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SOCIALLY RESPONSIBLE INVESTMENT: THE DISCOUNT RATE IN SMEs

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Nota Introdutória

A Escola Superior de Tecnologia e Gestão (ESTG) do Instituto Politécnico da Guarda IPG) congratula-se pelo facto do Professor Doutor *David Crowther*, da *London Metropolitan University*, Reino Unido ter aceite o convite para realizar uma visita de trabalho e investigação científica a decorrer entre os dias 9 a 15 de Novembro de 2002. Temos a certeza que com esta visita será possível desenvolver um debate privilegiado entre toda a comunidade Docente e Discente.

É igualmente um enorme privilégio dar início à série *Estudos e Documentos de Trabalho* com seis *paper*s da autoria do Professor David Crowther. Esperemos que este seja o estímulo e o incentivo que falta para que, em particular a comunidade académica da ESTG, apresente trabalhos científicos que estimulem a discussão científica.

Não se poderá deixar de agradecer à Fundação para a Ciência e Tecnologia que, através do Fundo de Apoio à Comunidade Científica, generosamente aceitou a nossa candidatura, bem como todos aqueles que directa e indirectamente contribuíram para a sua concretização.

Constantino Rei
Professor Doutor do Departamento de Gestão
Director da Escola Superior de Tecnologia e Gestão do IPG

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por

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Socially Responsible Investment: the discount rate in SME

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Abstract

Purpose – This research discusses the socially responsible investment (SRI) through the influence of the discount rate of small-and medium-sized enterprises (SME). It explores, direct and indirect, impact of the discount rate to sustainable management practices.

Design/methodology/approach – This research presents dual theoretical framework. The first is based in finance and CSR theory that assure the link between SRI through discount rate, risk level and illiquidity premium which establish the financial investment practices. The second is based in the seventh document of *Asociación Española de Contabilidad y Administración* (AECA). This document show the enterprise valuation issued and it suggests a systematic methodology to estimate the minimum rate of return which establish the decision making process.

Findings – A SRI justifies that mean of the discount rate determine by AECA method (AECA, 2005) is 2,45% and it is superior to the mean determine by CAPM method (Sharpe, 1964). It therefore contains the seeds of the difficulty to capture the risk level and the illiquidity premium in order to pursuit the SME value considering their low marketability and, for this reason, fewer liquidity which may involves.

Practical implications – It is also reasonable to suspect that regarding the discount rate of SME determine by AECA method validates investors' expectations, which are related with marketability and liquidity developments and their risk aversion at a given moment of time.

Originality/value – the seventh document of AECA is efficient for practitioners, because it avoid subjectivity of the value due to the reduction of non-marketability enterprises. Also, it contributes to a more SRI and it opens new ways of researching that will improve our knowledge about SME valuation.

Keywords - SRI, Enterprise Valuation, SME, Discount rate, Risk level, Illiquidity premium.
Paper type – Research Paper
JEL classification: G32; G12; M21; M41

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INTRODUCTION

This research discusses socially responsible investment (SRI) through the impact of the discount rate of small-and medium-sized enterprises (SME). This question rises, because of increase marketability of enterprises and transferability of risks between investors, knowing that investors want a sufficient number of counterparties and their willingness to trade (Bervas, 2006). But, the literature does not explicitly demonstrate that social responsible investments are willing to accept suboptimal financial performance to pursue social, environmental, ethical and corporate governance priorities (Renneboog et al., 2008). While SRI chase past performance (Sparkes, 2002), investors based their decision in, direct and indirect, impact of the discount rate to achieve sustainable management practices.

These sustainable management practices must be based on CSR principles proposed by Crowther & Rayman-Bacchus (2004: 239). These principles, such as: accountability, transparency, social contract and sustainability are:

> *"concerned with the effect which action taken in the present has upon the options available in the future. If resources are utilised in the present then they are no longer available for use in the future, and this is of particular concern if the resources are finite in quantity".*

All these principles have received, relatively, modest attention in the finance literature as well as the classification as social responsible on SME should be incorporated into investment practices. However, this concern allows investors to avoid uncertainty especially in investment decisions. Then, decision making process under uncertainty is closely linked to the problem of measurement of the discount rate. One example of this problem may be applied to social investments and it is argued by Caplin & Leahy (2004: 1257) saying that:

> *"It is standard to use the market interest rate, thereby respecting private preferences. We show that application of this "revealed preference" criterion rests on faith, not on logic. It is justified only if preferences over all choices, including past choices, are time invariant. The conditions for this to be true are stringent. Under more reasonable conditions, policy makers should be more patient than private citizens, whose choices define the most short-sighted Pareto optimum."*

These social investment raise the classification of social investors and follow the definition proposed by Social Investment Forum (SIF, 2007: 2) details that the are

> *"...individuals, businesses, universities, hospitals, foundations, pension funds, corporations, religious institutions, and other nonprofit organizations that intentionally put their money to work in ways designed to achieve specific financial goals, while pursuing a future based on sustainability and the needs of multiple stakeholders, including employees, their families and communities."*

On one hand, these lead us to consider investors' expectations, attitudes and behaviours regarding price developments as well as the information availability. It is important to notice that information asymmetry exists between market participants. There has been a great deal of discussion about the proper principle of transparency that it supposes to generate more disclosure (see Sparkes, 2002). The extent to which these aspects have improved the annual report is not readily determinable. But, as O'Keefe & Smith (2002: 1) defends some of the

> *"social responsible investing (SRI) community has long advocated and worked for increased corporate disclosure and transparency, with respect both to vital issues of corporate governance as well as social and environmental responsibility."*

On the other hand, to realistically assess risk level exposure and liquidity, it is necessary to take into account the question of socially responsible investment. Several researchers contribute to the understanding of SRI by focusing on country development (see Lozano et al., 2006; Bengtsson, 2007, Williams, 2007). In another case, the Domini Social Investment in United States is a socially responsible investment and it relates risk, performance and other factors of financial instruments

(Schueth, 2003). Between other focus, Chong et al. (2006: 408) discuss the case study of the "irresponsible funds" showing that

> *"according to the fund's prospectus, the fund 'deliberately intends to invest in products often considered socially ''irresponsible''.*

In general, investors take decisions based on the rule that they purchase more goods at the end of the period of investment than they could at the beginning, then the study of discount rate is important especially due to dynamic and competitively of the business world. Thus, it is often wise to make the selection of an appropriate discount rate, because an Euro received in the future is not as valuable as an Euro received today (Schroeder et al., 2001).

A wide theoretic framework exists about discount rate for those enterprises which are quote in exchange stock market and considering that investors have the possibility to diversify their investment and with enough liquidity. So, the risk supported is the market-risk, which cannot be diversified, and the so-called systematic risk as opposed to specific risk. As a consequence, in the Equation (1), the risk premium *(P)* is separate into two risk premium (Holton, 2004). A market risk premium (*PM*) which can not be eliminated and a specific risk premium (*Pe*) based on the SME. In addition, this risk could be eliminated by diversification.

$$P = PM + Pe \tag{1}$$

where:
P = Risk premium for the market in which the subject investment trades
PM = Market-risk premium
Pe = Specific risk premium

In last years, there is a considerable discussion about the role of liquidity to calculate the risk premium (see Datar et al., 1998; O'Halon & Steele, 2000; Loderer & Roth, 2005). As the authors show, the CAPM model works for investors who have the opportunity to diversify their investments through a market with liquidity. But, as usual, the scientific discussion about this model is very hard, for example, Fama & French (2003) have showed that the model generate poor empirical results.

The Capital Asset Pricing Model (CAPM) develop by Sharpe (1964) is the most used method and very important to finance theory. The CAPM predicts the relationship between the risk of an asset and its expected return as many authors have pointed out (Bruner et al., 1998: 17; Welch, 2000: 501; Graham & Harvey, 2001). The method is easy to apply, but it is based on the premise that a rational investor expects to earn a greater rate of return with a greater risk than risk-free investment. Then, the investor must adopted strategies that are consistent with a wide range of circumstances not totally known.

In fact, the CAPM hypothesis states that shares are continuous trade and unlimited quantity (Longstaff, 2001). When these do not happen, there is a gap between buyers and sellers (Amihud & Mendelson, 1986) and it must be checked the existence of a liquidity premium (Miralles & Miralles, 2006) with effects on the discount rate (Pastor & Stambaugh, 2003). Moreover, not always investors have the opportunity to diversify their investments. Most of them focus their investment only on their own enterprises (Damodaran, 2002: 667). As consequence, a problem arises for some small and infrequently trade enterprises and like Palliam (2005: 306) says:

> "*As owners and managers of small business usually do not view their business as part of a diversified portfolio but more as a capital project, the* (CAPM) *may have limited usage.*" Adding: "*Consequently, consideration of total risk is more relevant to estimating a cost of capital for these firms...*"

Because of this non-financial behaviour of some investors, enterprise managers or business investor, fall into a higher level of risk, so cannot talk about an anomalous behaviour. Indeed, the business investor must be rewarded with a higher rate of return, because it assumed a role that financial investors do not do it. In particular, that is true in the case of non-quoted enterprises, for what they do not exist a developed market which gives them a "good" liquidity (Damodaran, 2002: 677). As a

result, the CAPM model, even used in practice, cannot be appropriate for investor, being necessary to find a new approach of the discount rate which allows us to include the lack of liquidity and the level of risk derived from non-diversification, in order to do a correct valuation of the non-quoted enterprises, in general, and of the SME, in particular.

The paper is organized as follows. The next section discusses the socially responsibility investment and explores its impact to financial investment practices. The third section presents from the SRI the theoretical framework proposed by AECA (2005) to estimate the discount rate for SME, including the CAPM model. The fourth section details from the theoretical framework an empirical analysis. Finally, the last section offers some concluding remarks.

SOCIALLY RESPONSIBLE INVESTMENT

The corporate social responsibility (CSR) is understood, as the Green Paper (EC, 2001: 4) details, as:

> *"a concept whereby companies decide voluntarily to contribute to a better society and a cleaner environment",*

and the Communication from the Commission of the European Communities, about the *Corporate Social Responsibility: A business contribution to Sustainable Development* (EC, 2002: 3), emphasizes:

> *"a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis",*

the authors consider that this voluntary commitment going for besides their legal obligations. So, this concept is also linked with SRI and as Renneboog et al. (2008: 1723) detail:

> *"SRI as socially responsible investments made by individual or institutional investors in SRI funds or corporations. CSR refer to corporate decisions fostering social, corporate governance, ethical and environmental issues."*

In pursuing of these approaches, the main difference is that, in the words of Rapson et al. (2007), CSR is concerned with addressing *corporate practice* as opposed to SRI which addresses *financial investment practice*. These practices affect stakeholders and their natural environment, but no one practice can be said to fully define an enterprise's sustainability (Sparkes & Cowton, 2004). So, as Van de Velde et al. (2005: 129) classify a sustainable enterprise, it means that

> *"...puts the interests of its shareholders on a par with the social, community and environmental interests of third parties or stakeholders involved in its activities. By controlling the impact of its activities on stakeholders, it targets a threefold economic, social and environmental performance through which it contributes to the overall objective of sustainable development. "*

In concert with this perspective, a SME to be classified as sustainable must be transformed by social and environmental priorities. For example, Benn et al. (2006) present a model that explains how an enterprise makes the change toward social and ecological sustainability. Consequently to promote CSR and SRI, the enterprise faces challenges in changing cultures and attitudes, both internally and externally, in wider priorities than financial (Stubbs & Cocklin, 2008).

Therefore, incidents of unethical behaviour have pervaded the business community and have led investors to look to other aspects to value privately held SME (Hopkins et al., 2008; Angel & Rivoli, 1997). Moreover, one can not measure the market value of SME by comparing it to those of other enterprises. This issue concerns with discounted cash flow methodology and its reliability, including the accuracy of the discount rate, cash flow projections and risk measures (Koeplin et al., 2000).

In general, investors value marketability and, in particularly, the challenger lies in determining the discount rate to be applied to a SME as valuing a non-marketable asset (Bajaj et al., 2001). In yet another situation, this research conceptualizes a methodology of the discount rate of a SME where sustainability concepts play an integral role in shaping the mission or driving force of the enterprise and its decision making process (Wicks, 1996). As Hopkins et al. (2008: 40) defend

> *"...with respect to consistency in managerial decisions, if organizations are able to identify ethics-related situations that have strong strategic implications, they can develop and encourage an ethical code appropriate to anticipated situations."*

Beyond markets themselves, there is a current lack of explanation about SRI. But, the authors do not have intention to debate a complete definition of SRI, because there is some agreement as to the wording in a definition, but there is no consensus as to what those words mean in the financial investment practices. For example:

Mansley (2000) defines SRI as:

> *"...an investment process that considers the social, environmental or ethical consequences taken into account in the selection, retention and realization of investments, both positive and negative, within the context of rigorous financial analysis".*

Waddock (2003: 369) says that SRI:

> *"...is comprised of an investment community encompassing a wide range of individuals and groups (including religious groups, universities, and some pension and mutual funds) interested in criteria other than simple return on investment."*

Also, Eurosif (2006: 1) states that SRI:

> *"...combines investors' financial objectives with their concerns about social, environmental and ethical (SEE) issues'. Many investors are now including corporate governance (CG) matters along with SEE issues as part of the broader group of extra financial issues."*

According to the Social Investment Forum that publish the Report on Responsible Investing Trends in the U.S. 2007 (SIF, 2007: 2), it explains that SRI:

> *"...is an investment process that considers the social and environmental consequences of investments, both positive and negative, within the context of rigorous financial analysis. (...) It is a process of identifying and investing in companies that meet certain standards of CSR".*

From all these definitions, the authors show questions related with finance theory, financial intermediation and asset pricing that several researchers and Institutions discuss in their studies. Also, they based their arguments and definitions in the increasing awareness of SME in other priorities than maximizing the firm value to shareholders, because, as Jensen (2004) argues, managers should regularly communicate with the stock market to prevent not only undervaluation but also overvaluation. Subsequently, they maximize the social value as the sum of the value generated for all stakeholders and by doing so they must be concerned with social, environmental, ethical and corporate governance priorities. This subject need studies applied to reality to understand that an SME that make socially responsible investment is a necessary prerequisite of global economic activity and make this as a different perspective (Abreu et al., 2004).

FROM SRI TO THE THEORETICAL FRAMEWORK

From the point of view of financial investment practices, there is some perplexity and thus hesitance about how to apply non-financial criteria to enterprise value, but this is turn hinders further progress (Leys et al., 2008). In general, researchers and practitioners used to enterprise valuation the Discounting Cash Flow (DCF) methodology, but the question is how to include risk from uncertainty associated with future cash-flows. Some benefits of using the discount cash flow analysis is that it allows enterprise value that is projected to increase or decrease at varying rates over time and establish different scenarios as result of changes in a selected discount rate (Meinhart, 2004).

However, the application of the DCF methodology raises several unsettled issues, such as: the accuracy of the discount rate, expected cash flow and risk measures (Kaplan & Ruback, 1995). In the interest of assessing the financial investment practices of a broader finance community, it is suggested by the IASB (EC, 2004: 32) and AECA (1981: 86) the use of the certainty equivalent method, which

includes risk measures in the expected cash-flow. To develop a better understanding of how these empirical market data are used in estimating discount rates, it will be discuss two methods for estimating a discount rate. Almost of researchers and professional developments have been focus on the traditional methodology in which risk measures are included on the discount rate.

According to this methodology, the minimum rate of return represented on the Equation (2) is express:

$$Ke = i + P \tag{2}$$

where:
Ke = Minimum rate of return
i = Rate of return on a risk-free investment
P = Risk premium for the market in which the subject investment trades

The minimum rate of return is the rate of return that the investor achieves if the available resources are invested in treasury debt as a risk-free investment issued by solvent countries and it recognises that other investments different from those of treasury debt are risky. At higher level of risk, the higher premium and the required return has to be higher too.

According to CAPM model, the minimum rate of return represented on the Equation (3) and also called required return or the expected return of a diversified investor is express:

$$k_e = i + \beta \cdot (\overline{R}_M - i) \tag{3}$$

where:
K_e = Minimum rate of return
i = Rate of return on a risk-free investment
β = Risk that a specific investment (a share) adds to a diversified portfolio
$(R_M - i)$ = risk premium for the market in which the subject investment trades or non diversified risk.

Through the Equation (4) is possible to determine the beta or measure of the systematic risk as a function of the return on an individual SME and the return on the market. Also, it considers the sensitivity of the return on the SME investment to movements in returns of the marketplace as a whole (Meinhart, 2004):

$$\beta = \frac{Cov \ . \left(i, \overline{R}_M\right)}{Var \ \left(\overline{R}_M\right)} \tag{4}$$

where:
$Cov \left(i, \overline{R}_M\right)$ = covariance of the asset's liquidity with market liquidity
$Var \left(\overline{R}_M\right)$ = variance of the market liquidity

Thus, in the CAPM, the cost of equity is a function of the beta of an asset or SME and there is little that allows illiquidity (Damodaran, 2005: 19). There is a growing literature on the liquidity, as opposed to illiquid, of financial assets and its impact on expected returns. Generally, in the stock market, liquidity is viewed as those that accommodate trading with the least impact on price (Dimson & Hanke, 2004: 19). As Amihud (2002: 47) point out:

> *"the results suggest that the effects of market illiquidity - both expected and unexpected - are stronger for small firm stocks than they are for larger firms. These findings may explain the variation over time in the ''small firm effect''".*

In this perspective, illiquidity affects expected stock return. So, Amihud (2002) to measure illiquidity proposes the SME characteristic or by using the stock's sensitivity to an illiquidity factor. These enable to study that expected market illiquidity positively affects expected stock return. So, this is associated with liquidity that has to be with marketability. Less marketability implies higher return as many authors have proved (Amihud & Mendelson, 1986: 224; Eleswarapu & Reinganum, 1993: 374; Brennan & Subrahmanyam, 1996: 442; Rubio & Tapia, 1998; Datar et al., 1998: 204; Amihud, 2002:

32; Pastor & Stambaug, 2003: 642; Martinez et al., 2005: 81; Miralles & Miralles, 2006: 255). The lack of liquidity in the market generates an extra risk premium which that could be placed between the 7.0% and the 18.0%, for two year period of complete illiquidity (Lonsgstaff, 2001: 424).

As it was point out by the authors in the introduction, the main problems in calculating the discount rate are liquidity and its diversification. But, the existence of some additional problems is argued by Sheeller (2004) at the information level (Easley & O'Hara, 2004) or the control level, which makes the risk premium be higher in relation to quoted enterprises. Table 1 shows the marketability discounts as a range of variation from different researches, since 1976 till 2005.

Table 1. Range of variation of the marketability discounts

Author	Mean (%)	
	Minimum	Maximum
Maher (1976)	35.0	35.0
Banz (1981)	19.8	19.8
Wruck (1989)	17.5	17.5
Silber (1991)	34.0	34.0
Hertzel y Smith (1993)	13.5	13.5
Willamette Management Associates	32.0	75.0
Koeplin et al (2000)	20.4	20.4
Bajaj et al (2001)	22.2	22.2
Sarin et al (2002)	11.0	80.0
Loderer & Roth (2005)	7.0	21.0

Source: Adaptation of Bajaj et al. (2001: 94) and Damodaran (2005: 30).

Table 1 shows the marketability discounts of the eleven different researches, since 1976 till 2005. It has a ranging from a minimum mean of 23.1% and maximum mean of 34.8%. Also, the maximum of the maximum is 80.0% in the Sarin et al. (2002) research and the minimum of the minimum is 7.0% in the Loderer & Roth (2005) research. This table demonstrates different samples, period of analysis and methodologies designed to assess risks. In general, these results are biased because of errors concerning with parameters and specification (Bervas, 2006: 76).

Finance theory says the market risk premium should equal the excess return expected by investors on the market portfolio relative to riskless assets. In this sense, how one measures expected future returns on the market portfolio and on riskless assets are problems left to practitioners (Bruner et al., 1998). Then, professionals face this topic proposing a discount for lack of marketability (Sheeler, 2004: 26) considering that this lack implies incapacity of changing an asset into money (Bajaj et al., 2001: 91). The discount for lack of marketability literature has developed three different ways to analyse discount rate assigned in enterprises valuation (Rojo & Alonso, 2008):

i) IPO approach with an extra risk premium between the 32.0% and 55.0% (Damodaran, 2005: 30);
ii) CSR approach with a mean between the 35% and 45% (Silber, 1991; Sheeler, 2004: 30), and
iii) Acquisition approach with mean around 20% (Koeplin et al., 2000).

Therefore, in the seventh document about enterprise valuation, AECA (2005) proposes a simple method for estimate the minimum rate of return (*ke*) for investors in SME. This method takes into account the lack of marketability in the SME and it presents a method according to the financial investment practices. In Equation (5), the minimum rate of return is estimated through the risk-free rate (*i*) and two components of the risk level:

- Market risk premium (P_M) that is non diversifiable, when the analysis focus a pure financial investor; and
- Specific risk premium (*Pe*) that is diversifiable, when the analysis deals with a business investor.

$$k_e = i + P_M + P_e \qquad (5)$$

Pure financial investor

Business investor

where:
K_e = Minimum rate of return
i = Rate of return on a risk-free investment
P_M = Market risk premium
P_e = Specific risk premium

Market risk premium is concordant with a diversified portfolio. For example, in the Spanish case, a portfolio composed of the IBEX 35 shares weighted by its importance in the market. This premium is calculated in historical terms, being today, approximately, 5.0% (Madrid Stock Exchange Study Service, 2004). So, it is possible to confirm that the market risk premium is calculated by using the historical prices of quoted enterprises.

As other researchers, Renneboog et al. (2008: 1734), suggest that investor's base their decisions exclusively on risk return characteristics or are they willing to tolerate suboptimal financial performance in order to satisfy their personal values related to social responsibility. Also, AECA (2005) recognizes that the diversified risk is the great problem in estimation of the minimum rate of return and, against the professional practice of discounting the value in the enterprise, get up-dating the cash flows, a percentage which admits the restrictions in the SME the authors are discussing, specifically by discount for lack of marketability, suggests an extra criterion for the rate using a coefficient of risk-variability that Damodaran (2002: 668) calls total beta and it is presented in Equation (6).

$$k_e = i + (\overline{R}_M + \mathrm{i}) + \upsilon \cdot (\overline{R}_M - \mathrm{i}) = \mathrm{i} + P_M (1 + \upsilon) \qquad (6)$$

where:
Ke = Minimum rate of return
i = Rate of return on a risk-free investment
P_M = Market-risk premium
υ = coefficient of risk variability and

The extra risk assumes the specific risk and it is calculated based on fundamental because total beta takes into account the profitability of the enterprise and as Penman (2007: 693) argues, all economics and financial risk are in profitability. Further, it is not necessary to elaborate a complex model to inform about it. It presents in Equation (7):

$$\frac{\beta_M}{\rho_{aM}} = \frac{\sigma_a}{\sigma_M} \qquad (7)$$

where:
β_M = Risk that a specific investment (a share) adds to a diversified portfolio
ρ_{aM} = Correlation between the share value and the selected market index
σ_a = Correlation of the share value
σ_M = Correlation of the selected market index

There are some arguments that justify the use of minimum rate of return followed by the AECA method (ke_{AECA}). According to different kinds of risk, systematic and specific, this method takes into account both of them:

i) The systematic risk represented by $(\overline{R}_M + \mathrm{i})$, recognizes the position of a pure financial investor;

ii) The specific risk, represented by $\upsilon \cdot (\overline{R}_M - i)$, recognizes the position of a business investor that support an extra risk for his investment measured by fundamental. The component of extra risk, represented by $\upsilon \cdot (\overline{R}_M - i)$ equal to zero, disappears when an investor diversifies its investments and these are liquid.

In this case, the minimum rate of return will be the sum of the risk free rate plus risk premium which is calculated with historic data. In fact, this is the weaker point of the methodology, according with actual criticism. But as Cochran (2007: 493) suggests, enterprises must understand that:

> *"it is rare when a single factor can explain why any specific organization is successful or unsuccessful. In fact, the overall success of any organization is a result of its entire portfolio of management practices and policies, combined with industry and economic conditions, plus a certain degree of luck."*

FROM THE THEORETICAL FRAMEWORK TO THE EMPIRICAL ANALYSIS

This research presents dual theoretical framework. The first is based in finance and CSR theory (Rivoli, 2003) that assure the link between SRI through discount rate, risk level and illiquidity premium which establish the financial investment practices. The second is based in the seventh document of *Asociación Española de Contabilidad y Administración* (AECA, 2005). This document show the enterprise valuation issued and it suggests a systematic methodology to estimate the minimum rate of return which establish the decision making process.

The authors apply the Gordon's (1962) method to a sample of quoted enterprises and comparing the value applying the discount rate by using the AECA and CAPM model. Originally, this method on cash flows considers that investors earned dividends, which will increase to a *g* rate in a stable way (Damodaran, 2002: 323) and, for example, Cea (1979) has revised this interesting method. But, it is important to explain that the requirement that increase or decrease rate (*g*) should be lower than minimum rate of return does not accomplished by the sample of this research.

Design of the research

First, the authors calculate the estimative of the minimum rate of return by using the CAPM model (Ke_{CAPM}) presented in the Equation (3) and the AECA model (Ke_{AECA}) presented in the Equation (5).

Second, the authors compute the enterprise value with two different discount rates by the Equation (8). One of the discount rate is estimated by using the CAPM model (EV_{CAPM}) presented in the Equation (3). And the other discount rate is estimated by using the AECA model (EV_{AECA}) presented in the Equation (5). The authors employ the mean of the expected dividends, between 1998 till 2005. Also, it is consider the minimum rate of return as a constant and there is not an increase of the expected dividends. The authors verify that some enterprises have not distributed dividends during the above mentioned time period. In these cases, the historical mean of dividends, only, include the years with available data.

$$EV_0 = DIV / Ke \qquad (8)$$

where:
EV_0 = Enterprise value
DIV = Expected dividends
Ke = estimative of the minimum rate of return

Third, the authors determine the descriptive statistics of variables of the research through the concepts proposed by Hair et al. (2005) and Greene (2003).

Fourth, the authors aggregate the enterprises in clusters according to their economic activity sector. The main objective is to know if a different criteria improves our knowledge about the discount rate in SME as a SRI.

Sample of the research

Our dataset consists of 94 non-financial enterprises that belong to the *Índice General de la Bolsa de Madrid* (IGBM) as the Index of quoted enterprises of the Madrid Stock Exchange, during the period of 1998 till 2005. The enterprises must belong to one of the six economic activity sectors that are Basic materials, industry and construction (1); Consumer goods (2); Consumer services (3); Financial services and real state (4); Petrol and power (5); and Technology and telecommunications (6).

Variables of the research

In this research, the variables represented by ke_{CAPM} and ke_{AECA} by the Equation (9) are the minimum rate of return by using the CAPM model and the AECA method. The authors infer that the discount rate by using the CAPM method is lower than the AECA method when the minimum rate of return of the SME will always be higher than a quoted enterprise, if the market beta (β) is less than ($1+\upsilon$), then:

$$ke_{CAPM} < ke_{AECA} \quad (9)$$

where:
Ke_{CAPM} = Minimum rate of return by using the CAPM method
Ke_{AECA}= Minimum rate of return by using the AECA method

In this research, the variables represented by EV_{CAPM} and EV_{AECA} by the Equation (10) are the enterprise value by using the CAPM model and the AECA method. Therefore, the authors infer that the enterprise value by using the CAPM model is bigger than the AECA method and a SME value will be lower to that of a quoted enterprise because of the higher risk associated, in particular, the discount for lack of marketability.

$$EV_{CAPM} > EV_{AECA} \quad (10)$$

where:
EV_{CAPM} = Enterprise value with the discount rate estimated by the CAPM model
EV_{AECA}= Enterprise value with the discount rate estimated by the AECA method

In addition, professional practice suggests that the enterprise value following the AECA method (EV_{AECA}) should be reduced in a range that varies between 20% and 50% and although, in the last years, these percentages have decreased (Emory, 1981).

In this research, the variable represented by VValue and the Equation (11) is the impact of enterprise values. It allows to get two different enterprise values with the same mean expected dividend. These enterprise values have been used to know the impact the application of one or another discount rate has on the value, by means of:

$$VValue_0 = [\, EV_{CAPM} - EV_{AECA} \,] / EV_{CAPM} \quad (11)$$

where:
$VValue_0$ = Impact of enterprise values
EV_{CAPM} = Enterprise value with the discount rate estimated by the CAPM model
EV_{AECA}= Enterprise value with the discount rate estimated by the AECA method

Results of the research

Following Hair et al. (2005) and Greene (2003), the descriptive statistics were determined to the variables of the research with the main objective to describe the basic features of the data in this research. Table 2 provides simple summaries about the sample of enterprises of the Madrid Stock Exchange and its measures, such as: mean and median as measures of central tendency, variance and standard deviation as measures of dispersion.

Table 2. Descriptive statistics of variables of the research

Variables	Unit	Mean	Median	Variance	Standard Deviation
ke_{CAPM}	%	9.4	9.4	0.0	2.2
ke_{AECA}	%	11.8	11.3	0.1	2.4
EV_{CAPM}	10^3€	446.117	76.100	1,18E+18	1,09E+09
EV_{AECA}	10^3€	363.587	59.358	7,97E+17	8,93E+08
$VValue_0$	10^3€	73.354	82.529	4,97E+16	2,23E+08
$VValue_0$	%	22.7	28.2	48.0	22.0

Table 2 shows descriptive statistics of the six variables of the research made for the whole sample. The results demonstrate that the mean of the discount rate using the AECA method is 11.8% and the CAPM method is 9.4%. This difference in value is in accordance with Equation (11) and fullfil the rule that market βeta is lower than (1+ υ) in practically all enterprises.

Table 3 presents the distribution by economic activity sector of the 94 enterprises of the sample as a summary of their frequency of each one of variables of the research. The relative importance of the enterprise value in both methodologies, reveal that the eight enterprises of petrol and power gets bigger values and the four enterprises of technology and telecommunications obtain the lower values of the sample.

Table 3. Distribution of the mean of the variables of the research by economic activity sector

Economic Activity Sector	number of enterprises	K_e CAPM (1)	K_e AECA (2)	g	DIF (2-1)	EV_{CAPM}	EV_{AECA}	VVALUE (%)
Basic materials, industry and construction	28	10,15%	11,69%	-13,35%	1,54%	243.362.695,60	232.284.172,22	12,10%
Consumer goods	24	8,08%	11,41%	-16,93%	3,33%	220.324.062,15	172.327.359,53	29,01%
Consumer services	14	8,84%	12,32%	-22,67%	3,48%	559.842.838,97	401.942.081,26	26,48%
Financial services and real state	16	10,03%	12,53%	-0,69%	2,50%	216.964.645,41	168.792.881,85	17,45%
Petrol and power	8	9,51%	11,56%	-15,69%	2,05%	1.864.525.605,47	409.405.685,56	17,67%
Technology and telecommunications	4	11,38%	12,02%	0,13%	0,64%	83.084.435,32	73.323.869,92	4,35%

This table 3 concludes that the enterprise value using the AECA method generates lower values than the CAPM method, but the authors have to check the significance of these differences and for that reason and due to the lack of normality in the variables distribution EV_{CAPM} and EV_{AECA}. The authors conclude that there are significant differences in these variables and numerically analyse the normality of variables showed in the appendix through the study of the asymmetry, curtosis and the Kolmogorov-Smirnov tests. Also, the authors apply non-parametric tests for two related samples (Hair et al., 2005).

After this analysis, the authors have constructed from the results of the variable "*impact of enterprise values*" four sorted clusters, supposing the most liquid enterprises are those that are quoted in the most dynamic index of the Madrid Stock Exchange. So, the authors have done four clusters: the enterprises belonging to IBEX35, those quoted in the IBEX but separate them as medium enterprises and small enterprises and, at last, other enterprises not included in the clusters above mentioned. With these clusters, it was generated the descriptive statistics of the variable "*impact of enterprise values*".

Table 4. Distribution of descriptive statistics of the variable "*impact of enterprise values*" by financial clusters of the research

Financial clusters	Number of enterprises	Mean	Median	Variance	Standard deviation
IBEX 35	28	10.9%	11.2%	1.9%	13.7%
IBEX Medium enterprises	14	19.4%	21.4%	3.7%	19.3%
IBEX Small enterprises	21	12.9%	14.1%	4.2%	20.6%
Others enterprises	31	32.1%	33.3%	1.2%	14.0%

The results of the Table 4 confirm that enterprises included in IBEX 35 have a higher value of the variable "*impact of enterprise values*" than Other enterprises, as they are considered as shares with a more dynamic and liquid market. Whereas enterprises not assigned to the IBEX 35 should be those which have a lower value of the variable "*impact of enterprise values*".

If βeta takes into account the risk, the enterprises more frequently quoted in market will be those with a lower *βeta* and minimum rate of return. So, the enterprises in the IBEX35 confirm a lower minimum rate of return. The IBEX medium enterprises have a minimum rate of return that the mean value is lower than IBEX small, and these ones will be lower for enterprises not assigned to any IBEX. To sum up, more liquid enterprises have to be a higher value than the less liquid ones and therefore the variable "*impact of enterprise values*" should be higher in more liquid enterprise in relation to the AECA method value.

Contrary to what the authors expected, mean value of the variable "*impact of enterprise values*" does not agree with the hypothesis. Whereas the mean of IBEX 35 is 10.9%, IBEX small enterprises is 12.9%, IBEX medium enterprises is 19.4%, and enterprises not assigned to IBEX show the highest percentage that is 32.1%. Also important is that the standard deviation of IBEX 35 and IBEX small enterprises are bigger than the mean, which prove the greater variability between enterprises.

Increasingly, socially responsible investment is influencing by the public expectations like the enterprise value and, as the results of this research show, they affect their investment decision making style. In summary, there is no evidence to believe that the CSR principles affect social investing and as Entine (2003: 366) defends

> *"the intentions of a business can be judged distinct from the economic impact of a company, social investing may promote corporate behavior that is neither socially progressive nor ethical and may result in adverse consequences to stakeholders."*

Discussion

The underlying and most argued question in enterprise valuation is that which refers to the discount rate in the DCF model. In valuing quoted enterprises, although some different opinions exist, CAPM method is normally used in estimating the minimum rate of return. However, when the authors talk about non-quoted enterprises, especially in reference with SME, there is a requirement to establish a process to that it be able to capture specific risks and, in the case of non-marketability, the illiquidity risk.

Academics and practitioners show the necessity of aggregating to the discount rate an additional premium for lack of liquidity or reducing the enterprise value estimated, being in this last case mean reductions between 20.0% and 50.0%. This research, extent the Rojo & Alonso (2008), relates the AECA (2005: 38) method to estimate the minimum rate of return and evaluate the practitioners perform, consisting in a discount rate on enterprise value. It applies the Gordon model to a sample of quoted enterprises and comparing the obtained value applying the discount rate by using the AECA method and CAPM model. So, the authors conclude that AECA (2005) method is an efficient and consistent method for practitioners in estimating the minimum rate of return. This method avoids the inconvenience to have to reduce the obtained enterprise value, which is an elusive concept to apply in some exceptional circumstances.

Two considerations can help us to understand the lack of hypothesis fulfilment. First consideration, the authors could think that different clusters are not appropriated for this analysis because liquidity is not an observable variable and creates measure problems as Miralles & Miralles (2006: 258) show. And second consideration, the *βeta* of the CAPM method is not a good magnitude to analyse the risk when it is calculated based on historical data as Fernández & Carabias (2007) defend too.

However, it is necessary to do supplementary studies of some aspects which, in our view require more attention. Particularly, this research opens two different ways to study the problem. On one side, analyze the variable "*impact of enterprise values*" behaviour under different clusters, according to liquidity degree. On the other side, the use of another way to calculate the *βeta*, different from that one of the market as an example, account *βeta* suggested by Damodaran (2002: 664).

This last section shows the findings of the research, due to the fact that the sustainable analysis of enterprises is a relatively new phenomenon. It shows that the AECA method offers a discount rate of 2.45% superior to the CAPM mean that implies differences in the variable "*impact of enterprise values*" about 19.6%. The results suggest that investors, especially sustainable investors, could exploit this sustainable effect in order to create different investment decisions. Given the long-term orientation of sustainable development, successful performances from sustainable investing may result from a longer time horizon. And it is efficient for practitioners, because it avoids subjectivity of the value reduction in non-marketability enterprises and it contributes to a more SRI.

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Appendix. Sample of the research

SECTOR	Name	K_i CAPM (1)	K_i AECA (2)	g	DIF (2-1)	EV_{CAPM}	EV_{AECA}	VVALUE (%)
Basic materials, industry and construction	ABENGOA SA	14,77%	11,34%	-13,44%	-3,43%	74.101.024,76	96.543.730,55	-30,29%
	ACCIONA S.A.	12,48%	11,31%	11,81%	-1,17%	550.504.666,09	607.326.924,33	-10,32%
	ACERINOX SA	10,32%	11,29%	7,44%	0,97%	453.695.183,28	414.721.620,42	8,59%
	ACS ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	10,81%	10,58%	-100,00%	-0,23%	699.799.001,67	714.993.871,60	-2,17%
	AZKOYEN SA	8,34%	10,92%	206,54%	2,59%	62.670.385,67	47.839.929,31	23,66%
	BEFESA MEDIO AMBIENTE SA	6,67%	10,63%	129,47%	3,96%	117.818.452,89	73.954.724,42	37,23%
	CEMENTOS PORTLAND VALDERRIVAS SA	7,98%	10,84%	11,75%	2,86%	318.577.497,90	234.452.411,59	26,41%
	CIE AUTOMOTIVE S.A.	9,10%	10,91%	119,83%	1,81%	62.676.865,29	52.277.920,75	16,59%
	CONSTRUCCIONES Y AUXILIAR DE FERROCARRILES SA	6,67%	10,71%	10,57%	4,04%	60.113.414,31	37.448.929,26	37,70%
	DURO FELGUERA SA	13,69%	11,74%	57,56%	-1,96%	31.815.404,68	37.114.038,65	-16,65%
	ELECNOR SA	8,16%	12,23%	11,70%	4,07%	25.389.716,59	16.933.205,63	33,31%
	FOMENTO DE CONSTRUCCIONES Y CONTRATAS SA	12,79%	11,02%	-2,63%	-1,78%	359.743.363,43	417.829.834,65	-16,15%
	GAMESA CORPORACION TECNOLOGICA S.A.	11,31%	11,91%	-19,38%	0,60%	243.945.787,05	231.714.007,15	5,01%
	GRUPO FERROVIAL SA	12,25%	10,90%	-100,00%	-1,36%	206.292.162,15	231.967.318,50	-12,45%
	HULLAS DEL COTO CORTES SA	5,41%	11,47%	-100,00%	6,06%	24.734.896,92	11.673.179,61	52,81%
	INYPSA INFORMES Y PROYECTOS SA	8,88%	12,28%	-100,00%	3,40%	3.073.165,33	2.222.057,44	27,69%
	LA SEDA DE BARCELONA SA	10,45%	10,65%	-100,00%	0,19%	19.568.775,89	19.212.505,88	1,82%
	LINGOTES ESPECIALES SA	9,28%	11,93%	-100,00%	2,65%	20.465.159,88	15.921.458,83	22,20%
	MECALUX SA	9,55%	11,12%	5,73%	1,57%	38.122.552,43	32.748.623,44	14,10%
	NICOLAS CORREA SA	10,05%	12,43%	-4,06%	2,38%	5.740.214,50	4.640.139,08	19,16%
	OBRASCON HUARTE LAIN S.A.	10,77%	11,95%	13,65%	1,18%	98.961.256,12	89.151.752,98	9,91%
	REPSOL YPF SA	10,41%	11,10%	-100,00%	0,69%	2.323.720.065,28	2.179.186.938,83	6,22%
	SACYR VALLEHERMOSO SA	13,06%	11,32%	-18,37%	-1,74%	439.820.673,56	507.402.434,81	-15,37%
	TABLEROS DE FIBRAS SA	10,14%	19,91%	-1,25%	9,77%	11.901.803,21	6.060.324,18	49,08%
	TECNICAS REUNIDAS SA	7,80%	12,41%	12,75%	4,61%	325.808.623,18	204.759.634,04	37,15%
	TUBACEX SA	10,63%	11,27%	-100,00%	0,63%	51.290.323,50	48.412.668,15	5,61%
	URALITA SA	9,96%	11,19%	-100,00%	1,24%	155.897.048,71	138.686.793,46	11,04%
	TUBOS REUNIDOS SA	12,34%	11,98%	#DIV/0!	-0,37%	27.907.992,64	28.759.844,54	-3,05%

SECTOR	Name	K, CAPM (1)	K, AECA (2)	g	DIF (2-1)	EV_{CAPM}	EV_{AECA}	VVALUE (%)
Consumer goods	ADOLFO DOMINGUEZ SA	7.39%	10.89%	0,84	3,4	3[illegible]2.2[illegible]3.28	24.923.415.95	32.09%
	ALTADIS SA	8.34%	11.78%	22,13	3.44	2.3[illegible]2[illegible]82.[illegible]33.28	1.693.541.310.57	29.22%
	BODEGAS RIOJANAS SA	7.03%	11.48%	1.97%	4.44%	12.262.707.86	7.514.209,23	38.72%
	CAMPOFRIO ALIMENTACION SA	7.89%	11.04%	8.69%	3,15%	169.784.571.91	121.287.672.83	28.56%
	COMPANIA VINICOLA DEL NORTE ESPANA SA	6.72%	11.44%	-100.00%	4,72%	28.503.334.99	16.738.828.93	41.27%
	EBRO PULEVA SA	9.51%	11.35%	-35.76%	1.84%	388.756.952.30	325.826.300.59	16.19%
	FAES FARMA SA	9.28%	13.41%	-100.00%	4.13%	126.580.723.21	87.619.481.01	30.78%
	FEDERICO PATERNINA SA	6.90%	12.48%	-100.00%	5.58%	26.222.553.42	14.495.330.40	44.72%
	GRIFOLS SA	7.93%	11.03%	7.72%	3.10%	44.177.383.96	31.767.473.86	28.09%
	GRUPO EMPRESARIAL ENCE S.A.	9.69%	13.88%	8.97%	4,19%	77.313.476.86	53.984.314.73	30.17%
	INDO INTERNACIONAL SA	8.16%	11.65%	9.11%	3.49%	17.923.553.62	12.550.439.94	29.98%
	INDUSTRIA DE DISENO TEXTIL SA	10.05%	10.68%	14.33%	0.64%	1.569.561.624.65	1.476.116.619.06	5.95%
	MIQUEL Y COSTAS & MIQUEL SA	7.71%	11.85%	-100.00%	4.14%	27.337.941.33	17.790.551.50	34.92%
	NATRA SA	8.43%	10.91%	-16.64%	2.48%	12.246.823.70	9.461.448.34	22.74%
	PAPELES Y CARTONES DE EUROPA SA	8.20%	10.86%	7.18%	2.66%	18.118.323.73	13.684.156.12	24.47%
	PESCANOVA SA	8.16%	11.09%	6.87%	2.93%	34.628.912.67	25.474.178.18	26.44%
	PRIM SA	9.82%	11.31%	9.46%	1.49%	6.159.339.72	5.347.912.23	13.17%
	SOS CUETARA SOCIEDAD ANONIMA.	7.12%	10.87%	38.37%	3.75%	41.677.487.28	27.315.013.81	34.46%
	TAVEX ALGODONERA SA	8.07%	11.49%	16.81%	3,42%	40.301.783.[illegible]	28.309.833,65	29.76%
	UNIPAPEL SA	6.31%	11.12%	-44.28%	4.81%	14.569.904,67	8.270.083.18	43.24%
	VIDRALA SA	6.40%	11.08%	9.61%	4.68%	95.314.862.92	55.080.361.95	42.21%
	VISCOFAN S A	9.73%	11.11%	0.99%	1.37%	31.353.688.51	27.476.583,07	12.37%
	ZELTIA SA	8.65%	10.48%	-20.40%	1.83%	24.414.810.38	20.153.132.70	17.46%
	IBERPAPEL GESTION S.A.	6.36%	10.46%	#DIV/0!	4.10%	51.181.723.73	31.127.976.87	39.18%
Consumer services	ABERTIS INFRAESTRUCTURAS S.A.	9.69%	11.42%	-31.50%	1.73%	1.455.393.907.40	1.234.620.659.30	15.17%
	ANTENA 3 DE TELEVISION SA	10.14%	13.97%	8.72%	3.83%	887.688.324.50	644.138.922.16	27.44%
	CINTRA CONCESIONES DE INFRAESTRUCTURAS DE TRANSPORTE S.A.	10.00%	10.71%	-100.00%	0.71%	337.479.805.57	315.136.038.08	6.62%
	COMPANIA DE DISTRIBUCION INTEGRAL LOGISTA S.A	7.98%	10.77%	44.99%	2.79%	328.720.233.95	243.580.257.44	25.90%
	EUROPISTAS CONCESIONARIAS ESPANOLAS SA	6.58%	11.57%	-4.28%	4.98%	357.124.896.73	203.254.456.00	43.09%
	FUNESPANA S.A.	9.96%	10.59%	-100.00%	0.63%	17.231.707.89	16.209.341.83	5.93%
	GESTEVISION TELECINCO SA	9.55%	15.29%	9.03%	5.74%	1.239.779.144.32	774.435.043.77	37.53%
	IBERIA LINEAS AEREAS DE ESPANA SA	10.68%	11.87%	3.24%	1.19%	1.208.831.788.31	1.087.501.422.14	10.04%
	NH HOTELES S.A.	9.42%	11.14%	11.15%	1.73%	253.818.978.10	214.526.656.10	15.48%
	PROMOTORA DE INFORMACIONES SA	9.60%	11.96%	15.21%	2.37%	232.211.070.22	186.291.023.00	19.78%
	PROSEGUR COMPANIA DE SEGURIDAD SA	9.24%	12.22%	19.02%	2.98%	142.609.056.37	107.827.557.56	24.39%
	SOL MELIA S.A.	8.52%	11.08%	-100.00%	2.56%	165.485.764,14	127.269.821,64	23.09%
	TELEFONICA PUBLICIDAD E INFORMACION S.A.	6.00%	15.73%	7.06%	9.73%	1.072.731.522.87	409.182.531.99	61.86%
	TELEPIZZA SA	6,45%	14.15%	-100.00%	7.70%	138.693.545.26	63.215.406.60	54.42%

SECTOR	Name	K, CAPM (1)	K, AECA (2)	g	DIF (2-1)	EV_{CAPM}	EV_{AECA}	VVALUE (%)
Financial services and real state	CORPORACION FINANCIERA ALBA SA	9.96%	10.75%	7.95%	0.79%	88.603.538.74	82.074.161.81	7.37
	FADESA INMOBILIARIA SA	10,27%	11.59%	33.17%	1.31%	370.259.155.62	328.293.493.73	11.33%
	GRUPO INMOCARAL SA	15.09%	30.60%	37.97%	15,51%	21.399.709.50	10.553.703.83	50.68%
	INBESOS SA	9.60%	10.68%	-19.80%	1.08%	5.761.084.92	5.178.990.50	10.10%
	INMOBILIARIA COLONIAL SA	9.24%	10.83%	12.54%	1.59%	439.963.732.81	375.434.613.06	14.67%
	INMOBILIARIA URBIS SA	8.83%	11.18%	25.55%	2.35%	236.866.562.90	187.161.634.67	20.98%
	METROVACESA SA	8.43%	11.79%	30.43%	3.36%	402.288.884.66	287.650.146.70	28.50%
	MONTEBALITO SA	9.91%	12.25%	-100.00%	2.33%	7.101.812.43	5.748.439.37	19.06%
	RIOFISA SA	20.31%	14.16%	-100.00%	-6.15%	99.103.158.06	142.129.373.45	-43.42%
	SOTOGRANDE SA	7.03%	11.98%	29.18%	4.95%	140.238.137.55	82.326.775.26	41.30%
	TESTA INMUEBLES EN RENTA S.A.	6.09%	10.85%	35.44%	4.76%	796.454.453.30	446.920.572.74	43.89%
	CORPORACION MAPFRE SA	9.28%	10.58%	#DIV/0!	1.30%	447.677.543.16	392.679.117.67	12.29%
	DINAMIA CAPITAL PRIVADO SOCIEDAD DE CAPITAL RIESGO S.A	9.55%	11.04%	#DIV/0!	1.49%	55.725.924.25	48.205.718.71	13.49%
	GRUPO CATALANA OCCIDENTE SA	9.73%	10.58%	#DIV/0!	0.84%	156.198.005.98	143.744.871.84	7.97%
	PARQUESOL INMOBILIARIA Y PROYECTOS SA	8.34%	10.39%	#DIV/0!	2.05%	135.511.917.25	108.781.674.96	19.73%
	RENTA CORPORACION REAL ESTATE SA	8.79%	11.15%	#DIV/0!	2.36%	68.280.705,45	53.802.821.36	21.20%
Petrol and power	COMPAÑIA ESPANOLA DE PETROLEOS SA	7.39%	11.50%	14.86%	4.11%	1.639.407.420.87	910.547.192.93	44.46%
	ENAGAS SA	9.55%	11.28%	0.90%	1.73%	752.979.102.04	136.282.780.91	81.90%
	ENDESA SA	9.69%	11.84%	-21.47%	2.15%	7.739.610.715.85	1.715.653.701.46	77.83%
	GAS NATURAL SDG SA	11.31%	11.38%	-100.00%	0.07%	1.760.780.370.42	11.121.868.98	99.37%
	IBERDROLA SA	10.81%	11.95%	-1.69%	1.13%	2.001.667.468.62	210.066.204.02	89.51%
	RED ELECTRICA DE ESPANA SA	9.06%	11.25%	7.12%	2.19%	257.658.437.92	62.306.716.22	75.82%
	SOCIEDAD GENERAL DE AGUAS DE BARCELONA SA	9.15%	11.18%	5.14%	2.03%	175.954.825.48	39.069.787.35	77.80%
	UNION FENOSA SA	9.15%	12.11%	-30.36%	2.96%	588.146.502.57	190.197.232.61	67.66%
Technology and telecommunications	AMPER SA	11.31%	11.43%	-26.33%	0.12%	42.709.017.49	42.269.413.14	1.03%
	INDRA SISTEMAS SA	11.08%	12.45%	-100.00%	1.37%	209.207.318.82	186.254.212.36	10.97%
	TECNOCOM TELECOMUNICACIONES Y ENERGIA SA	13.42%	11.16%	168.92%	-2.27%	10.918.321.27	13.135.797.43	-20.31%
	TELEFONICA SA	9.69%	13.04%	-42.07%	3.35%	69.503.083.70	51.636.056.76	25.71%

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