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The performance of socially responsible mutual funds: proposal of non-financial ranking in Italian market

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Abstract

Currently, one of the main instrument of Socially Responsible Investment are mutual funds. Their growth in the financial market has been remarkable over the past few yearswhich has also paralleled the growth in the business ethics literature.

The aim of the present work is to present a methodology useful to define a portfolio selection model for measuring the attractiveness of socially responsible asset investments. The result is the definition of a non-financial ranking to complete financial information about mutual funds for investors demanding Corporate Social Responsibility. The methodology focuses on social responsibility decision making criteria and their weights agreed by the main stakeholders. The research, based on a well-know multicriteria method, the Analytic Hierarchy Process (AHP), proves that the methodology is feasible and gives useful results for investors demanding social responsibility.

Keywords: Mutual fund performance, Socially Responsible Investment, AHP

1. Introduction

The increasing number of socially responsible enterprises encourages investors to create socially responsible funds, investing in these enterprises and promotes increasing integration of the society through this socially responsible activity (Žėkienė and Ruževičius, 2011; Oikonomou *et al.,* 2012). The modern socially responsible investment is based on the growing social awareness on the part of investors. The first modern socially responsible mutual fund, the so-called Pax World Fund was incorporated in 1971 in the United States (AbdulRazek and Abbound, 2010). The Fund

was specifically incorporated for investors objecting the war in Vietnam. Since 1990, the socially responsible investment industry has been rapidly growing in the United States of America and in some other countries such as Australia or France. However, the growth and interest in Italy has been much more slower (Jegourel *et al.*, 2010). Over the past several years, the world economy has been affected by the current long economic recession, and the asset management industry has not been immune to these negative impacts. Thus, the overall asset management market in Italy has seen total assets under management reduce considerably, due to, firstly, contagion effects from the global financial crisis. Nevertheless, and despite this very difficult economic context, or perhaps because of it, the Socially Responsible Investing (SRI) market is gaining popularity. The current socially responsible investment market in Italy could be described as an *emerging market.* It seems that more and more people are responding positively to the investments that provide a good financial return as well as a good return for society and the environment. This change in attitude has led to the growth of Socially Responsible Investing (Bilbao-Terol *et al.*, 2012). Socially Responsible Investing can be broadly defined as an investment process that integrates not only financial but also environmental, social and governance considerations into investment decision making. Currently, the main instrument of SRI is investment in socially responsible mutual funds. The term “fund” is used to refer to a ready-made financial product where investors’ money is pooled into a portfolio and a fund manager decides which shares to buy. A socially responsible fund is a fund where the selection of investments is based not only on financial but also on social, environmental, governance or other ethical criteria.

There is an increasing agreement that not all the relevant information for an investment decision can be captured in terms of financial criteria. Zopounidis and Doumpos (2013)

and Steuer et al. (2007) acknowledge the growing inclusion of non-financial criteria in recently published financial multicriteria decision making models. Practitioners and researchers have acknowledged the growing concern of investors, individual and institutional, about ethical, environmental, social and governance issues, even if just taken as a way of decreasing the investment risks. Some recent examples are the works by by Plantinga and Scholtens(2001), Hallerbach *et al*. (2004), Steuer and Na (2003), Steuer *et al*. (2007), Drut (2010), Ballestero *et al*. (2012), Dorfleitner *et al*. (2012), Dorfleitner and Utz (2012), Bilbao-Terol et al. (2012), Bilbao-Terol et al. (2013), Pérez-Gladish and M'Zali (2010), Pérez-Gladish et al. (2013), Cabello et al. (2014), Utz et al. (2014) and Calvo et al. (2014)

Therefore, any model of SRI asset allocation should integrate social and financial dimensions. The main objective of the paper is to explore the impact of different portfolio restrictions, expenses and value added criteria on the performance of both types of funds. In fact, recent studies suggest that in many situations a more complex decision model may be at work (Dorfleitner *et al.*, 2012; Renneboog *et al.*, 2008).

There are many economic problems such as the selection of portfolios, where the choice of the best decision should be made taking into account several criteria and using multi criteria techniques (Xidonas *et al.*, 2012; Derwall *et al.*, 2011). In this paper a methodology, based on Analytic Hierarchy Process (AHP) proposed by Saaty (Saaty, 1980), is developed for extending the portfolio selection model of Markowitz (Markowitz, 1959) in order to include the evaluation of the non-financial criteria. Pioneered by the seminal paper of Moskowitz (1972), the relationship between corporate social and financial performance at the firm level has been extensively explored. The proposed approach allows considering tangible and intangible factors and

involves acknowledging that the decision maker is responding to multiple objectives (Edmans, 2011; De Felice and Petrillo, 2014).

Our results illustrate how for the most inefficient funds the superior performance of SRI funds is significant. This paper is structured as follows. Firstly, we will shortly describe the Italian mutual fund industry in terms of assets under management and returns. Subsequently, the different performance metrics and the research model is explained in order to describe the methodology for the profiling of stakeholders and the ranking of the funds. In section 4 the application of the proposed methodology to the case study is presented. Finally results obtained and conclusions are analysed.

2. Literature review: The SRI market

In spite of the astounding growth of Italian finance there are no studies that have compared Italian mutual funds with SRI (Filbeck *et al.*, 2009). Prior literature suggests that investors are attracted to SRI vehicles from a desire to match their investment policies with their values (Abdelsalam *et al.*, 2014). The SRI industry, could play a key role in getting Europe's economy back on track. The 5th Sustainable and Responsible Investment Study by the European Forum for Sustainable Investment (Eurosif, 2012) details the continued growth in assets under management (AuM) of the European SRI market and also reveals opportunities for future growth. The study highlights the growing diversity and sophistication of sustainable investment strategies in practice today. The assets managed by the European market for socially responsible funds in the year 2012 has reached 95 billion euro consolidating the growth (+12%) of the recent years. This result is a confirmation of the strength of this segment of the asset management business that has maintained positive net inflows even during periods of

markets volatility. The Italian mutual fund industry has suffered a significant downsizing over the last 12 years, showing a constantly decreasing trend, from about 42% of GDP in 1999 (more or less aligned with the European average) to 8% in 2011.

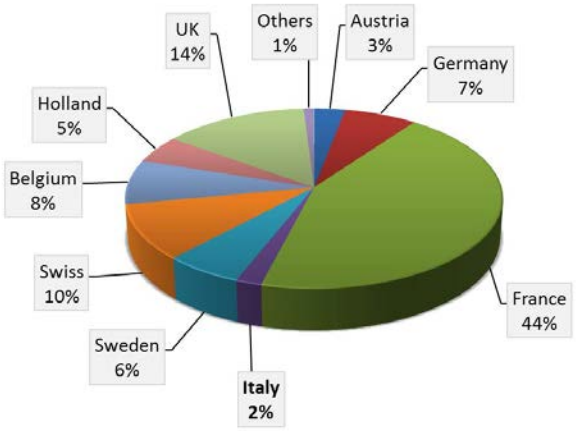


Figure 1: SRI funds asset per country - 06/30/2012. Source: Vigeo Italy

According to Figure 1, in Italy the SRI market remains considerably less developed than many of its Northern European neighbours. It remains a niche investment strategy dominated by a few large institutional investors. According to European SRI Study (European SRI Study, 2012) despite the fact that the legal framework for SRI in Italy remains less robust than in many of its European neighbours, several recent developments point to promising perspectives in the near term horizon. The overall development of socially responsible investment in the country still largely lags behind, mostly as a result of insufficient information, specifically little interest in and understanding of benefits and relevance of SRI on the part of investors.

Thus, one of the aims of this paper is to contribute to stimulate SRI in Italy by providing investors with more information about socially responsible mutual funds. SRI strategies

require an evaluation of the investment instruments in terms of a diverse set of environmental, social and governance criteria. Nevertheless investors, especially retail, have a limited capacity for handling extensive information They are investors with medium-low financial knowledge willing to invest in already made financial products without making more decisions than those concerning to risk assumption.For that, there is a growing demand for decision making instruments tailored to the investors' needs.

In a market as the Italy market, where the presence of socially responsible investment is still marginal, information is crucial. As acknowledge by Eurosif (2012) two are the reasons for the scarce development of SRI in Italy: the limited supply of these financial products and the lack of knowledge on the part of the investors of these investment tools..

Although numerous works have been published exploring firms' Corporate Social Performance measurement, very few studies can be found in the literature concerning mutual funds' social responsibility degree measurement. Social responsibility preferences can differ from one investor to another depending on cultural and personal values and hence, the decision making criteria and their weights (Pérez-Gladish et al. 2012 and Méndez-Rodríguez et al, 2014). Nevertheless, the availability of a ranking for mutual funds based on a set of common non-financial criteria agreed by the main stakeholders could be helpful for those passive investors without a clearly pre-defined socially responsible investment profile.

There are a number of self-named ethical or responsible funds, but a few third-party labels exist for socially responsible financial products. The objective of these labels is to serve as a quality standard guaranteeing the systematic integration of ESG criteria into mutual funds' management. The first European label for SRI funds managed strictly on the basis of Environmental, Social and Governance criteria was launched by Novethic

in 2009 (http://www.novethic.com/). Ethibel (http://www.ethibel.be/) also offers a SRI label for European investment funds in an attempt to guarantee investments only in companies selected on the basis of social, environmental and governance criteria.

Nevertheless and, despite their unquestionable utility, these labels seem not to give sufficient information for individual investors willing to invest in socially responsible mutual funds. On the one hand the labels tend to make simple classifications such us ethic/non ethic. On the other hand, generally, the labels do not include a complete set of ESG criteria. Therefore, in the European market where more than 1,200 SRI funds are available for investors, a ranking of these financial products based on their ESG features could be much more attractive than a particular label. Moreover, a more comprehensive classification that ranks order more than only the currently self-named socially responsible mutual funds would contribute to help individual investors to increase the portfolio of possible choices, combining financial information with ESG information. To the authors' knowledge, only one similar research has been carried out (Tsai, *et al.* 2009). Although they also prioritize SRI, they do not deepen in the stakeholder´s different profiles and solutions, which might be useful for the individual investors.

This is the purpose of the proposed methodology, to provide individual passive investors with a ranking of mutual funds based on their degree of social responsibility. The degree of social responsibility has been determined for a selected set of funds from the broad universe of large cap equity mutual funds sold in the Italian financial market. In order to reach this goal two key questions have been addressed:

(i) the identification of the main stakeholders;

(ii) the determining of an agreed list of criteria and their weights for the priorization process.

Each of the questions will be tackled along the development of this paper. The proposed ranking does not intend to replace classical financial rankings (e.g. Morningstar ranking of mutual funds). On the contrary, the objective of the proposed non-financial ranking is to complete financial information about mutual funds. This information can be of great value for marketing researchers, institutional investors and fund managers attempting to design and to invest in SRI products. The information can also be used by communication managers to develop effective advertising campaigns in order to attract retail and institutional investors.

3. The rationale

The proposed methodology aims at helping investors by laying the foundations for a rational and efficient choice in their social investment decisions. The model requires the participation of two types of agents, (i) the facilitators of the prioritization process, (ii) a panel of socially responsible investment stakeholders. The facilitators of the process (authors of the paper) will select the list of Italian mutual funds to be evaluated and ranked. They will choose the proper list of stakeholders and guide them all along the process of weighting the evaluation criteria. With these weights the facilitators will finally evaluate the different funds. In Figure 2 is shown the methodological approach proposed to rank order the SR Funds.

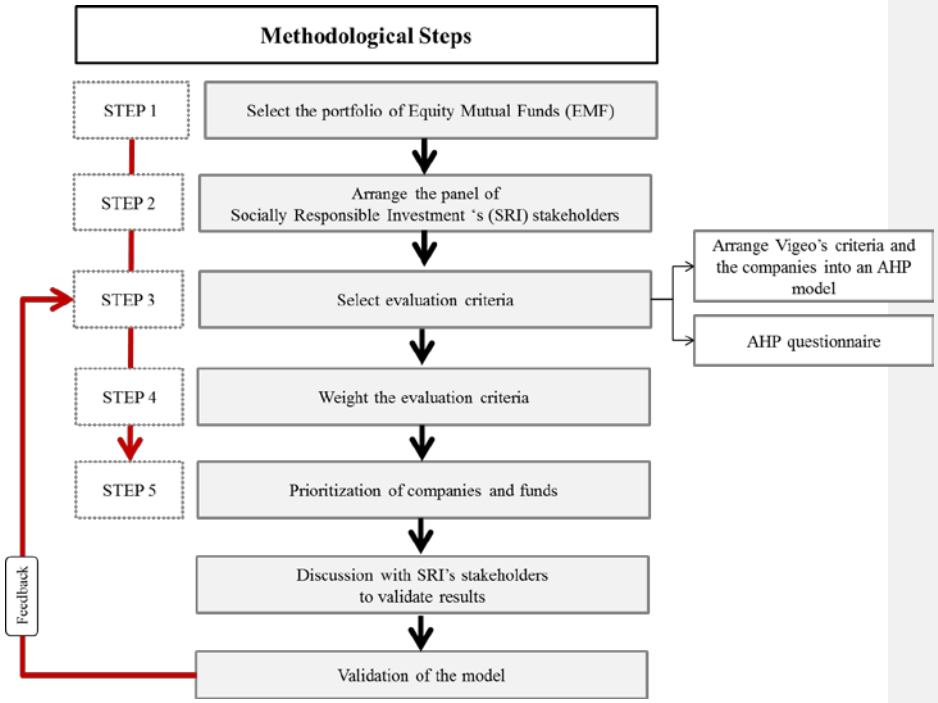


Figure 2: Methodology proposed to rank order the SR Funds

We propose the following five-step procedure to calculate the score for each fund.

Step 1: Select the portfolio of Equity Mutual Funds (EMF)

For the selection of the SRI mutual funds (SRIMF) portfolio we propose the use the Morningstar database. As we have argued in the introduction we are interested in the ranking of equity mutual funds based on SR criteria.

Step 2: Arrange the panel of Socially Responsible Investment 's (SRI) stakeholders

As pointed out in several recent contributions to literature on CSR, firms' relationships with society are actually relationships with stakeholders (Clarkson, 1995; Maignan and Ferrell, 2004; Smith, 2003; Ingenbleek et al. 2007). To determine the stakeholders for the SRI funds we have focussed (i) in the literature but also (ii) we have tried to answer the question: *who may be interested in the existence of a ranking for SRI funds?*

The answer to question (ii) leads us to consider who is demanding and supplying such products. On the supply side, the Italian law says that the only possible vendors of such products are:

- G1. Financial institutions and insurance companies;
- G2. Financial Asset managers;

On the other side, not regulated by law, stakeholders would be investors interested in these types of funds. Following the literature and considering also the stakeholders listed by Eurosif for this study we distinguish the following groups:

- G3. Corporate social responsibility specialists (CSR);) whose mission is to provide information to groups both of the supply and the demand side (Sen et al. 2006), (Battacharya et al. 2008).
- G4. Associations of trade unions; (Hamilton et al. 1993), (Sparkes, 2003), (Guay et al., 2004)
-
- G5. Private investor. For these we followed the study carried out in 2012 in Spain and Italy by (Méndez et al. 2014) in which they conclude that SR investors are likely to be females (Goyen et al. 1999) medium-high income and mother of a family. This result is similar to that obtained by Bean and Goyen (1999) and Pérez-Gladish et al. (2012) for Australian investors. We have chosen the stakeholders following these profile patterns.
-
- G6. Others (organization promoting companies interest about corporate social responsibility. (Guay et al., 2004), (Sparkes, 2004), (Waring and Lewer, 2004), (Sievänen, 2014)

These six groups have been profiled by means of our methodology and besides they are potential users of our ranking of Investment Funds.

Step 3: Select evaluation criteria

In the present step the evaluation criteria was identified through literature review and report analysis. Hoepner (2009) identifies 14 papers dealing with the definition of criteria for social, environmental and ethical screening in responsible investment. The reporting of information on company performance with respect to environmental, social and governance (ESG) criteria has received considerable practical attention. In fact, several rating agencies provide databases which evaluate corporations with respect to a certain number of ESG criteria. Some examples are KLD (Kinder, Lydenberg, Domini& Co.) in U.S., EIRIS (Ethical Investment Research Service) in the UK or Vigeo in France. MSCI ESG STATS. KLD (known under the name *KLD Research & Analytics Inc*.) is considered by most of the academic authors the largest and most complete source of information regarding corporate social responsibility (Jo and Harjoto, 2011).. However, some authors as Chatterji (2008) have acknowledge the low validity of the rating agencies measurement of management systems. In his work he focuses on KLD but his conclusions could be extended to other rating agencies.

Questioning the quality of the information provided by social rating agencies is not one of the goals of this paper. The main objective is to propose a method to rate mutual funds taking into account agreed weights for the different social criteria.

The KLD system allows companies to be rated according to different social dimensions. Each of these dimensions is evaluated on two criteria, namely strengths and concerns. Strengths and concerns are both rated on binary scales, where "1" signifies "existing" and "0", "not applicable". However, the use of binary variables to measure Corporate Social Performance is very rigid and limits the amount of information contained in the evaluation.

Therefore, and in order to avoid the limitations due to the use of binary variables we will work with a different database which is also well known in the SRI field, the Equitics® database from Vigeo. Vigeo is a leading European expert in the assessment of companies and organisations with regard to their practices and performance on ESG issues. Vigeo has developed Equitics® a model based on internationally recognised standards to assess the degree to which companies under review take into account their social responsibility objectives in the definition and deployment of their strategy. They offer access to ratings in *6 dimensions*, which are commonly used by the rating agencies: Human Rights; Human Resources; Environment; Business Behaviour; Corporate Governance and Community Involvement. These six dimensions are broken

down into 17 non-financial criteria. A description of these criteria is presented in the following table (Table 1).

Table 1. List of evaluation criteria (Vigeo, 2012)

Description	Sub Criteria
CORPORATE GOVERNANCE (CG)	
Effectiveness and integrity, guarantee of independence and efficiency of the Board of Directors. Effectiveness and efficiency of auditing and control mechanisms, in particular the inclusion of social responsibility risks, respect for the rights of shareholders, particularly minority shareholders, transparency and rationale for the remuneration of directors.	CG1 Board of directors CG1 Audit and Internal Controls CG3 Shareholders' Rights CG4 Executive Remuneration
BUSINESS BEHAVIOUR (BB)	
Consideration of the rights and interests of clients, integration of social and environmental standards in the selection of suppliers and on the entire supply chain, effective prevention of corruption and respect for competitive practices.	BB1. Customer aspects (Product safety, Information to customers, Responsible Contractual Agreement) BB2. Integration of environmental and social factors in the in supply chain BB3. Legal aspects (Prevention of corruption, Prevention of anti-competitive practices, Transparency and integrity)
ENVIRONMENT (ENV)	
Protection, safeguarding, prevention of damage to the environment, implementation of an adequate management strategy, eco-design, protection of biodiversity and co-ordinated management of environmental impacts on the entire lifecycle of products or services.	ENV1. Product pollution (Environmental strategy and eco-design, Development of Green products and services, Protection of biodiversity) ENV2. Process pollution (water resources, atmospheric emissions, waste management environmental nuisances, management of environmental impacts from the process) ENV3. Management of environmental impacts from the use and disposal of products/services
HUMAN RESOURCES (HR)	
Continuous improvement of professional relations, labour relations and working condition	HR1. Promotion of employee relations and participation HR2. Career management (career training and development, promotion of employability) HR3. Respect of labour conditions (working hours, remuneration, health and safety)
HUMAN RIGHTS AT THE WORKPLACE (HRts)	
Respect of freedom of association, the right to collective bargaining, non-discrimination and promotion of equally, elimination of illegal working practices such as child or forced labour, prevention of inhumane or degrading treatment such as sexual harassment, protection of privacy and personal data.	HRts1. Respect for human rights standards and prevention of violations HRts2. Elimination of child labor, discrimination and forced labour
COMMUNITY INVOLVEMENT (CIN)	

Effectiveness, managerial commitment to community involvement, contribution to the economic and social development of territories/societies within which the company operates, positive commitment to manage the social impacts linked to products or services and overt contribution and participation in causes of public or general interest.	CIN1. Promotion of social and economic development CIN2. Social impacts of company's products and services

Equitics® provides aggregated scores using continuous variables taking values from 0-100 for each social criterion and thus, it overcomes the problems arisen from the use of binary variables (e.g. KLD). Because of these reasons we will work with Vigeo's database in order to illustrate the proposed method As far as the authors know, this is the first paper using Vigeo's criteria and scores

Step 4: Weight the evaluation criteria

Vigeo's evaluations for each firm in each dimension (criteria group) are summed up into the CSR scores by means of the arithmetic sum. However, in this way of aggregating they do not consider the fact that the different dimensions or criteria groups might have different relative importance for the investors. For example, one investor might think that "human rights" is the most important dimensions to assess the CSR of a company but another investor might think that "Business behaviour" is the most important. In our opinion both opinions should be considered.

In this work we propose to "weight" the different dimensions according to a properly selected group of stakeholders and use these weights to calculate the CSR score of each company.

For the weighting of the evaluation criteria the Analytic Hierarchy Process method is used. AHP is based on the fact that the inherent complexity of a multiple criteria decision making problem can be solved through the construction of hierarchic structures

consisting of a goal, criteria and alternatives. In each hierarchical level paired comparisons are made with judgments using numerical values taken from the AHP absolute fundamental scale. A 9-point scale was applied for the comparison: scale values are namely unimportant (1), somewhat important (3), important (5), very important (7) and extremely important (9). This is an absolute scale; thus, priorities derived from it are normalized or idealized to obtain an absolute scale. The determination of relative weights in the AHP model is based on the pairwise comparison conducted with respect to their relative importance towards their control criterion. These comparisons lead to dominance matrices from which ratio scales are derived in the form of principal eigenvectors. Thus, pairwise comparisons will be carried out based on this evaluation scale: a comparison matrix can be defined: each matrix element defined as dominance coefficient (a_{ij}) represents the relative importance of the i^{th} (i.e. the row index in matrix A) component over the j^{th} (the column index in matrix A) component. Each matrix element derives from a set of numerical weights (w_1, w_2,…, w_m) which reflects the recorded judgments: a_{ij} is defined as w_i/w_j:

$$A = \begin{array}{c|cccc} & w_1/w_1 & w_1/w_2 & & w_1/w_m \\ A_1 & w_2/w_1 & w_2/w_2 & & w_2/w_m \\ A_2 & & & & \\ \dots & \dots & \dots & \dots & \dots \\ A_m & w_m/w_1 & w_m/w_2 & \dots & w_m/w_m \end{array}$$

These matrices are positive and reciprocal ($a_{ij} = 1/a_{ji}$). The synthesis of AHP combines multidimensional scales of measurement into a single one-dimensional scale of priorities. If the decision maker quantifies that a criterion i is equal important to another criterion j, the comparison matrix will contain value of $a_{ij} = 1 = a_{ji}$; on the other hand, the i^{th} criterion is absolutely more important as an j^{th} criterion ($a_{ij} = 9$; $a_{ji} = 1/9$).

As one main problem of MCDM is that judgments are potentially inconsistent- , a consistency analysis has been carried out. Saaty (1990) proposed to apply the consistency index (CI) calculation aiming to verify the consistency of the comparison matrix. The consistency index (CI) of the derived weights could then be calculated by Equation 1:

$$CI = (\lambda_{max} - n)/\, n-1 \qquad (1)$$

where λ_{max} is the maximum eigenvalue of the comparison matrix, and n is the number of compared alternatives. If CI is less than 0.10, satisfaction of judgments may be assumed.

The method has the additional advantage of being easy to explain to the experts that have to assess the different criteria in a simple and systematic way. More details on the AHP can be found in Saaty (2008), (García-Melón *et al.* 2008) and (De Felice and Petrillo, 2013).

Step 5: Prioritization of companies and funds

Once the main stakeholders, the agreed criteria and, the preferential weights have been obtained we will evaluate and rank equity mutual funds (EMF). We will rely on two different databases: Equitics® rating and Morningstar's EMF database. We will adapt Equitics® criteria to our agreed list of criteria and then, given each firm's share in each mutual fund we will evaluate and rank the equity mutual funds.

In order to achieve a ISR value for each fund, an intermediate step must be carried out. That is to calculate the ISR value for each of the companies in the investment fund (Equation 2).

$$ISR_{Cj} = \sum_{k=1}^{17} I_{jk} \cdot w_k \qquad (2)$$

where:

I_{jk}: value of the company *j* for the *k* indicator

w_k: relative importance of *k* indicator

k: each of the indicators Vigeo uses to assess the degree of social responsibility of the companies

Cj: each of the companies

Since the composition of each selected fund is given by the Morningstar database, the following procedure will be applied to calculate the CSR index of each fund (Equation 3).

$$ISR_{Fi} = \sum_{j=1}^{ni} ISR_{Cj} \cdot p_{ij} \quad (3)$$

where:

ISR_{Fi}: SR Index for Fund *i*

ISR_{Cj}: SR Index for Company *j*

n_i: number of Companies included in Fund *i*

p_{ij}: proportion of Fund *i* invested in Company *j*

In the following section we synthesize case study developed for this research, according to the steps presented in the methodology approach.

4. The model validation: a case study regarding ranking of Italian mutual funds

A case study analysis was carried out aiming to test and validate the proposed approach. We have focused on large cap equity mutual funds as large companies are more likely to be scanned by social rating agencies. We have considered funds whose region of sale is Italy and whose investment area is Europe. And also, funds whose percentage of equity is more than 80%. Taking into account these restrictions, a total set of 32 funds have been analysed (see table 2).

Table 2: List of selected funds

#	Name	ISIN	#	Name	ISIN
1	Ailis Equity Europe Fund	IE0002058729	17	Epsilon QValue	IT0001496097

2	Allianz Azioni Europa	IT0000386588	18	Eurizon Azioni Europa	IT0001050167
3	Allianz Europe A	IE00B1G9YY97	19	Euromobiliare Europe Equity Fund	IT0000384385
4	Allianz Europe B	IE00B1G9YZ05	20	Fondersel Europa	IT0001012498
5	Allianz High Dividend A	IE00B05BLK46	21	Fonditalia Equity Europe	LU0058495945
6	Allianz High Dividend B	IE00B05BLL52	22	Fonditalia Equity Europe T	LU0388707423
7	Anima Europe Equity Prestige	IE0007999117	23	Gestnord Azioni Europa A	IT0001053138
8	Anima Europe Equity Silver	IE0032465449	24	Gestnord Azioni Europa C	IT0004941685
9	Anima Geo Europa A	IT0001095469	25	Interfund Equity Europe	LU0074299321
10	Anima Geo Europa Y	IT0004302029	26	Investitori Europa	IT0003160170
11	Anima Sicav European Equities A	LU0376710454	27	Malatesta Azionario Europa	IT0003553903
12	Anima Sicav European Equities B	LU0376710538	28	Pioneer Azionario Val Eurp a dist. A	IT0001029864
13	BPER Intl SICAV Equity Europe	LU0085741386	29	Pioneer Azionario Val Eurp a dist. B	IT0004813785
14	EIS Europe Equities A	LU0402185994	30	Synergia Azionario Europa	IT0004464308
15	EIS Europe Equities I	LU0402186026	31	VG SICAV European Equity I	LU0338938177
16	EIS PB Equity EUR I	LU0717016389	32	VG SICAV European Equity R	LU0554960723

As stated above, six main groups of stakeholders have been identified. In the selection of stakeholders we have taken into account their level of expertise in the SRI field, their knowledge of the selected funds, and their willingness and availability to participate in this study. Besides, we have also considered some other personal average data such as: gender, age, etc. according to the reviewed literature.

A description of participant stakeholders is given in the table 3. For some of them it has not been possible to give more details about their names or companies, due to confidential reasons. In brackets we show the gender: male or female. In total 16 stakeholders have been selected.

Table 3. List of interviewed stakeholders

Group	**Description**	**Stakeholders interviewed**
G1	Financial institutions and insurance companies	Five office directors of one of the main Italian Banks (Male)
G2	Financial Asset managers	One manager of an international investment company (Male) One manager of an international investment

		company (Female)
G3	CSR - corporate social responsibility specialists	One academician expert on CSR (Male) Two academician expert on CSR (Female)
G4	Associations of trade unions	One representative of a Italian Union (Female) One representative of a Italian Union (Male)
G5	Private investor. Average profile, woman between 35 and 45 years old, higher education, mother of a family	Three individual investor s who takes SR into consideration when choosing the funds (Female)
G6	Others (organization promoting companies interest about corporate social responsability	Two managers of an Italian association that help companies to access to finance (Male) One manager of Italian Union Industrialist (Male)

The selected criteria from the Equitics® model developed by Vigeo (see table 1) have been arranged as a hierarchy according to the AHP procedure, as shown in Figure 4.

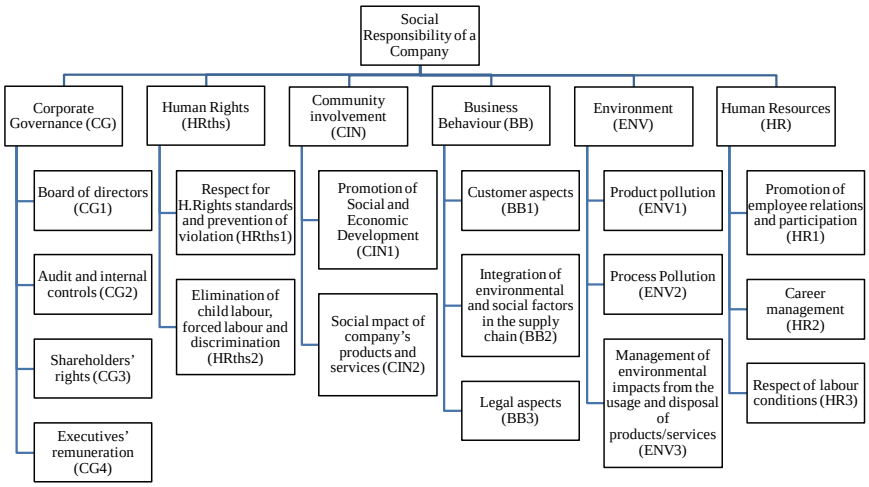


Figure 4. Hierarchy of criteria according to VIGEO

For the weighting of the evaluation criteria the AHP method was used. AHP requires a hierarchical model of criteria, to pairwise compare all the criteria and to obtain a final weight for them. A questionnaire was designed for this purpose. This was conducted through a personal interview with each of the 16 stakeholders. Interviews were carried out either with face-to-face meetings or by videoconference depending on the

interviewee's preferences. First, a set of instructions was presented to explain which comparisons were to be made according to the hierarchical structure proposed and the 1-9 point Saaty's scale. Last, the surveys were processed using specific software. Weights or relative importance for each criterion and for each stakeholder were derived. A sample of the questionnaire with a couple of the questions stated is shown in Table 4.

From your point of view, which criterion between CG Corporate governance and BB Business Behaviour, is more important to assess the Social Responsibility performance of a company?

Table 4. Sample of the AHP questionnaire for prioritization of first level criteria (Equitics' dimensions)

Which criterion do you consider more important?	*CG* *X*	*BB*			
In which degree?	*1*	*3* *X*	*5*	*7*	*9*

In this example we see the stakeholder says that, in order to assess the Social Responsibility of a company, Corporate Governance issues are moderately more important than Environmental issues.

Every stakeholder obtained a different set of weights, according to his/her preferences as will be shown. In order to obtain the global weighting according to all the stakeholders, the aggregation of all the individual priorities by means of the geometric mean was used as suggested by Saaty (Saaty, 2008). Once the final weights were achieved the facilitators informed all the stakeholders about the global and the individual results searching for their agreement.

The results obtained are presented in Table 5.

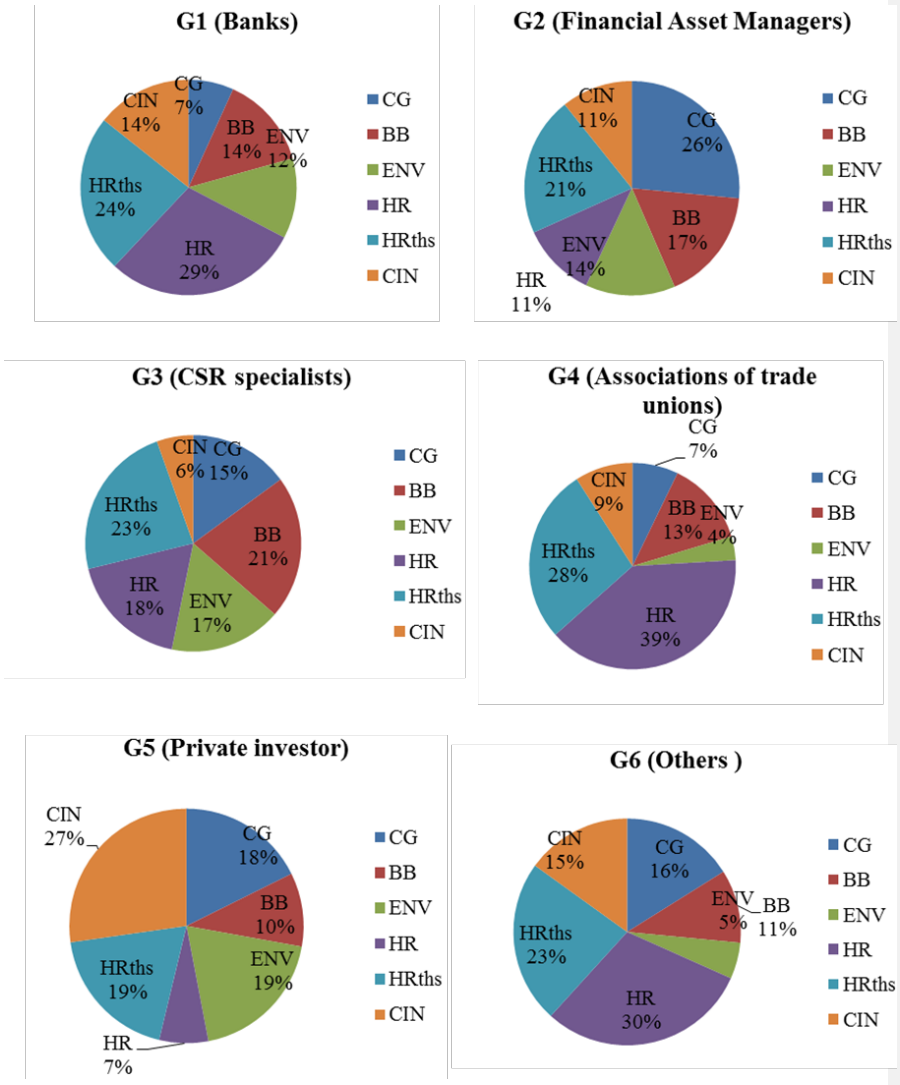
Table 5. Weights for the SR dimensions and criteria obtained by each group of stakeholders and by the whole group.

	G1 Banks and Insurance	**G2** Financial Asset Managers	**G3** CSR specialists	**G4** Associations of trade unions	**G5** Private investor	**G6** Others	WHOLE GROUP
CG	0,068	0,265	0,150	0,072	0,177	0,160	0,148
CG1	0,180	0,522	0,282	0,119	0,150	0,302	0,259
CG2	0,319	0,138	0,367	0,148	0,502	0,382	0,309
CG3	0,360	0,243	0,225	0,392	0,233	0,126	0,263
CG4	0,141	0,097	0,125	0,340	0,115	0,190	0,168
BB	0,139	0,170	0,214	0,132	0,102	0,104	0,143
BB1	0,334	0,371	0,363	0,229	0,263	0,184	0,291
BB2	0,212	0,371	0,374	0,152	0,191	0,148	0,241
BB3	0,454	0,258	0,263	0,618	0,546	0,668	0,468
ENV	0,120	0,135	0,168	0,037	0,192	0,052	0,117
ENV1	0,200	0,485	0,366	0,255	0,118	0,536	0,327
ENV2	0,329	0,296	0,334	0,308	0,232	0,232	0,289
ENV3	0,472	0,219	0,300	0,437	0,649	0,232	0,385
HR	0,293	0,113	0,180	0,393	0,068	0,299	0,224
HR1	0,454	0,411	0,464	0,150	0,352	0,461	0,382
HR2	0,170	0,382	0,161	0,096	0,085	0,078	0,162
HR3	0,376	0,207	0,375	0,754	0,563	0,461	0,456
HRths	0,237	0,210	0,233	0,274	0,190	0,232	0,229
HRths1	0,308	0,667	0,394	0,625	0,242	0,450	0,448
HRths2	0,692	0,333	0,606	0,375	0,758	0,550	0,552
CIN	0,143	0,108	0,055	0,091	0,272	0,150	0,136
CIN1	0,600	0,667	0,292	0,667	0,250	0,717	0,532
CIN2	0,400	0,333	0,708	0,333	0,750	0,283	0,468

All the stakeholders were offered on the one hand to validate their individual results, asking them if these really represented their values. According to most of them, the obtained individual results really put forth their inner values. On the other hand, they also were asked if the aggregated results were meaningful for them. Most of them observed and highlighted the way the weights “moderate” and tend to approximate to each other when many people are judging. The final agreed weights for the second level

of criteria (i.e. criteria: CG1, CG2, …, BB1, BB2, etc.) are the ones we are going to use to assess the CSR of the companies.

A graphical comparison of the first level of criteria is also presented in order to analyze the different profiles of the stakeholders.



Figures 5: Weights of the SR dimensions obtained for each group of stakeholders

These results allow two different types of stakeholders' analysis: individual profiles, overall analysis or comparison analysis.

Starting with the individual analyses (Figure 5), it seems that most stakeholders respond to what is expected of them. For example, G4 Trade unions has given much importance to the dimension Human Rights, Human Resources and Business Behaviour. A similar profile is observed for G1 Bank, G3 CSR Specialist and G6 Others, which can be interpreted as the criteria that are more directly related to their interests. Regarding the G5 Private Investor, this group has given great importance to Community Involvement. In the second position they have ranked the Environmental dimension and Human Rights located ahead of Environmental and Corporate Governance. Indeed, currently, Corporate Governance, is receiving the most attention from the Financial Asset Manager (G2).

The aggregation of individual profiles in one group (Figure 6) allows an overall analysis.

Clearly, the average results are more balanced than the individual ones. We can observe that the main dimensions are in order of importance: Human Rights, Human Resources and Corporate Governance.

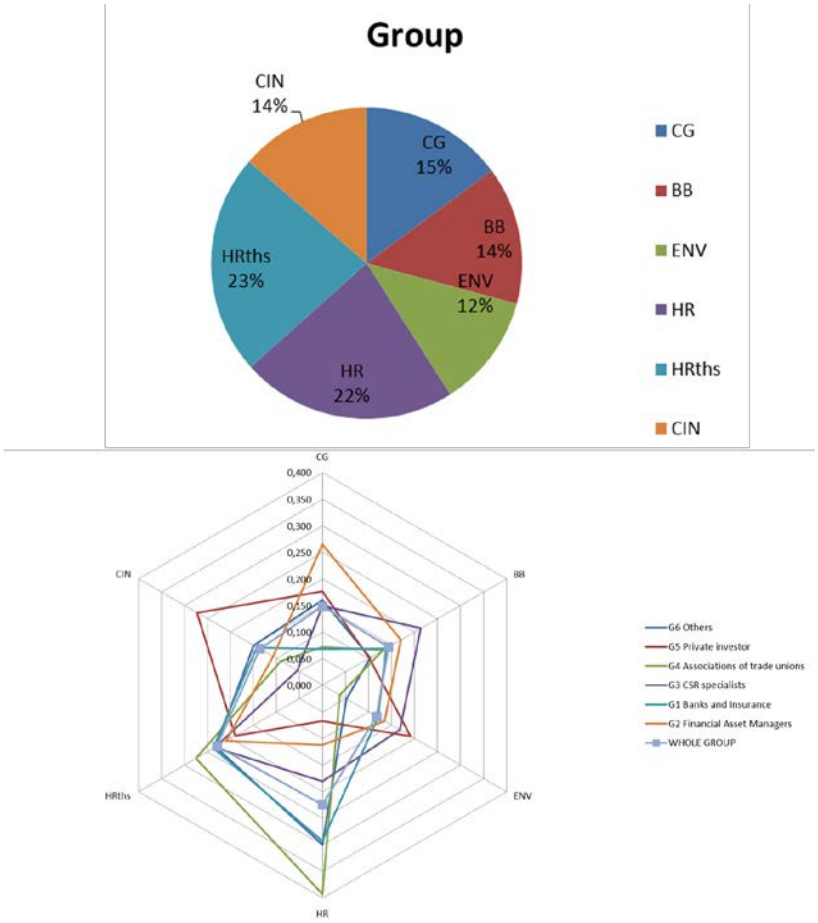


Figure 6: Group Weights of the SR dimensions obtained for stakeholders and analysis of the different profiles

We have analysed the prioritization results in two ways: 1) Using the weights of the SR criteria for each individual investor and 2) Using the weights of the SR criteria according to the whole group of stakeholders.

With all these calculations in mind and applying equations (2) and (3) to the Vigeo's Equitics® data, the results obtained for the final prioritization of the 32 analysed funds are the following.

Table 6. ISR value obtained for each fund according to the different stakeholders' profiles

#	Name	WHOLE	G1	G2	G3	G4	G5	G6
1	Ailis Equity Europe Fund	29,99	32,32	32,07	29,93	29,78	31,22	30,94
2	Allianz Azioni Europa	23,96	26,90	26,52	24,18	24,07	25,15	25,17
3	Allianz Europe A	30,90	33,22	32,92	31,24	30,45	32,49	31,93
4	Allianz Europe B	30,90	33,22	32,92	31,24	30,45	32,49	31,93
5	Allianz High Dividend A	27,62	30,63	29,52	28,26	26,96	29,38	28,74
6	Allianz High Dividend B	27,62	30,63	29,52	28,26	26,96	29,38	28,74
7	Anima Europe Equity Prestige	32,81	35,18	35,16	32,78	32,76	34,18	33,89
8	Anima Europe Equity Silver	32,81	35,18	35,16	32,78	32,76	34,18	33,89
9	Anima Geo Europa A	30,98	33,18	33,04	30,65	31,07	32,19	31,98
10	Anima Geo Europa Y	30,98	33,18	33,04	30,65	31,07	32,19	31,98
11	Anima Sicav European Equities A	31,49	33,35	33,36	31,74	30,78	32,81	32,34
12	Anima Sicav European Equities B	31,49	31,49	31,49	31,49	31,49	31,49	31,49
13	BPER Intl SICAV Equity Europe	28,23	31,62	30,79	28,83	29,16	29,88	29,76
14	EIS Europe Equities A	30,01	30,01	30,01	30,01	30,01	30,01	30,01
15	EIS Europe Equities I	30,01	32,70	32,27	30,31	30,14	31,40	31,17
16	EIS PB Equity EUR I	21,93	20,14	21,74	20,78	20,55	21,99	21,27
17	Epsilon QValue	31,54	34,11	33,75	31,74	31,01	32,98	32,60
18	Eurizon Azioni Europa	33,15	35,57	35,49	33,21	32,50	34,49	34,12
19	Euromobiliare Europe Equity Fund	31,21	34,04	33,42	31,87	31,12	32,79	32,42
20	Fondersel Europa	28,77	30,87	30,93	28,51	28,56	29,80	29,64
21	Fonditalia Equity Europe	35,17	37,29	36,63	36,35	34,31	36,74	36,16
22	Fonditalia Equity Europe T	35,17	37,29	36,63	36,35	34,31	36,74	36,16
23	Gestnord Azioni Europa A	28,81	31,68	31,07	29,06	29,16	30,29	30,05
24	Gestnord Azioni Europa C	28,81	31,68	31,07	29,06	29,16	30,29	30,05
25	Interfund Equity Europe	33,07	35,13	34,42	33,76	32,02	34,54	33,92
26	Investitori Europa	28,56	30,39	30,41	28,68	28,36	29,63	29,37
27	Malatesta Azionario Europa	33,01	35,37	35,32	33,02	32,38	34,31	33,95
28	Pioneer Azionario Val Eurp a dist. A	32,39	34,45	34,47	32,08	31,90	33,26	33,12
29	Pioneer Azionario Val Eurp a dist. B	32,39	34,45	34,47	32,08	31,90	33,26	33,12
30	Synergia Azionario Europa	33,08	36,13	35,63	34,04	33,09	34,59	34,41
31	VG SICAV European Equity I	25,29	26,93	26,55	25,37	23,46	26,69	25,82
32	VG SICAV European Equity R	25,29	26,93	26,55	25,37	23,46	26,69	25,82

The obtained values are the result of a weighted sum as explained in Equation (2). Therefore, each fund can get a value between 0 and 100 depending on the particular values of each company for each criterion (I_{jk} in Equation 2), the criteria weights (w_k in Equation (2) and the percentage of the fund invested in each company (p_{ij} in Equation 3). All I_{jk} values in the database are positive and thus can be added without problems.

The obtained values must not be considered definitive or absolute. On the one hand, the ranking may vary as the companies vary in the Vigeo Equitics® assessments. On the other hand funds change their composition continuously and hence the SR Index will vary accordingly. Therefore, the methodology assesses the funds for a particular time span, as long as the funds' composition last. Also it allows predicting how they will perform by changing their composition and, finally, allows calculating performance trends and researching about the evolution of funds' SR

Discussing the aggregated results, last column in the table, it can be seen that Funds F21 and F22 are the best ranked followed close by F30. In a second level, there is a large group at a certain distance headed by six funds: F7, F8, F11, F17, F27, F28 and F29. At the end of the ranking four funds (F2, F16, F31 and F32) are clearly lower than the others. Two of them F31 and F32 are the open-ended investment trust funds (SICAV in Europe), which are mainly devoted to benefits.

Going through the individual results, interestingly the ranking is very robust and there are no significant differences among the stakeholders; i.e., the best and worst funds are similar for every stakeholder. There are two main reasons for this coincidence. On the one hand, when in the database there were cells without information, we assigned cero to the cell. That is to say, when for a particular company (j) and a particular criteria (k) Vigeo's Equitic® had no value in the corresponding cell (I_{jk} in Equation 3), that meant

the company had not reported anything, and that was considered a fault as CSR leans on accountability and transparency. The penalty was to assign 0 to the gap. Hence, no matter the different criteria weights, the funds with more companies presenting less values have lower SR Indexes.

On the other hand, responsible companies usually perform positively in all criteria and hence, the different criteria weights have a lower than expected influence in the companies' rank order. Therefore, those funds with more of these responsible companies had better final scores.

A ranking could be developed to communicate the SRI level. . It would be a communication technique similar to the black stars of the Morningstar rating used to communicate the funds' financial performance.. We have put forward four levels (Figure 7) and have ranked each fund according to the results obtained comparing to their Morningstar rating (see table 7).

SRI value	SRI ranking
10-20	
20-30	
30-40	
40-50	

Figure 7. SRI ranking for funds.

Table 7. Rank order of the Funds according to their SR Index

#	**Name**	SRI aggreg. Value	Morningst. Ranking	SRI ranking
21	Fonditalia Equity Europe	35,17	★★★★	

22	Fonditalia Equity Europe T	35,17	★★★★	
18	Eurizon Azioni Europa	33,15	★★★	
30	Synergia Azionario Europa	33,08	★★	
25	Interfund Equity Europe	33,07	★★	
27	Malatesta Azionario Europa	33,01	★★★★	
7	Anima Europe Equity Prestige	32,81	★★★	
8	Anima Europe Equity Silver	32,81	★★★	
28	Pioneer Azionario Val Eurp a dist. A	32,39	★★★	
29	Pioneer Azionario Val Eurp a dist. B	32,39	n.d.	
17	Epsilon QValue	31,54	★★★★	
11	Anima Sicav European Equities A	31,49	★★★	
12	Anima Sicav European Equities B	31,49	★★★	
19	Euromobiliare Europe Equity Fund	31,21	n.d.	
9	Anima Geo Europa A	30,98	★★★★	
10	Anima Geo Europa Y	30,98	★★★★	
3	Allianz Europe A	30,90	★★	
4	Allianz Europe B	30,90	★★★	
14	EIS Europe Equities A	30,01	★★	
15	EIS Europe Equities I	30,01	★★	
1	Ailis Equity Europe Fund	29,99	★★	
23	Gestnord Azioni Europa A	28,81	★★★	

24	Gestnord Azioni Europa C	28,81	n.d.	🍀 🍀
20	Fondersel Europa	28,77	★★★	🍀 🍀
26	Investitori Europa	28,56	★★★	🍀 🍀
13	BPER Intl SICAV Equity Europe	28,23	★★★★	🍀 🍀
5	Allianz High Dividend A	27,62	★★	🍀 🍀
6	Allianz High Dividend B	27,62	★★★	🍀 🍀
31	VG SICAV European Equity I	25,29	★★★	🍀 🍀
32	VG SICAV European Equity R	25,29	★	🍀 🍀
2	Allianz Azioni Europa	23,96	★★★★	🍀 🍀
16	EIS PB Equity EUR I	21,93	n.d.	🍀 🍀

As it can be seen in Table 7 the SRI ranking does not match the Morningstar ranking.. However, in some cases results are similar. Definitively, when making decisions about their portfolio composition both should be taken into account together with the investment constraints of the individual investor.

Conclusions

In this research we have focused on obtaining a ranking of investment funds according to the social responsibility of their companies. The aim is to complement the existing financial tools in Italy. In Italy there is a low level of implementation of these products and yet, there is an apparent great potential for the socially responsible investment. We believe, not only individual investors would be potential beneficiaries of this tool, also the companies themselves, institutional investors, fund managers, financial institutions, marketers and advertisers would also be potential beneficiaries.

The methodology takes into account the different social responsibility (SR) criteria, or ESG considerations (after Environmental, social and Governance). For this, it relies on the Vigeo's Equitics® database with six SR dimensions divided into up to 17 criteria. To our knowledge, this is one of the scarce research projects that exploit the great potential of Equitics®. The preferences regarding ESG criteria vary from one investor to another depending on their gender, age, culture, interests, personnel preferences, historic conjuncture, etc. Therefore, the procedure allows analyzing particular profiles of investors and companies by giving different weights to the SR criteria. Analytic Hierarchy Process (AHP) is applied for the weighting. To show the adaptability of the methodology, but also aiming at obtaining a balanced proposal for the criteria weights, a panel of SR financial market stakeholders has been arranged. By means of AHP, their individual preferences regarding Equitics® SR criteria have shown in the criteria weights and meaningful differences have been found. In the case study 32 Italian large cap equity mutual funds were assessed. The ranking was calculated for each individual set of criteria weights and for the set of average weights. Results showed the dimensions Human Rights, Business Behaviour and Human Resources were the most preferred and hence most weighted. However, they were similarities and differences among the stakeholders that showed their inner values and approaches towards socially responsible investment.

In conclusion, the proposed methodology could help to discussing those differences looking for a better understanding among vendors, demanders and opinion makers, on the one hand. On the other hand, the methodology helps designing the large cap equity mutual funds to adapt better to the different stakeholders' preferences.

It must be stressed out the final SR score obtained for each fund cannot be considered as a final assessment. The funds vary in composition with time, and also varies the SR performance of companies they invest on. Being based on Equitics® data, the

methodology allows easily updating the SR scores as the funds and companies change with time.

Finally, and coming back to the main aim of the research, the obtained results for the funds are more meaningful for individual investors when combined with other financial information and their own restrictions and expectations. Individual investor are increasingly asking for more complete information, and this includes funds' SR performance, be it due to the investor's consciousness and care about ESG considerations, or be it due to a management of the investment risks. In both cases the methodology provides complete, understandable and updated information that can be easily combined with other sorts of financial information, such us the Morningstar classification of funds.

The aim of future work is to extend the study considering other case studies in order to propose the method as tool in Europe. The methodology could help to design the large equity mutual funds to adapt better to the different stakeholders' preferences.

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