characterized by two “distortions”: *vertical integration* between production and distribution and the predominance of AMCs belonging to banking or insurance groups. In 2006, the sector was hit by decline, which continues today.

Messori (2008) finds that the potential conflict of interest characterizing the Italian asset management sector probably determined the decline, which means that it is important to promote the improvement of corporate governance system of asset managers. Researchers, legislators and supervisory authorities in fact believe that increasing the level of autonomy AMCs is desirable.

This study examines the ownership structure of AMCs in 2012. The purpose is to establish whether it influences the attributes of their products (different classes of mutual funds). The following research question is formulated:

*How are mutual fund attributes, risk and performance impacted by independent and captive asset managers?*

The rest of the paper proceeds as follows. In the next section we present an overview of the theoretical literature on corporate governance, the Italian asset management sector and AMC activities and characteristics. Section 2 describes the sample and

variables used in the analysis. Section 3 outlines the statistical methodology, and section 4 discusses the results of the empirical analysis. In the last section we present our conclusions.

### 1. Literature review

Good corporate governance contributes to value creation, development and economic growth: it is a key element for investor confidence (OECD, 2004).

Onado (2000) defines CG as the system by which the interests of stakeholders are represented and companies are directed and controlled.

Aguilera (2005) proposes a distinction between the Northern European/US and continental European models of corporate governance. The Northern European/US model is oriented to the maximization of share values, while the continental model is based on the relevance of all stakeholders. A company is considered a combination of different medium/long-term interests.

Millstein (1998) specifies narrow and broad definitions of the expression *corporate governance*. CG is the set of relationships between managers, directors and shareholders and it is also the set of laws, regulations and practices of the private sector, through which corporations attract capital, generate revenues and satisfy statutory requirements and general expectations. Finally, Shleifer and Vishny (2007) focus on the financial aspect of corporate governance.

Recent literature (Klapper and Love, 2004; Himmelberg et al., 1999) suggests that good corporate governance is necessary to ensure investor confidence. This

consideration is particularly important in the asset management sector, where intermediaries take decisions in the name of, and on behalf of, clients. It is, therefore, clearly important to assess the structure and organization as well as the size of AMCs (Lener, 1999, 2005).

Governance rules for operating a financial intermediary are different from those of a company. Del Giudice and Capizzano (2006) find two typical aspects of the financial sector: the existence of rigorous regulation and the active role of financial intermediaries in other companies' governance systems (McCahery et al., 2009).

In Italy, high switching costs between banking and financial services mean that banking networks are often locked in to the same group as AMCs.

Messori (2008) identifies several "distortions" of the Italian asset management sector: the predominance of AMCs belonging to a banking or insurance group and the vertical integration between production and distribution. Moreover, asset management products are offered as an alternative to other opaque and risky financial instruments by the same distribution channel. This situation causes a potential conflict of interest because marketing policy of distributors may be affected by this distribution model and, consequently, the needs of investors may not be optimally met.

The issue is particularly important in the light of national<sup>1</sup> Italian law and European<sup>2</sup> directives based on client interest protection and reduction of potential conflict of interest. It is necessary to pursue the independence of AMCs from banking or insurance groups in order to carry out more efficient asset management activity (Borello and Pampurini, 2011).

Several studies report the possible consequences of asset managers' ownership (Carosio, 2009; Del Giudice and Capizzano, 2006; La Porta et al., 1997, 1998; Lener, 2005; Richter, 2006). This issue is important for companies, policy makers and investors interested in governance choices of institutional investors (McCahery et al., 2009).

Previous research emphasizes the costs and benefits of governance systems (Becht et al., 2002; Boot et al., 2006; Burkart et al., 2003; Shleifer and Vishny, 2007; Walter, 1999). Other studies describe governance mechanisms and their implications (Adams et al., 2008; Borokhovich et al., 1996; Fernandes, 2005; Khorana et al., 2007; Spong and Sullivan, 2007; Weisbach, 1988). AMCs are exposed

to problem of *fund governance*<sup>3</sup> (Messori, 2008; Richter, 2006) as well as agency problems and costs (Jensen and Meckling, 1976). Regulatory authorities (Bank of Italy, *Commissione Nazionale per le Società e la Borsa*, the Italian commission for companies and the stock exchange) and the legislator enact regulations to protect client interests and market integrity, with the overall aim of allowing more independent AMCs to adopt better development strategies and reduce potential conflicts of interest. Further studies also argue that an inefficient governance system may lead to lower levels of protection for investors (Faccio and Lang, 2002; La Porta et al., 1999).

Other work analyzes the impact of fund manager characteristics on fund performance (Chevalier and Ellison, 1999), and focuses on the relation between the performance and the governance structure of fund managers. Ding and Wermers (2005) find evidence that efficient fund managers with more experience outperform their peers.

Several studies investigate the impact of fund board quality on fund flow performance, persistence in fund performance and investment strategies (Del Guercio et al. 2003; Lai et al., 2010; Lynch and Musto, 2003; Tufano and Sevick, 1997).

Khorana et al. (2007) document the level of portfolio manager ownership in the managed funds and examine whether ownership is associated with higher future performance: future risk-adjusted performance is found to be positively related to managerial ownership.

The Italian distribution system of asset management products also shows distortion in the structure of commission charged to investors. Distributors obtain very high commissions from asset management products (Linciano and Marrocco, 2002), and the costs of ancillary services provided by AMC banking groups tend to be high. Banking and insurance groups often prefer to offer more opaque and profitable products, so distribution costs are higher than production costs. This has two consequences: commissions charged to asset management investors are too much high (Stiglitz, 1987) and AMCs have low investment margins. This mean that management fees are often high.

In general, Italian households tend to invest in less risky financial instruments, which may also explain why asset management skills are not widespread (Gentile et al., 2006). In recent years, asset management performance has been poor because of changes in investor preferences, and because of the perception that mutual funds are expensive and unprofitable and unhelpful distribution network

<sup>1</sup> Savings Law (Law No. 262 of December 28, 2005).

<sup>2</sup> MiFID (Directive 2004/39/EC on Markets in Financial Instruments) and UCITS III (Directives 2001/107/EC and 2001/108/EC) and UCITS IV (Directive 2009/65/EC).

<sup>3</sup> *Fund governance* problems are the conflict of interest between shareholders and participants in funds offered by AMCs.

policies (Barucci, 2007). In the asset management sector, products appear to be particularly subordinated to distribution: banking and insurance groups have a dominant role in mutual funds. Some researchers note that compared to smaller AMCs, bigger AMCs tend to pay higher commissions to the distribution network, so that advantages deriving from AMC size cannot be assigned to final clients. Several studies focus on the impact of a banking shareholding on company profit levels, and Cremers and Nair (2005) delve into the interaction between governance measures and firm performance. Some studies have acknowledged that banking shareholding positively influences company profitability (Cable, 1985; Gorton and Schmid, 2000), while other researchers have found no significant differences (Chirinko and Elston, 2006).

Because of the predominance of banking distribution channels, it is important to verify if they determine rigidity of pricing of asset management products (Lehmann and Weigand, 2000). De Rossi et al. (2008) emphasize that the incidence of operational costs on assets under management is scaled down as equity of mutual funds increases.

The predominance of AMCs belonging to banking or insurance groups could cause a potential conflict of interest because of the *commissions phenomenon*<sup>1</sup> (Linciano and Marrocco, 2002; Otten and Schweitzer, 2002). Overall *commissions* usually include the total subscription fees and redemption fees and a share of management fees; most of the commissions charged to investors are paid to the distribution network.

## 2. Sample description and variable definitions

**2.1. Sample.** The sample in this study was selected from Italian AMCs members of Assogestioni<sup>2</sup> in 2012; it consisted of 35 AMCs mainly belonging to banking or insurance groups<sup>3</sup>. Figure 1 shows the sample composition.

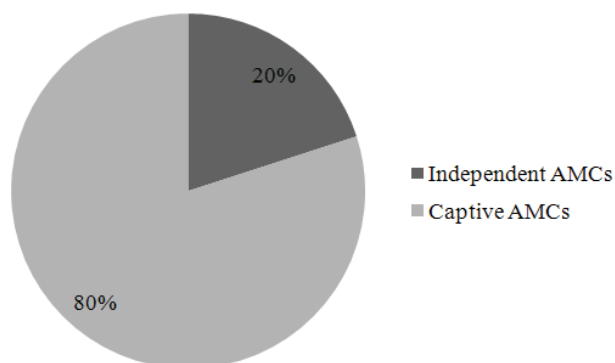


Fig. 1. Sample composition (%)

We obtained two subsamples consisting respectively of independent and captive (banking or insurance) AMCs. The independent AMCs were more numerous than banking or insurance AMCs: sample composition is consistent with the structure of the Italian asset management sector and that found in the literature review.

The concept of “independence” is derived from Art. 2359 of the Italian Civil Code. The Italian term *influenza notevole* (*significant influence*) is used to differentiate the level of independence: “Significant influence is presumed when at least one fifth of the votes (or one tenth of the votes in listed companies) can be exercised in the shareholders’ meeting”. For our purposes, “An AMC is not independent if the overall banking or insurance shareholding is 20% or higher”. These AMCs are on the whole linked to the distribution network.

**2.2. Variables.** Focusing on AMC governance, the ownership structure (Zattoni, 2006) is a key aspect. In general, ownership can be dispersed or concentrated, and agency theory states that the level of concentration affects value creation.

In line with the aim of our research, we identify ownership as the independent variable in the empirical analysis<sup>4</sup>. Using the definition of independence given above, we studied captive and independent asset managers. We found potential differences between the two subsamples of Italian AMCs and we assume these differences also relate to the attributes, the risk and performance of mutual funds.

We also believe the size of the AMCs to be important: the market share of the AMCs may affect the classes of mutual funds. Therefore, the empirical analysis includes the AMC annual market share<sup>5</sup> as an independent variable. The high level of concentration in the sector was clear: assets under management of the five biggest AMCs accounted for over 50% of total assets under management in the sample.

Again in line with the aim of the study, we treat the attributes, risk and performance of mutual funds as dependent variables. They are shown in Table 1.

Table 1. Dependent variables

Attributes of mutual funds	Risk and performance*
Quotation	Performance (6M, 1Y, 2Y)
Proceeds	Volatility (6M, 1Y, 2Y)
Risk level	Sharpe (6M, 1Y, 2Y)
Geographical area	Jensen's alpha (6M, 1Y, 2Y)
Investment objectives	Treynor (6M, 1Y, 2Y)

<sup>1</sup> Italian “*fenomeno delle retrocessioni*”.

<sup>2</sup> The Italian Asset Management Association.

<sup>3</sup> The sample represents about 50% of the sector in terms of assets under management.

<sup>4</sup> *Ownership* is a dummy variable (“Is the AMC captive?”)

<sup>5</sup> *Market share* is given by considering the AMC annual assets under management as a proportion of the sector annual assets under management.

Table 1 (cont.). Dependent variables

Attributes of mutual funds	Risk and performance*
Performance fee	Tracking error (6M, 1Y, 2Y)
Management fee	Information ratio (6M, 1Y, 2Y)

Note: \* We consider risk and performance during the following periods: 6 months, 1 and 2 years.

Below is a brief definition of each dependent variable used in this study.

*Management fees* are applied as remuneration for the activity of managing the fund assets. *Performance fees* are charged to the fund in the case of a performance better than the parameter of reference. The *Tracking error* is a measure of how closely a portfolio follows the index to which it is benchmarked. The *Sharpe ratio* measures the excess return per unit of deviation in an investment asset or a trading strategy, typically referred to as risk (and is a deviation risk measure). *Jensen's alpha* is used to determine the abnormal return of a security or portfolio of securities over the theoretical expected return. The *Treynor ratio* is a measurement of the returns earned in excess of what could have been earned on an investment that has no diversifiable risk, per unit of market risk assumed. The *Information ratio* is defined as expected active return divided by tracking error, where active return is the difference between the return of the security and the return of a selected benchmark index, tracking error volatility<sup>1</sup>.

We consider the following classifications of mutual funds as used by Assogestioni:

1. Bond funds.
2. Balanced funds.
3. Equity funds.
4. Flexible funds.
5. Hedge funds.

Each class of mutual funds is characterized by the minimum and maximum percentage of equity investment, which identifies the parameters for the basic asset allocation (equity-bond). The classes can be placed in ascending order with respect to the proportion of equity that can be held in the portfolio:

- ◆ in general, bond funds cannot invest in equity;
- ◆ balanced funds invest in equity for amounts ranging from 10% to 90% of their portfolio;
- ◆ equity funds invest at least 70% of their portfolio in equity;
- ◆ flexible funds do not have restrictions: they can invest equities from 0% to 100% of their portfolio.

Finally, we consider hedge funds, aggressively managed portfolios of investments that use advanced

investment strategies such as leveraged, long, short and derivative positions in both domestic and international markets with the goal of generating high returns either in an absolute sense or over a specified market benchmark. Hedge funds are exempt from many of the rules and regulations governing other mutual funds, which allows them to pursue aggressive investing goals.

We conduct the empirical analysis for each of the five classes of mutual funds.

### 3. Empirical analysis

We used *Seemingly Unrelated Regression* (SUR), the statistical multi-equational method formulated by Zellner (1962).

*SUR* is applied to economic models containing multiple equations which are apparently independent, either because they contain several independent variables or because they do not estimate the same dependent variable, as in this case. Given a set of regression equations, *SUR* efficiently estimates regression coefficients in a procedure which yields coefficient estimators at least asymptotically more efficient than single-equation. Regression coefficients in all equations are estimated simultaneously by applying Aitken's generalized least squares to the whole system of equations. To construct the Aitken estimators, we estimate the disturbance terms' variances and covariances based on the residuals derived from an equation-by-equation application of least-squares.

Mathematically:

$$y_{\mu} = X_{\mu}\beta_{\mu} + u_{\mu} \quad (1)$$

we suppose that equation (1) is the  $\mu$ -th equation of an  $M$  equation regression system with  $y_{\mu}$  ( $T \times 1$ ) vector of observations on the  $\mu$ -th "dependent" variable",  $X_{\mu}$  ( $T \times l_{\mu}$ ) matrix with rank  $l_{\mu}$  of observations on  $l_{\mu}$  "independent" non-stochastic variables,  $\beta_{\mu}$  ( $l_{\mu} \times 1$ ) vector of the regression coefficients and  $u_{\mu}$  ( $T \times 1$ ) vector of random error terms, each with mean zero. The system of which (1) is an equation may be written as:

$$\begin{bmatrix} y_1 \\ y_2 \\ \vdots \\ y_M \end{bmatrix} = \begin{bmatrix} X_1 & 0 & \cdots & 0 \\ 0 & X_2 & \cdots & 0 \\ \vdots & \vdots & \vdots & \vdots \\ 0 & 0 & \cdots & X_M \end{bmatrix} \begin{bmatrix} \beta_1 \\ \beta_2 \\ \vdots \\ \beta_M \end{bmatrix} + \begin{bmatrix} u_1 \\ u_2 \\ \vdots \\ u_M \end{bmatrix} \quad (2)$$

$$y = X\beta + u, \quad (3)$$

where  $y = [y^1 y^2 \dots y^M]$ ,  $\beta = [\beta^1 \beta^2 \dots \beta^M]$ ,  $u = [u^1 u^2 \dots u^M]$  and  $X$  represents the block-diagonal matrix on the right side of (2). The hypothesis is that  $M$  ( $T \times 1$ ) disturbance vector in (2) and (3) has the following variance-covariance matrix:

<sup>1</sup> The Tracking Error Volatility (TEV) is the standard deviation of the tracking error.

$$\Sigma = V(u) = \begin{bmatrix} \sigma_{11}I & \sigma_{12}I & \cdots & \sigma_{1M}I \\ \sigma_{21}I & \sigma_{22}I & \cdots & \sigma_{2M}I \\ \vdots & \vdots & & \\ \sigma_{M1}I & \sigma_{M2}I & \cdots & \sigma_{MM}I \end{bmatrix} = \begin{bmatrix} \sigma_{11} & \sigma_{12} & \cdots & \sigma_{1M} \\ \sigma_{21} & \sigma_{22} & \cdots & \sigma_{2M} \\ \vdots & \vdots & & \\ \sigma_{M1} & \sigma_{M2} & \cdots & \sigma_{MM} \end{bmatrix} \otimes I = \Sigma_c \otimes I, \tag{4}$$

where  $I$  is a unit matrix of order  $T \times T$  and  $\sigma_{\mu\mu'} = E(u_t u_{t+\mu}')$  for  $t = 1, 2, \dots, T$  and  $\mu, \mu' = 1, 2, \dots, M$ .

In temporal cross-section regressions,  $t$  represents time and (3) implies constant variances and covariances from period to period as well as the absence of any auto or serial correlation of the disturbance terms.

In a formal sense, we consider (2) or (3) as a single-equation regression model and apply Aitken's generalized least-squares, that is, we pre-multiply both sides of (3) by a matrix  $H$  which is such that  $E(Hu u' H') = H \Sigma H' = I$ . In terms of transformed variables (the original variables pre-multiplied by  $H$ ), the system satisfies the usual assumptions of the

least-squares model. The application of least-squares will determine a best linear unbiased estimator (Aitken's generalized least-squares)<sup>1</sup>:

$$b^* = (X'H'HX)^{-1} X'H'Hy = (X \Sigma^{-1} X)^{-1} X \Sigma^{-1} y. \tag{5}$$

We need the inverse of  $\Sigma$ , which is given by:

$$\Sigma^{-1} = V^{-1}(u) = \begin{bmatrix} \sigma^{11}I & \cdots & \sigma^{1M}I \\ \vdots & & \vdots \\ \sigma^{M1}I & \cdots & \sigma^{MM}I \end{bmatrix} = \Sigma_c^{-1} \otimes I. \tag{6}$$

The Aitken estimator of the coefficient vector is given by:

$$b^* = \begin{bmatrix} b_1^* \\ b_2^* \\ \vdots \\ b_M^* \end{bmatrix} = \begin{bmatrix} \sigma^{11} X_1' X_1 & \sigma^{12} X_1' X_2 & \cdots & \sigma^{1M} X_1' X_M \\ \sigma^{21} X_2' X_1 & \sigma^{22} X_2' X_2 & \cdots & \sigma^{2M} X_2' X_M \\ \vdots & \vdots & & \vdots \\ \sigma^{M1} X_M' X_1 & \sigma^{M2} X_M' X_2 & \cdots & \sigma^{MM} X_M' X_M \end{bmatrix}^{-1} \times \begin{bmatrix} \sum_{\mu=1}^M \sigma^{1\mu} X_1' y_{\mu} \\ \vdots \\ \sum_{\mu=1}^M \sigma^{M\mu} X_M' y_{\mu} \end{bmatrix}. \tag{7}$$

Since we consider five classes of mutual funds, the two AMC subsamples<sup>2</sup> were grouped into five equation systems for SUR.

#### 4. Results

We empirically verified whether the asset managers' ownership affects the mutual funds on offer. In particular, we tried to answer the research question:

*How are mutual fund attributes, risk and performance impacted by independent and captive asset managers?*

Tables 2-5 report significant coefficients for each class of mutual funds during 2012.

In the year under observation, AMC ownership affects all classes of mutual funds except the hedge funds, which are offered only by independent AMCs. We analyze the relationship for each class of mutual funds. Ownership affects bond fund attributes, performance and risk. Banking or insurance AMCs more often offer bond funds aimed at accumulating profits and with a higher

risk level. Observing the geographical area, we note that captive AMCs invest in Europe, America and BRIC<sup>3</sup> more than independent AMCs. We also consider the following important aspects: the performance and the risk at 6 months, 1 and 2 years. We find that captive AMC bond funds have higher performance and volatility, essentially with reference to 1 and 2 years. Our results demonstrate that captive bond funds have higher risk adjusted performances than independent bond funds: Sharpe ratio at 1 and 2 years and Information ratio during the following periods: 6 months, 1 and 2 years. They also present higher tracking error values. Finally, we note that management fees are affected by AMC ownership: captive bond funds had higher management fees during the year 2012. AMC market share also affects some bond fund attributes. In particular, risk adjusted performances are higher when AMC market share is big. On the other hand, there is a negative relationship between market share and proceeds, tracking error and investment in BRIC countries.

<sup>1</sup> The quadratic form to be minimized in the Aitken approach is not the sum of squares of the original disturbance terms, but the transformed disturbances; this is why Aitken's estimator is more efficient than a classical least-squares estimator based on the original variables.

<sup>2</sup> Our sample is composed of independent and banking or insurance AMCs.

<sup>3</sup> BRIC countries are Brazil, Russia, India and China.

It is important to note that captive balanced funds have performance at 6 months and some risk adjusted performances (Sharpe ratio at 6 months and Information ratio at 6 months, 1 and 2 years) higher than independent AMC's. Moreover, the market share positively influences the following characteristics of balanced funds: risk level, performance at 2 years, Sharpe ratio at 1 and 2 years and Jensen's alpha at 6 months (Table 3). AMC ownership also affects equity funds (Table 4). In particular, captive AMC's offer equity funds characterized by a lower risk level and a lower tracking error value for the three periods 6 months, 1 and 2 years. In 2012, equity funds offered by bigger AMC's showed higher performance and Sharpe ratios, but a lower tracking error value (6 months). AMC size is also important. It positively affects the following variables: risk level, performance, Sharpe ratio and performance fee.

Table 5 shows the relationship between AMC ownership and flexible fund attributes, performance and volatility. Independent AMC's show higher performance (6 months) and volatility. Sharpe ratio, Jensen's alpha, Information ratio and the tracking error are also higher than captive flexible funds. At the same time, banking or insurance AMC's offer flexible funds which are more expensive for customers. In 2012, management and performance fees were higher than the flexible funds of independent AMC's. Finally, the AMC's market share negatively affects some dependent variables concerning the flexible funds, essentially, the management fee value, the information ratio and the investments in BRIC countries.

Table 2. Bond funds – relationship between ownership and mutual funds attributes

	Ownership		Market share	
	Coeff.	P-value	Coeff.	P-value
Proceeds	0.5175	***	-0.0744	***
Risk level	1.5544	***		
Europe	0.2397	**		
America	1.5696	***		
BRIC	1.0527	***	-0.0383	**
Investment objectives			0.03172	*
Performance6M	6.7141	***		
Performance1Y	15.1193	***		
Performance2Y	15.5085	***		
Volatility1Y	8.9309	***		
Volatility2Y	8.7514	***		
Sharpe1Y	0.2748	***	0.0062	*
Sharpe2Y	0.1529	***	0.0050	**
TrackingError6M	4.0846	***	-0.1561	*
TrackingError1Y	7.8476	***		
TrackingError2Y	7.2334	***	-0.1851	***
Information ratio6M	0.3802	***		
Information ratio1Y	0.2761	***	0.0101	*
Information ratio2Y	0.1789	***	0.0081	**
Management fee	0.0074	***		

Notes: \* significant at 10%, \*\* significant at 5%, \*\*\* significant at 1%.

Table 3. Balanced funds – relationship between ownership and mutual funds attributes

	Ownership		Market share	
	Coeff.	P-value	Coeff.	P-value
Risk level			0.0781	*
Performance6M	1.3786	*		
Performance2Y			0.6588	**
Sharpe6M	0.0641	**		
Sharpe1Y			0.0145	***
Sharpe2Y			0.0051	**
Jensen's alpha6M			0.0107	**
Information ratio6M	0.1116	**		
Information ratio1Y	0.0920	*		
Information ratio2Y	0.0717	**		

Notes: \* significant at 10%, \*\* significant at 5%, \*\*\* significant at 1%.

Table 4. Equity funds – relationship between ownership and mutual funds attributes

	Ownership		Market share	
	Coeff.	P-value	Coeff.	P-value
Risk level	-0.1814	*	0.0421	**
Performance6M			0.4040	**
Performance2Y			1.3980	**
Sharpe1Y			0.0095	**
Sharpe2Y			0.0046	**
TrackingError6M	-4.5090	***	-0.3177	*
TrackingError1Y	-71.0394	**		
TrackingError2Y	-5.1456	***		
Performance fee			0.0146	**

Notes: \* significant at 10%, \*\* significant at 5%, \*\*\* significant at 1%.

Table 5. Flexible funds – relationship between ownership and mutual funds attributes

	Ownership		Market share	
	Coeff.	P-value	Coeff.	P-value
Proceeds	-0.1746	***		
Risk level	-0.3413	***		
BRIC	0.2587	*	-0.0319	*
Performance6M	-1.3280	*		
Volatility1Y	-8.8308	***		
Volatility2Y	-9.633	***		
Sharpe6M	-0.8435	***		
Sharpe1Y	-0.1861	***		
Sharpe2Y	-0.1144	***		
Jensen's alpha6M	-0.0726	**		
TrackingError6M	-2.9205	***		
TrackingError2Y	-5.6317	***		
Information ratio6M	-0.07191	**	0.0112	**
Information ratio1Y	-0.1615	***	-0.0066	*
Information ratio2Y	-0.0643	***		
Performance fee	-0.1451	***		
Management fee	-0.0080	***	-0.0005	*

Notes: \* significant at 10%, \*\* significant at 5%, \*\*\* significant at 1%.

In order to test the empirical analysis and the goodness of our results, we applied F Test. We obtained the following values (Table 6).

Table 6. F Test values

Class of mutual funds	F Test value
Bond funds	$F(21,2772) = 26.9893 [0.0000]$
Balanced funds	$F(10,370) = 2.64347 [0.0040]$
Equity funds	$F(9,792) = 4.06949 [0.0000]$
Flexible funds	$F(18,2196) = 7.22611 [0.0000]$

Empirical analysis shows the importance of AMC ownership: it demonstrates how attributes, risk and performance, in 2012, were impacted by independent and captive asset managers.

## Conclusions

Previous studies state that a better corporate governance determines growth and development of an efficient asset management industry. This is related to the potential conflict of interest arising when asset managers belong to banking or insurance groups. The ownership and governance structure of asset management companies is thus a key issue.

Our study focused on Italian asset management companies, which are important intermediaries of the Italian asset management sector, and aimed to verify if the AMCs' ownership affects the products attributes and performance and risk level. This research thus makes a contribution to current knowledge by examining one of the main players in the Italian asset management sector and the products they offer, mutual funds. Empirical results confirm the importance of ownership, in general and in the asset management industry

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(Stoughton et al. 2011), where the involvement of intermediaries is the greatest.

Our study appears to show that the classes of mutual fund on offer are affected by the AMC ownership. We also consider the AMCs' size by analyzing its potential impact on fund attributes, risk and performance. Our research thus took into account many characteristics of mutual funds: their performance and risk level, investment objectives, the risk adjusted performance measures, the tracking error and the fees (performance and management fee). Our research reveals that independent and captive asset managers impact risk, performance and several characteristics of the products on offer. Our findings also lead into observations about the ability of the manager. In general, we find that the performance and volatility of mutual funds depends to a great extent on whether they are sold by independent or captive asset managers. This result also emerges from the risk adjusted performance ratios, which show different values according to which of the five classes the fund belongs to. Finally, we note that bond and balanced funds are more expensive when they are offered by captive AMCs, while the flexible funds are cheaper.

In conclusion, our results suggest that pursuing a better ownership structure is desirable. This is particularly important for asset management intermediaries in order to contribute to revitalizing the sector and counteract the fall in investor confidence.

Future research will need to extend the time period of the analysis and increase the size of the sample.

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