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Analysis of the performance of the Spanish investment fund industry

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Abstract

This dissertation analyses the performance of Spanish mutual performance in the period 2011-2020. The mutual funds were divided into categories according to their geographical focus, namely National, Europe, USA, and Japan. The research is comprised of two parts.

In the first part, the performance of the funds was calculated applying the traditional measures - Jensen's Alpha, Treynor and Sharpe Ratio. We found that funds that invest in the Spanish market ("National") did not perform positively, it being the only category with negative values in the majority of the measures. The other categories achieved positive values, indicating sound levels of performance.

In the second part, we try to establish a relationship between certain characteristics of the funds, such as age, size, and managerial traits, with the performance measured by alphas. Not only did we prove that the relationship exists, but we also discovered that these characteristics are determinants of performance. However, the results are heterogeneous across the categories.

Age and size had a significant impact on the performance in the majority of the categories. Regarding the characteristics of the management, the two most significant characteristics were managers working in a team, and funds not disclosing the identity of the managers.

Resumo

Esta dissertação analisa o desempenho da indústria espanhola de fundos de investimento no período 2011-2020. Os fundos foram divididos em categorias de acordo com seu foco geográfico (National, Europa, EUA e Japão). A pesquisa é composta por duas partes.

Na primeira parte, o desempenho dos fundos foi calculado aplicando-se as medidas tradicionais (Jensen's Alpha, Treynor e Sharpe Ratio). Constatámos que os fundos que investem no mercado espanhol ("National") não tiveram um desempenho positivo, sendo a única categoria com valores negativos na maioria das medidas. As demais categorias obtiveram um desempenho positivo.

Na segunda parte, procuramos estabelecer uma relação entre certas características dos fundos, como idade, tamanho e características dos gestores, com o desempenho medido por alfas. Descobrimos que o desempenho pode ser explicado por algumas das características dos fundos. No entanto, os resultados são heterogêneos. As relações entre as características dos fundos e seu desempenho diferem nas diferentes categorias de fundos de investimento.

A idade e tamanho dos fundos tiveram um impacto significativo no desempenho na maioria das categorias. Em relação às características da gestão, as duas características mais significativas foram os gestores trabalharem em equipa e os fundos não divulgarem a identidade dos gestores.

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List of abbreviations

CAPM – Capital Asset Pricing Model

CEO – Chief Executive Officer

CML – Capital Market Line

CNVM – Comisión National del Mercado de Valores

et al. – "and others"

ETF – Exchange-traded fund

ICI – Investment Company Institute

INVERCO –Asociación De Instituciones De Inversión Colectiva Y Fondos De Pensión

EMH – Efficient-market hypothesis

OLS – Ordinary Least Squares

PU – Participation Units

SEC – Securities and Exchange Commission

SML – Security Market Line

TNA – Total Net Assets

USA - United States of America

WLS – Weight Least Squares

1. Introduction

A mutual fund can be described as a collective form of investment in capital markets. It is a portfolio held by several individual investors, which invests in assets, following an investment strategy. When applying a strategy, the fund manager chooses the securities in which to invest. Instead of simply hoarding capital in savings accounts, a mutual fund conveys the possibility to invest in multiple financial instruments and provides access to the services of professional managers. Additionally, mutual funds offer the benefits of diversification.

When approaching this kind of alternative, there is always a discussion that ensues - the performance of these investment funds. The results of academic studies have all been roughly unanimous in stating that equity mutual funds achieve low levels of performance.

There are many reasons for this study to come to fruition. From the recent public interest in financial markets, witnessed during the worldwide COVID-19 lockdown, to the scarce and outdated research in the Spanish mutual fund markets. This dissertation focuses on the equity investment funds located in Spain and attempts to answer the following questions:

- Are Spanish equity mutual funds capable of reaching good levels of performance and even out-performing the markets?
- Do their characteristics have a meaningful impact on their performance? If so, in what way?

This dissertation focuses on the Spanish equity mutual funds, from 2011 until 2020, that are considered active, merged, or liquidated, according to CNVM. The mutual funds were divided into categories according to their geographical focus, namely National, Europe, USA, and Japan, as per Inverco. The study assesses the performance of the funds while trying to establish correlations between it and some of their characteristics, such as size, age, and various variables regarding the managers of the funds.

Regarding the first question, various empirical studies reach the conclusion that these funds underperform the market, and that active management strategies allow higher returns than the market to be obtained, following the Efficient-market hypothesis (EMH).

Concerning the second two-parted question, the existing literature has already studied the influence of the main characteristics of funds (in addition to their profitability) on their performance, from their size (Indro et al.,1999) to their age (Prather et al.,2004).

Research regarding the Spanish market performance and its determinants is insufficient. And, for some determinants, like managerial characteristics, it is almost non-existing.

The research is comprised of two parts.

In the first part, the performance of the funds was calculated applying the traditional measures - Jensen's Alpha, Treynor and Sharpe Ratio. We found that funds that invest in the Spanish market ("National") did not perform positively, it being the only category with negative values in the majority of the measures. The other categories achieved positive values, indicating sound levels of performance.

In the second part, we try to establish a relationship between certain characteristics of the funds, such as age, size, and managerial traits, with the performance measured by alphas. Not only did we prove that the relationship exists, but we also discovered that these characteristics are determinants of performance. However, the results are heterogeneous across the categories. Age and size had a significant impact on the performance in the majority of the categories. Regarding the characteristics of the management, working in a team was the most significant determinant characteristic.

The dissertation is structured in the following fashion. In chapter 2 it is presented an expose of the state of the International and Spanish mutual fund industries' for the last 10 years available. In chapter 3 a review is made of existing academic literature on mutual funds' performance measures, benchmarks, and determinants. In chapter 4, there is a description of the data sample used in the study. In chapter 5 the methodology is presented both for the performance measurement by three models as well as for the relation between one of the measures and selected characteristics of the funds. Chapter 6 presents the results of the performance estimation for the three measurements and the results for the relationship between one of the measurements and the determinants according to their geographical focus. Lastly, chapter 7 displays the key conclusions of the study.

2. Mutual Fund Market

2.1. Worldwide

Strong demand for regulated open-end funds from investors all around the world has incentivised fund providers to offer more than 126,000 regulated funds.

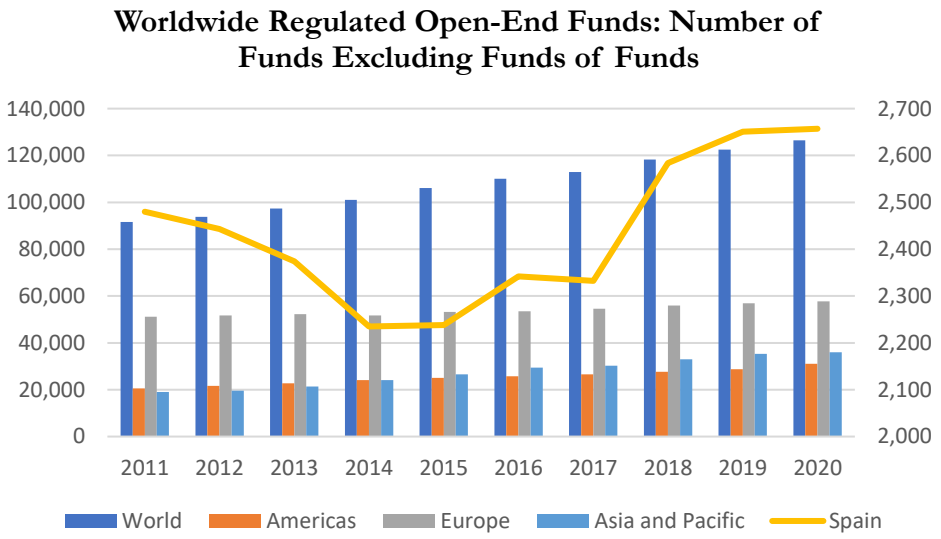

Figure 1 - Worldwide Regulated Open-End Funds: Number of Funds Excluding Funds of Funds

Globally, ETFs have demonstrated a steady increase in the last 10 years, gaining more than 34,000 new funds from 2011 to 2020. The region with most funds is Europe. Except for some years with small setbacks, it has had a minute growth in the past decade. The region that developed the most has been Asia and Pacific with a whopping increase of almost 17,000 new funds since 2011. The Americas mimic Europe's trend, with the United States of America leading the charge. (International Investment Funds Association, 2021)

Spain, the main focus of this study, has had a very raucous journey. In 2011, the market had almost 2,500 funds and up until 2014 it declined to almost 2,200 funds. From then on, disregarding a small setback in 2017, it saw a rise in funds to more than 2,600 funds, achieving an almost stale growth rate in the last couple of years.

Concerning the size of funds, if not for 2018, globally, the total net assets of funds, has had a steady increase, from over 20 trillion euros to more than 50 trillion euros.

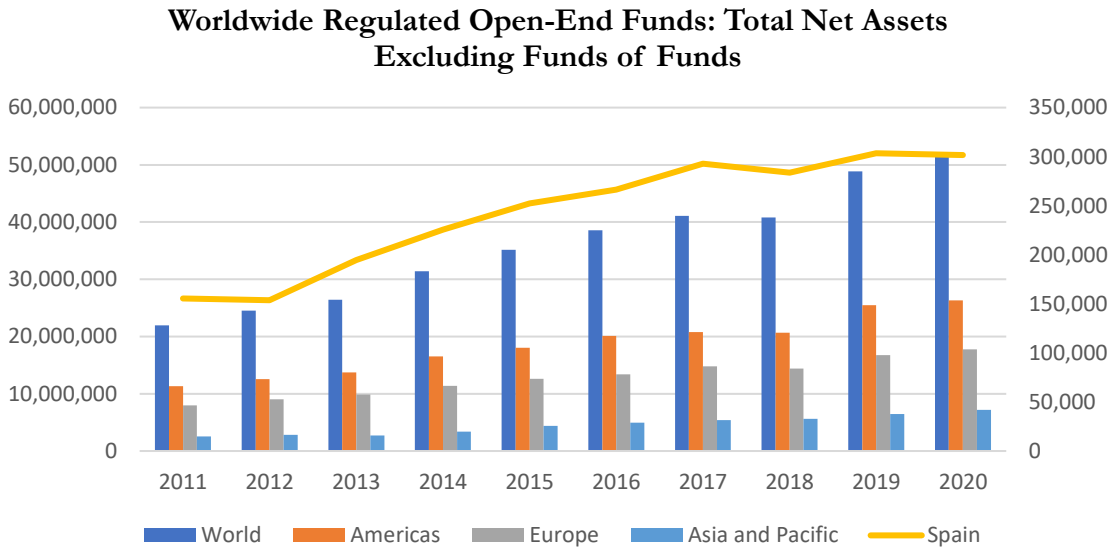

Figure 2 - Worldwide Regulated Open-End Funds: Total Net Assets Excluding Funds of Funds

All the regions mirror the global trend by having a slight drop in 2018. The Americas, despite not having as many funds as Europe, have the largest funds, reaching more than 26 trillion euros and surpassing the European funds by almost 9 trillion euros.

Regarding Spain, the market would have presented a similar trend to the World if not for 2012 and 2020, years that saw a slight fall. In 2020, the market reached values above 300 billion euros, having reached its highest size in the previous year. (International Investment Funds Association, 2021)

Another important metric is the categorical division by type of fund. The four main categories of funds are Equity, Bond, Mixed/Other and Money Market. As stated, this dissertation focuses on equity funds, given their magnitude and amount of literature available.

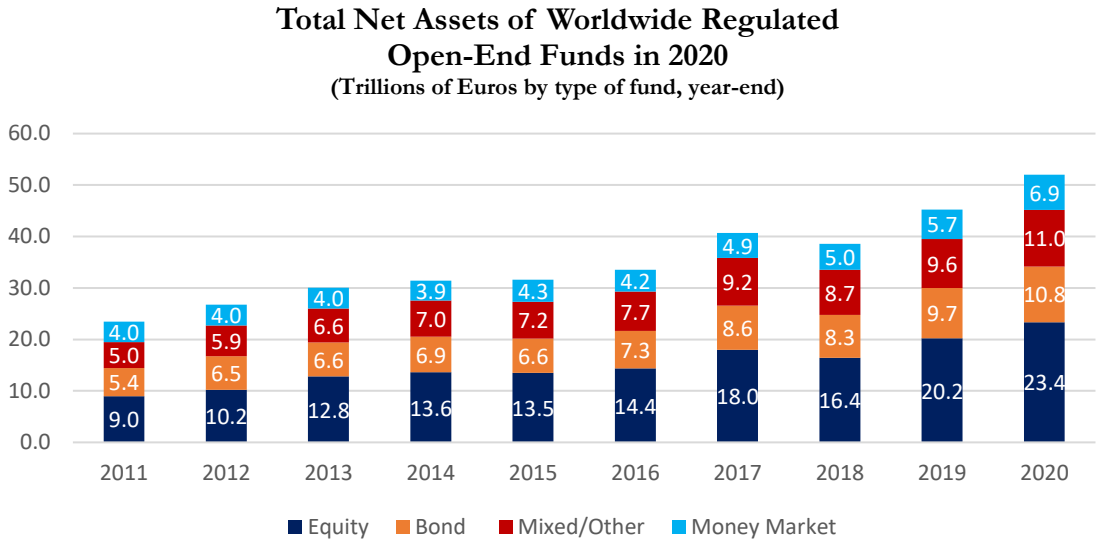

Figure 3 - Total Net Assets of Worldwide Regulated Open-End Funds - trillions of Euros by type of fund, year-end.

In the last decade, Equity mutual funds have represented the largest category, witnessing a steady growth, aside from a spike in 2018. It reached more than 23 trillion euros, which is an increase of more than 14 trillion euros when comparing to 2011. The smallest category throughout the years has been Money Market, reaching almost 7 trillion euros in 2020. The other two categories have had a tandem trend along the decade, with the Mixed/Other category inching ahead in 2020 by 0.2 trillion euros.

2.2. Spain

The Spanish market is populated with copious amounts of funds, ranging from nationally focused mutual funds to specialized funds in specific markets such as Europe, Japan, or the United States of America.

Although the numerous funds, research is still seldom. Which presents itself as an opportunity to explore the market.

Regarding the amount of funds, most of it has remained stable with a slight incline.

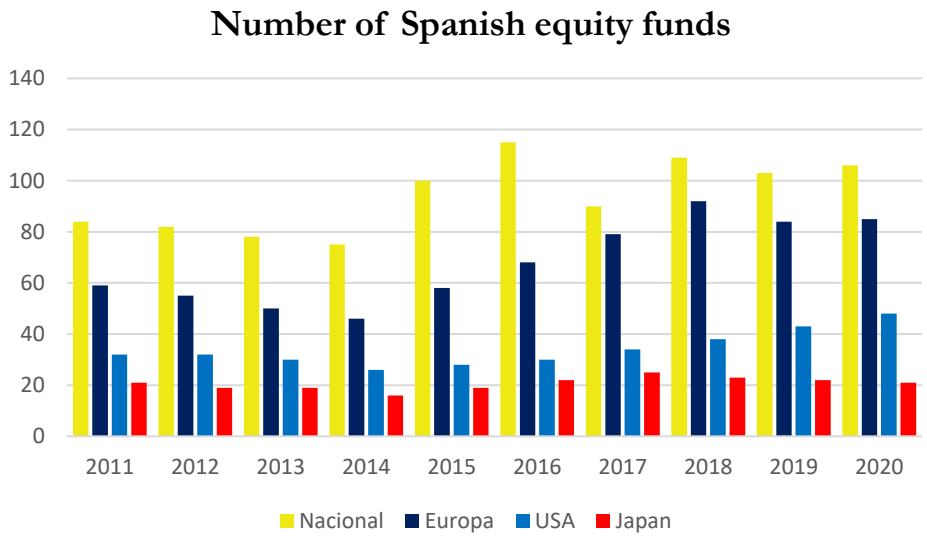

Figure 4 - Number of equity funds - Spanish mutual fund market

The National category is the most crowded, reaching almost 120 funds at its peak in 2016 and hovering above 100 funds in the last three years (2017-2020). As for the previously mentioned specialized funds, those seem to follow almost the same pattern, dipping in some years, such as in 2014 and in the last years, while having a subtle increase overall. (INVERCO 2021)

The variation of the size of the funds, by category, has been distinct from the variation of the number of funds.

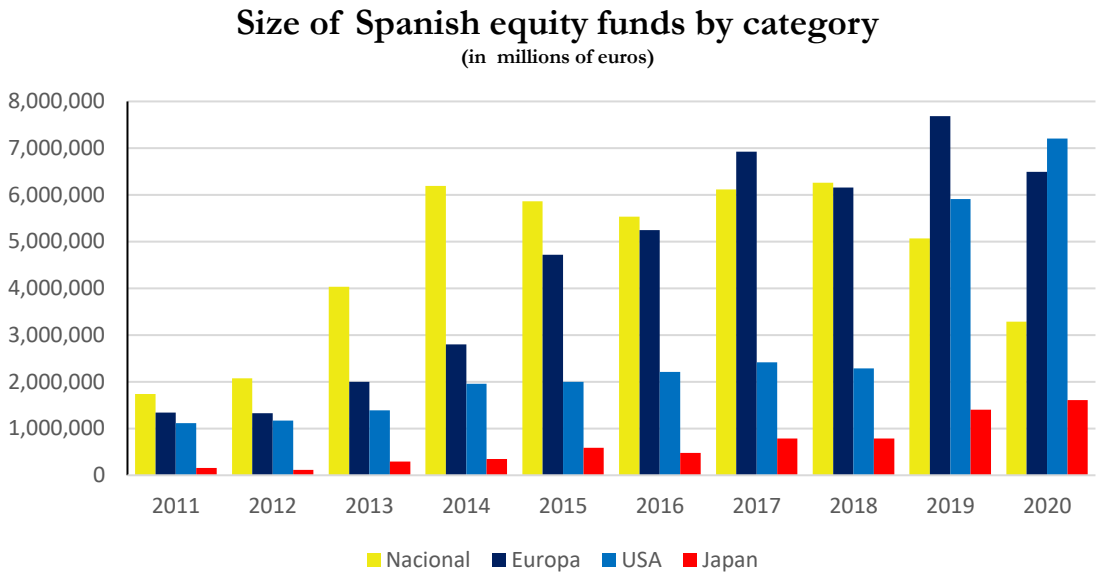

Figure 5 - Size of Funds - Spanish mutual fund market

The Europe focused funds reached the maximum level in all the categories in 2019, almost reaching the eight-million-euro mark. Overall, the Japanese targeted funds have witnessed a steady increase throughout the years. The same can be said about the USA focused funds for most years, except for the last two years, with funds' sizes skyrocketing from mid-values between 2 and 3 million euros to levels around 6 and 7 million euros. The European sighted funds have also increased in size with only two drops, in 2018 and 2020.

Regarding the Spanish funds that invest internally, they saw the most changes along the years as their size increased until 2014, decreased from then to 2016, increased again until 2018, all to see their size reach levels lower than 2013's in 2020.

Concerning the management groups responsible for the funds in Spain, the high concentration of this market can be seen in the 5 largest management companies controlled at the end of 2020 - 50% of the investment fund market. With Santander leading the charge of management groups with 17% of total net assets and more that 400 funds (18% of total funds), which explains the large figure.

3. Literature Review:

Literature regarding Mutual Funds is vast and complex. The performance of mutual funds can be assessed by choosing two main paths. Either by evaluating the performance of the managers and their capability to choose winning financial instruments or by evaluating the performance of the funds. This dissertation focuses on the latter for various types of funds according to their categories. Firstly, we will discuss mutual fund theories, then the most popular benchmarks and finally the determinants.

3.1. Mutual Funds

3.1.1. Measures

The study of fund performance first emerged with Markowitz (1952). The diversification and modern portfolio theory proposed by him stated that, in order to maximize the expected return of their assets, managers had to diversify their portfolio to better handle different levels of risks and returns.

This set up the development of the Capital Asset Pricing Model (CAPM). In 1958, Tobin added a riskless asset in order to reach high expected returns for any level of risk – introducing the Capital Market Line (CML).

Treynor (1962) developed the CAPM using "the concept of experiment space to quantify risk and risk relations". Sharpe (1964) wrote that returns are a linear function of a certain index returns, further stating that this correlation is due to their similar response to market oscillations.

Linther (1965) and Mossin (1966) further elaborated on the topic. The latter declaring that general equilibrium implies the existence of a "market line" that connects per dollar expected yield and standard deviation of yield – allowing the discussion of the concept of price of risk. While Linther (1965) stated that the determination of explicit equilibrium prices of risk assets traded in competitive markets under idealized conditions are simply, explicitly, and linearly related to their respective expected returns, variances and covariances.

Thus, the CAPM came to fruition. A portfolio's expected returns are a linear function of the market's expected returns using the slope as a measure of the systematic risk.

The CAPM supposes that in equilibrium (when the investment portfolio is completely diversified) the market only rewards systematic risk – the risk an investor cannot avoid or eradicate. It allows investors to assess the return rate of their risky assets in equilibrium and what return on investment an investor should expect.

This measure was a breakthrough and an inspiration for various authors whose measures themselves became benchmarks. Although, several authors have disagreed and even disputed this measure.

For example, Grinblatt and Titman (1994) exposed three flaws: benchmark efficiency, timing, and statistical power. The first relates to the higher chance of existing benchmark bias. The second relates to the possibility of fruitful timers reaching negative performance numbers, even in large samples. And the last relates to the noisiness of portfolio returns, an aspect that makes it difficult to detect abnormal performance if and when it exists.

Several academics based their measures on the CAPM. The measures of these scholars have become the common measures of mutual fund performance, such are Sharpe (1966), Treynor (1966) and Jensen (1968). Therefore, using the CAPM is unnecessary.

On one hand, Treynor and Jensen's measures use the Security Market Line to assess portfolio performance while employing systematic risk as a measure of risk itself. On the other hand, Sharpe uses the Capital Market Line and overall risk.

Sharpe and Treynor evaluate the performance in a relative way where as Jensen does it in absolute terms. Sharpe presents returns in excess by unit of total risk and Treynor by systematic risk. Additionally, Treynor corrects for a flaw of the CAPM by aggregating the effects of timing and selectivity ability through its quadratic regression - by picking up beta variations linearly related to the benchmark portfolio's return.

These measures are still popularly used today, but that does not exempt them from having shortcomings. For instance, Jensen evaluates the performance in a risk-adjusted way using the Jensen's Alpha. This has set it up to be preferred by some, due to the fact that more inference tests can be accomplished.

Nonetheless, Jensen's measure has also been criticised. Grinblatt and Titman (1989), Roll (1978), and Dybvig and Ross (1985) exposed the sensitivity of the measure to the choice of benchmark portfolios and to timing ability. Grinblatt and Titman (1988) showed that the benchmark issue is relevant, but timing-related biases are not significant.

In Grinblatt and Titman (1994), the timing ability was furthermore explored. Exposing the occurrence of statistical bias in Jensen's evaluation technique that emerges every time an evaluated portfolio successfully times the market, which can possibly result in successful timers generating negative performance numbers.

Other authors have also criticised Jensen's measure. Levy (1972) for the investment time horizon. And Friend et al. (1970) and Klemkosky et al. (1978) for the stability of the measure of risk and its relation to measure of performance, respectively.

In response to the timing ability problem, Grinblatt and Titman (1989b) proposed a new measure, the Positive Period Weighting Measure. It requires hard to obtain data and demands different calculations of weights regarding different fund areas and countries of investment.

Grinblatt and Titman (1994) suggested the Treynor and Mazuy (1966) quadratic regression as an alternative with the goal of combining the effects of timing and selectivity ability. Since it picks up beta variations that are linearly related to the return of the benchmark portfolio.

However, as Morningstar declares, this measure also has some caveats, beta caveats to be more precise. Its usefulness is totally dependent on the level of correlation with the market benchmark. Which in turn has relevance issues, because if two portfolios are correlated with different benchmarks it becomes a less pertinent comparison metric.

Another fallout is that it is based on historical performance. This limits its ability to predict future performance. That said, Morningstar advises the use of R-squared in order to better assess how much weight to put on a fund's beta and subsequently, its Treynor ratio.

Regarding the Sharpe ratio, explained in Sharpe (1966), it also has some issues, as Schwager (1984) exposed. It is dependent on time intervals as it assumes trading results are uncorrelated, which can be erroneous. It also fails to correctly separate intermittent from consecutive losses. And it is not able to distinguish between upside and downside fluctuations, given that it measures volatility, not risk.

Carhart (1997) employed a measure to assess performance, based on the Fama and French (1993) 3-factor model, adding one additional factor that employs the one-year momentum anomaly captured by Jegadeesh and Titman (1993). Carhart's model uses four factors, and it can be described as a model of market equilibrium or as a performance attribution model.

According to Carhart (1997), "the coefficients and premia on the factor-mimicking portfolios indicate the proportion of mean return attributable to four elementary strategies: high versus low beta stocks, large versus small market capitalization stocks, value versus growth stocks, and one-year return momentum versus contrarian stocks. I employ the model to 'explain' returns and leave risk interpretations to the reader."

The main issue related to this measure and the data to be employed in this work is the complexity of the measure regarding the various changes of the factors when using mutual funds that invest in various markets.

Theory	Information	Papers/ Arguments
CAPM	Authors	Tobin (1958), Treynor (1962), Sharpe (1964), Lintner (1965) and Mossin (1966)
	Against	Grinblatt and Titman (1994)
	Reason for not using	benchmark efficiency, timing, and statistical power.
Sharpe ratio	Authors	Sharpe (1966), based on the CAPM
	Against	Benchmark bias
	Reason for still using	Commonly used by higher entities even though its flaws
Treynor Ratio	Authors	Treynor (1966), based on the CAPM
	Against	Correlation of Benchmark and Benchmark bias; reliance on historical performance limits predictability ability regarding future performance
	Reason for still using	It picks up beta variations that are linearly related to the return of the benchmark portfolio. And it aggregates the effects of timing and selectivity ability.
Jensen's Alpha	Authors	Jensen (1968), based on the CAPM
	Against	Levy (1972) (Friend et al., 1970) (Klemkosky et al., 1978). Benchmark bias
	Reason for still using	Commonly used by higher entities even though its flaws
Positive Period Weighting Measure	Authors	Grinblatt and Titman (1989b)
	Reason for not using	Requires hard to obtain data and demands different calculations of weights regarding different fund areas and countries of investment.
Carhart four-factor model	Authors	Carhart (1997), based on Fama and French (1993)
	Reason for not using	Complexity of the measure regarding the various changes of the factors when using mutual funds that invest in various markets

Table 1 - Summary of methods of performance assessment

3.1.2. Benchmarks

The most used benchmark is also the most criticised – benchmark bias. For Grinblatt and Titman (1994), the first cause of debate is that the basis of the major measures used today, the CAPM, assesses performance through the use of benchmark portfolio(s) - an approach sensitive to the choice of the benchmark.

Grinblatt and Titman (1994) tested the use of different benchmarks in order to find the best. Four benchmarks were examined, the CRSP equally-weighted index, the CRSP value-weighted index, the F10 factor model, built by Lehmann and Modest (1988), and the eight-portfolio benchmark (P8), designed by Grinblatt and Titman (1988).

All of the benchmarks, except for the P8 benchmark, are not mean-variance efficient. And regarding the characteristics of the funds, they generate biased performance measures related to size, according to Banz (1981) and Reinganum (1981), and related to beta following Black et al. (1972). Litzenberger and Ramaswamy (1979) also found that to be true about dividend yield. Grinblatt and Titman (1988) found that the CRSP equally-weighted index and the F10 benchmark the same biases.

Thus, common CAPM anomalies do not appear to be biases in the P8 benchmark. However, that does not mean that it is deprived of limitations. In Carhart (1997), it was exposed that the P8 benchmark is not capable of capturing the one-year momentum effect in stock returns. Adding that Grinblatt and Titman did not include the expenses or transaction costs. Furthermore, as Roll (1978) emphasised, the difference between investment performance and benchmark inefficiency is difficult to distinguish. Therefore, it could be argued that the positive performance with the P8 benchmark is indicative of the inefficiency of that benchmark rather than its true performance.

Although market portfolio and the P8 benchmark are flawed, the former will be employed in this work given that it is the most commonly used benchmark and the least prone to miscalculations.

3.1.3. Determinants

- Size:

The size of the fund is without a doubt one of the most, if not the most, researched determinant of fund performance, and to this day results are contradicting. Sharpe (1966) stated that as the fund gets bigger so does its capability to dilute the fixed costs. Which opens the opportunity to invest in gathering more information. Indro (1999) stated that funds had to reach a minimum size before they could attain returns big enough to cover trading costs for acquiring information. According to Sharpe (1966), as funds spend the same percentage, given the size difference, a bigger fund can obtain more and possibly even better analysis. Bigger funds have more opportunities of investment than smaller ones. These two factors give them more bargaining power enabling them to reduce transaction costs.

However, being a bigger fund also comes with its disadvantages. Loeb (1983) declared that, while smaller funds can specify their investments, bigger funds need to find always bigger and better opportunities, which eventually can lead to diseconomies of scale. This happens because trading costs can occasionally be higher for large-block transactions given that bid-ask spreads increase radically with block size.

The bigger the fund the more similarities to index funds – that have low returns. And the perk of being bigger regarding having more capital for information can be a double-edged sword. The attention that these funds raise from other traders and investors makes trading on information or implementing proprietary investment strategies more difficult. (Indro et al.,1999)

A study that focused on economies of scale and scope of the French mutual fund industry found that those exist for smaller funds for all categories. However, the study referred to the sponsor's size. (Dermine and Roller, 1992)

Tang, Wang, and Xu (2012), in the Chinese mutual fund industry, documented that the relationship between size and performance follows an inverted U-shape. Meaning that economies of scale and liquidity constraints do exist simultaneously. Increasing fund size decreases the impact of economies of scale and increases the impact of liquidity on fund performance. Therefore, the economy of scale plays a bigger role than liquidity for small funds, but the role of liquidity is substantial for large funds.

Droms and Walker (1996) showed that returns are not related to fund size. Results that contradict the works of Chen et al. (1992) and Otten et al. (2002), who stated that larger funds performed better than smaller funds.

Several other works sustained the prevalence of smaller funds. Grinblatt et al. (1989), Sawick et al. (2002), and Chen et al. (2004) declared that as diseconomies of scale occur due to the nature of bigger funds requiring more organizational expenses.

Although, as Ferreira et al. (2012) explained, these disparities may differ in other parts of the world where the bigger funds are not as large as the biggest funds in the US.

Carhart (1997) stated that, even though the top-decile mutual funds can have the ability to recuperate their investment costs, the majority of funds underperform by about the scale of their investment expenses. And the bottom-decile funds underperform around twice their stated investment costs.

Other studies, such as Prather et al. (2004), Murcia (2011), and Low (2012), did not find evidence of size influencing mutual fund performance.

- Age

After analysing the US market, Gregory et al. (1997) declared that, due to the initial learning curb, older funds perform better than younger ones. Blake and Timmermann (1998) studied the unusual performance of UK mutual funds just before their liquidation or shortly after initiating activity. Concluding that, in their final year, funds perform 3.3% worse than the average fund. And young one-year old funds can have a fleeting positive outperformance of 0.8%.

However, other not as developed markets do not follow this evidence precisely. As Ferreira et al. (2012) concluded that younger funds outperform older funds.

Several academics did not reach results that presented a significant relationship between performance and the respective age of mutual funds. (Chen et al., 2004), (Prather et al.,2004), (Murcia 2011) and (Low, 2012)

- Managers

The amount of female CEO's (Chief Executive Officers) at large companies has reached the point that allows it to be statistically possible to compare the performance of firms by the genders of their managers. (Jalbert et al, 2013) Vieito and Khan (2013) concluded that, on average, the CEO's gender has an impact regarding firm performance, with female CEOs having the lead.

Regarding mutual funds, evidence is less unanimous. After studying US mutual funds from January 1994 to December 2003, Niessen and Ruenzi (2021) concluded that there were no differences between female and male managers. But on average fund performance, female managed funds have a more constant performance than the male managed funds. With male managers being more likely to achieve extreme performance ranks. The same was stated by Atkinson et.al (2003), finding that funds operated by male and female managers do not differ significantly in terms of performance and other characteristics regarding the funds.

Some studies did not find a positive correlation as female managers are likely to be more cautious investors than their gender counterparts. (Welch and Wang, 2013) (Wang, 1994)

The context in which the mutual fund's managers act is also relevant. Effectively, Alves and Mendes (2010) show that mutual funds managed inside banking groups can be requested to afford agency costs, specially if the final owners of the funds do not react to poor performance, as it occurs in Portugal. (Alves and Mendes, 2011)

Other studies inferred no correlation between performance and female managed funds. Bliss et al. (2002), using raw measures of performance, found female outperformance. However, later those were reduced to an insignificant difference when controlling for risk and other factors.

- Fees

Ippolito (1989) stated that fees are the cost investors are willing to embrace for their lack of information in order to have their wealth be best invested. Annaert, Broeck and Vennet (2002) stated investors intrusting mutual funds with their capital could be perceived as a unwise action given the amount of fees charged and expenses sustained.

The theory is upheld when markets are efficient and information on investment opportunities is broadly available to all investors. Any kind of fee can lower mutual fund returns.

However, Grossman and Stiglitz (1980) conclude that management fees should recuperate the costs of generating the necessary information when the market for mutual funds are efficient. On a counter point, Elton (et al., 1993) declared that with the existence of agency problems these management fees may exceed information costs which would lead to lower returns.

According to Carhart's (1997) four-factor model, load fees have a significant and negative relationship with the performance of mutual funds. Droms and Walker's (1996) study constitutes an opposite to Carhart's as it displayed a positive relationship between fees and performance. Demonstrating that managers have the capability to obtain abnormal returns. Gil-Bazo et al. (2009) not only found a negative relationship, but further stated that the worst funds charged the highest fees.

Spanish authors like Fernandez et al. (2020) that only used funds that were 15 years old, found that, on average, these underperformed the IBEX 35. Evidence that was extended by Palacios y Álvarez (2003) and De Lucas (1998). Furthermore, Fernandez et al. (2020) concluded that few managers deserved the commissions requested for the management of the funds.

On another hand, Murcia (2011) concluded that funds with higher management and higher custody fees are not always able to compensate their participants with respective high yields. Meanwhile, higher subscription and redemption fees were linked to better performing funds.

Other studies, such as Grinblatt and Titman (1994) and Ferreira et al.(2012), did not find any relationship between fees and mutual fund performance. For the Portuguese market, Alves, and Mendes (2007) found that load fees can prevent the mutual fund investors from reacting to the poor performance.

- Total Expense Ratio

According to Morningstar, the expense ratio is an annual fee that all funds charge their stockholders. It is the percentage of assets subtracted each fiscal year for fund expenses - ranging from management to administrative fees and all other asset-based costs incurred by the fund.

Sharpe (1966) declared that both the ability of the managers and expense ratios were responsible for differences in performance. Carhart (1992) and Carhart (1997) found a partial and significant negative relationship between expense ratios and performance, respectively. Carhart (1992) further declared that, if expense ratios were held constant, load funds underperformed no-load funds.

When studying US domestic equity funds, Droms and Walker (1996), before being corrected by Malkiel (1995) for survivorship bias, found expense ratios to be significantly related to fund performance. The higher the expense ratio, the higher the return, suggesting that expenses are compensated. After the correction, a significant negative relationship was found.

- Turnover

Turnover is an assessment of active management of funds given that high turnover rates are associated with active positions and low rates with passive positions. This is a way to test the kind of management.

Evidence provided by Carhart (1997) and Elton et al. (1993) demonstrated with a significant value that turnover has a negative impact on performance – an active stance results in low returns.

On the other hand, Grinblatt and Titman (1994), and Dahlquist et al. (2000) encountered the opposite. An active involvement by the fund manager translated into high and abnormal returns. Thus, proving that a positive relationship between turnover and performance exists.

However, Droms and Walker (1996), Ippolito (1989), and Low (2012) stated that investment performance and turnover rates are not related – following the Efficient-market hypothesis.

Determinants	Relation	Studies
Size	Positive	Sharpe (1966), Chen et al. (1992), Otten et al. (2002), Ciccotello (1996) and Ferreira et al. (2012)
	Negative	Indro et al. (1999), Loeb (1983), Dermine and Roller (1992) Grinblatt and Titman (1989), Sawick et al. (2002), Chen et al. (2004), Ferreira et al. (2012)
	Non-existent/Ambiguous	Droms And Walker (1996), Prather et al. (2004), Low (2012), Tang, Wang, and Xu (2012), Carhart (1997), Murcia (2011)
Age	Positive	Gregory et al. (1997), Blake and Timmermann (1998)
	Negative	Otten et al. (2002), Ferreira et al. (2012)
	Non-existent	Chen et al. (2004), Prather et al. (2004), Low (2012), (Murcia 2011)
Managers	Positive	Bliss et al. (2002), Alves and Mendes (2010), (Alves and Mendes, 2011).
	Negative	Welch and Wang (2013) / Wang (1994),
	Non-existent	Niessen and Ruenzi (2021)/ Atkinson et.al (2003)
Fees	Positive	Ippolito (1989), Grossman and Stiglitz (1980), Grossman and Stiglitz (1980), Droms and Walker's (1996), Murcia (2011), Alves and Mendes (2007)
	Negative	Elton (et al., 1993), Carhart (1997), Gil-Bazo et al (2009), Palacios y Álvarez (2003) and De Lucas (1998)
	Non-existent	Grinblatt and Titman (1994), Ferreira et al.(2012)/ Annaert, Broeck and Vennet (2002)
Turnover	Positive	Grinblatt and Titman (1994), Dahlquist et al. (2000)
	Negative	Carhart (1997), Elton et al. (1993)
	Non-existent	Droms And Walker (1996), Ippolito (1989), Low (2012)
Total Expense Ratio	Positive	Sharpe (1966), Droms and Walker (1996)
	Negative	Carhart (1992), Carhart (1997), Malkiel (1995)

Table 2 - Summary of determinants

4. Data Base Description

The data base was created from the ground up. Data was not available in only one source. Thus, various sources were combined manually, Eikon by Thomson Reuters, INVERCO, CNMV and Morningstar Spain, adding up to 407 actively managed Spanish equity funds.

Category	# Of funds
National	192
Europe	136
USA	50
Japan	29
Total	407

Table 3 - Total number of funds studied.

The funds are active, merged or liquidated, from 2011 until the end of 2020, diminishing possible survivorship bias.

Every fund is located in Spain and the categories pertain to their geographical focus. Some equity fund categories present in Inverco, such as "Euro Resto", and "Resto", were disregarded as targets of the study. Given that these categories held vague and inconclusive descriptions for the geographical focus and structure of the funds.

Daily returns for the past 10 years were extracted for each fund, some for fewer years given their age. And then transformed into monthly data.

As for the characteristics, this study will focus on the age of the funds, their size, and their managers' gender and if they invested in teams. The teams were separated into two categories, mixed or same gender – data present in Eikon by Thomson Reuters and in Morningstar. Other determinants present in the literature review will not be explored given the lack of available data.

- Age

The age of the fund is calculated as the number of years in activity until the last day of December in 2020, or the day the fund was merged, or liquidated.

Category	Median	Average	Highest	Lowest
National	6.22	11.24	33.73	0.08
Europe	4.69	8.42	31.95	0.06
USA	11.45	11.09	24.28	0.79
Japan	10.55	12.02	22.23	1.57

Table 4 - Age figures by category

As it can be seen on Table 4, the fund category with the highest average age is the Japan focused one (12.02 years), followed by National (11.24 years) and in close third USA (11.09 years). All the while European focused funds had the lowest average age by a big margin (8.42 years) – this can be explained by the low median value that implies that a lot of funds are young.

The oldest fund is "EDM-Inversion - R" and it belongs to the Spain focused category while the youngest belongs to the European focused category with only 23 days of existence, "Bankinter Tecnología – R" .

- Size

The size of the funds is viewed as the total number of active assets under management. The proxy that will be used is the TNA (total net asset).

Category	Median	Average	Highest	Lowest
National	19,715.00	51,435.29	882,760.00	1.00
Europe	22,258.00	68,432.46	2,393,389.00	1.00
USA	24,330.00	83,095.86	3,586,273.00	1.00
Japan	10,050.50	33,927.05	1,084,049.00	1.00

Table 5 - Size figures by category

In Table 5, it can be observed that the largest fund average belongs to the American focused fund category, with 83,095 euros total net assets, and the smallest is the Japanese focused category, with almost three times less, at around 34, 000 euros. As expected, the biggest fund is "Caixabank Master Renta Variable USA Advised By", a still active and young American focused fund, while the lowest value belongs to "Caixabank Bolsa Dividendo Europa – Institutional", the most persistently smaller fund throughout the years.

- Managers:

Category	Male	Female	Male %	Female %
National	131	43	75.3%	24.7%
Europe	82	28	74.5%	25.5%
USA	20	13	60.6%	39.4%
Japan	20	9	69.0%	31.0%

Table 6 - Managerial distribution, by gender

As displayed in Table 6, the category with the most managers is "National", but that is expected as it has the most amount of funds. However, the less blatant statistic is that it is the category with less percentage of female managers, with around 25%. The third position is occupied by "Europe", with approximately 26%. While "Japan" comes as a surprise second with 31%, given its culture. And then, the "USA" category is the one with the highest ratio, coming at 39%.

5. Methodology

In this chapter, we are going to further explain and detail the methodologies of this dissertation. On the first point, we will expose the formula used for calculating returns. On a subsequent point, the basic performance measures will be described in formula basis. And lastly, we will describe the regressions that are going to be used to relate the performance with the determinants.

5.1. Measures

5.1.1. Calculation of the returns

Both the market index and mutual fund daily returns are calculated using the following formula:

$$R_t = Ln\left(\frac{PU_t}{PU_{t-1}}\right) \tag{5.1}$$

R_t – is the daily return from Market index or Mutual funds in period t

PU_{t-1} – Participation units of the index or fund in period t-1

PU_t – Participation units of the index or fund in period t

5.1.2. Calculation of the measures

After reviewing several measures, the conclusion that can be drawn is that the three most commonly used measures, despite their caveats, will work best for the available complex data about the mutual funds and their characteristics' possible impact on performance. Hence, this study will use the following measures while employing data from the designated Spanish mutual funds and Fama/French 3 Factors market values for each respective category.

- Jensen's Alpha

$$R_i - R_f = \alpha_i - \beta_i\left(R_{m,t} - R_{f,t}\right) + \varepsilon_i \tag{5.2}$$

This measure, although bearing similarities with the CAPM formula, given that it only requires the estimation of two variables, the α_i and β_i, is much simpler to calculate. By multiplying the risk premium of the fund $\left(R_i - R_f\right)$ by the risk premium of the chosen

market of reference $\beta_x(R_{m,t} - R_{f,t})$, the difference between the return of portfolio fund and the return of the benchmark can be observed, while reducing the excess returns by using the return generated from the risk-free instruments, if β_x is equal to the fund.

- Sharpe Ratio

$$S_{i,t} = \frac{R_{i,t} - R_{f,t}}{\sigma_{i,t}} \tag{5.3}$$

The ratio is used for evaluating the excess return of the funds, reduced by that of the riskless-asset, per unit of overall risk. The bigger (and more positive) the ratio, the better (and superior) the performance of the targeted fund, and vice-versa. This measure uses $\sigma_{i,t}$, which corresponds to the standard deviation of the portfolio in period *t*.

- Treynor Ratio

$$T_{i,t} = \frac{R_{i,t} - R_{f,t}}{\beta_{i,t}} \tag{5.4}$$

This measure is similar to the Sharpe Ratio, as both divide the excess return by their corresponding risk measure. Only differing on the denominator given that the Treynor ratio uses $\beta_{i,t}$ as its risk market measure, just like the Jensen Measure. Based on the Security Market Line (SML), this ratio focuses on the excess return, or risk premium, of the targeted fund, per unit of systemic risk. The higher (and positive) the ratio, the better the fund performance. And the opposite goes for negative values. If $T_{i,t} > T_{m,t}$ (when $T_{m,t}$ represents the excess return of the market portfolio), the performance is superior to the market, hence investors should exploit this value.

The total risk used in the Sharpe measure is satisfactory when portfolios with good diversification are evaluated. For portfolios that are well-diversified, the total risk (Sharpe measure) is equal to systematic risk (Treynor measure), as the systematic risk is a better risk measure for portfolios that have individual stocks or poor diversification. This happens because the total risk is reduced to systematic risk. Thus, a fund with poor diversification that obtained a high Treynor ratio value, compared with another fund with a high degree of diversification, will obtain a lower Sharpe Ratio.

5.1.3. Performance and Determinants: regressions

The following equations examine the management-performance relationship at the level of the fund category. The following regressions allow for an analysis of possible correlations between size, age, and the previously mentioned manager characteristics, while avoiding perfect collinearity:

$$Alpha_{i,t} = \beta_0 + \beta_1(Age)_{i,t-1} + \beta_2(Size)_{i,t-1} + \beta_3(Dummy\_Male)_{i,x} + \beta_4(Dummy\_Team)_{i,x} + \varepsilon_{i,t} \quad (5.5)$$

$Alpha_{i,t}$ –the performance of fund *i* in year *t* – returns from the Alpha Jensen model.

$(Age)_{i,t-1}$ – denotes the fund *i's* age in years.

$(Size)_{i,t-1}$ – denotes the fund *i's* size in euros.

$(Dummy\_Male)_{i,x}$ – dummy variable that equals one if the manager of the respective fund is male, and zero if otherwise.

$(Dummy\_Team)_{i,x}$ – dummy variable that equals one if the managers of the respective fund are a team, and zero if otherwise.

$$Alpha_{i,t} = \beta_0 + \beta_1(Age)_{i,t-1} + \beta_2(Size)_{i,t-1} + \beta_3(Dummy\_Mix)_{i,x} + \beta_4(Dummy\_Team)_{i,x} + \varepsilon_{i,t} \quad (5.6)$$

$Alpha_{i,t}$ –the performance of fund *i* in year *t* – returns from the Alpha Jensen model.

$(Age)_{i,t-1}$ – denotes the fund *i's* age in years.

$(Size)_{i,t-1}$ – denotes the fund *i's* size in euros.

$(Dummy\_Male)_{i,x}$ – dummy variable that equals one, if the manager of the respective fund is male, and zero if otherwise.

$(Dummy\_Mix)_{i,x}$ – dummy variable that equals one, if the managers of the respective fund are a mixed (female and male), and zero if otherwise.

$$Alpha_{i,t} = \beta_0 + \beta_1(Age)_{i,t-1} + \beta_2(Size)_{i,t-1} + \beta_3(Dummy_{Undisclosed})_{i,x} + \varepsilon_{i,t} \quad (5.7)$$

$Alpha_{i,t}$ –the performance of fund *i* in year *t* – returns from the Alpha Jensen model.

$(Age)_{i,t-1}$ – denotes the fund *i's* age in years.

$(Size)_{i,t-1}$ – denotes the fund *i's* size in euros.

$(Dummy\_Undisclosed)_{i,x}$ – dummy variable that equals one, if the managers are undisclosed, and zero if otherwise.

5.1.4. Benchmarks

Despite the benchmark bias problem, market values will be used as benchmarks, doing justice to the traditional methods. Kenneth R. French monthly data will be employed for the market the funds are involved in, in order to have simpler and more exact values. For the calculation of alfas using Fama and French factors see, among others, Alves (2014).

6. Fund Performance and Determinants

In the beginning of this chapter, we will analyse the results of the measures of performance and reach some conclusions. At the end of the chapter, we will assess and explain the results of the combination of the most appropriate measure with the characteristics of the funds.

6.1. Fund Performance

In order to assess the performance of the Spanish equity funds, we gathered daily data from 2011 to 2020, then converted it to monthly data with the aim of obtaining yearly results – avoiding any miscalculation or added steps from data fonts.

As mentioned before, we used monthly data corresponding to every market from Kenneth French market returns – to adjust the returns by subtracting riskless returns. The linear model regressions represented in (5.5)-(5.7) were estimated for every fund in their respective categories using EViews.

After using the Ordinary Least Squares (OLS) method, the Newey-West (1987) technique was applied to correct for autocorrelation and heteroskedasticity. From their results, both the alpha and beta results were extracted in order to assess the Jensen and Treynor measures, respectably. Lastly, the Standard Deviations of the results were calculated to obtain the Sharpe Ratio.

Category	α Jensen	N	α > 0	α < 0	Sharpe	Treynor
National	-2%	192	104	88	0.02	-0.57*
Europe	1%	136	73	63	0.22	0.27*
USA	13%	50	46	3	0.77	3.68*
Japan	4%	29	27	2	0.35	0.58*

Table 7 - Performance figures, by measure

The Jensen's Alpha as stated before, is an important measure used to analyse the performance of a fund. It measures the excess return of a fund that is not credited to market movements. Therefore, a positive alpha means that the fund beat the market, and vice versa.

On average, the funds beat the market, in all but one category. The USA focused funds outperformed the market by the highest margin (13%). The majority of the funds displayed positive values, with "Santander Go RV Norteamerica – Cartera" achieving the highest mark. The Japan category witnessed a similar trend. The European category exhibited the lowest alpha (1%), given that it had a similar amount of positive alpha funds as negative alpha funds.

On the other hand, the funds that targeted the Spanish market, on average, did not do so well and were outmatched by the market (-2%). Funds like "Trea Iberia Equity B" had the lowest negative values in 2020.

After calculating the Treynor Ratio, some fund values were removed, given that negative beta values do not retrieve meaningful values. After the modifications, the Treynor values follow a similar pattern to the one displayed by the Jensen's Alpha.

The National category has a negative value and the remaining categories have positive values. Which means that, on average, these funds have adequately compensated their investors for the risk they have subjected them to – opposite to the average of the National category funds.

For instance, regarding the European category, many funds achieved positive values but only some achieved values above 1.00. This did not occur in other categories. In the Japan category, more funds reached higher values. However, it was on the USA category that higher recurrent values appeared, as it can be expected given the higher average.

After calculating the average Sharpe Ratio for every fund in every category, we conclude that the results of this measure follow the same rank of ability to beat the market.

Usually, the Sharpe ratios are in the vicinity of 0.2 to 0.3 over the long-run. Values between 0 and 1 signify that the returns derived are better than the risk-free rate – their excess risks exceed their excess returns. A value above 1 denotes that the returns are not only better than the risk-free rate. Excess returns are also above their excess risks.

American focused funds reached the highest value (0.77), and the National related funds reached the lowest average value (0.02). The funds in the Japanese category reached healthy values occupying the second position.

6.2. Determinants of Mutual Funds Performance

Following Sousa et.al (2013), the Jensen's Alpha was reutilized in this part of the assessment with the same constraints and parameters as before. When using the EViews program, a similar approach to Sousa et.al (2013) was employed, with an OLS estimation grouped with the Newey-West (1987) technique being used to correct for heteroskedasticity and autocorrelation.

Concerning the characteristics employed, the size of each fund in December of every year was regarded as a proxy for the whole 12 months of each year. The age was calculated for every fund and the managerial characteristics were extracted from various renowned sources, such as Morningstar, and Refinitiv Eikon by Thompson Reuters.

While estimating variables, it can naturally be expected that they have some kind of errors that are capable of introducing heteroskedasticity into the model – this applies to the dependent variable, the Jensen's Alpha. To correct this issue, a similar strategy to Sousa et.al (2013) was employed by using the Weight Least Squares when estimating the models.

In order to compensate for fixed temporal effects, a Likelihood Ratio was used to test for their redundancy, allowing to confirm that the estimation with fixed temporal effects is adequate for 1% level of significance when rejecting the null hypothesis of fixed effects redundancy.

To avoid any case of perfect collinearity, this part of the analysis was divided into three equations (4.5)-(4.7) for each category. The results can be observed in the following table.

This table represents, by category of funds and regression equations, the estimates of the coefficients obtained through the estimation of the regressions 4.5 – 4.7 where $Alpha_{i,t}$ –the performance of fund *i* in year *t* – returns from the Alpha Jensen model., $(Age)_{i,t-1}$ – denotes the fund *i's* age in years, $(Size)_{i,t-1}$ – denotes the fund *i's* size in euros, $(Dummy\_Team)_{i,x}$ – dummy variable that equals one if the managers of the respective fund are a team, and zero if otherwise, $(Dummy\_Mix)_{i,x}$ – dummy variable that equals one if the managers of the respective fund are a mixed (female and male), and zero if otherwise, $(Dummy\_Undisclosed)_{i,x}$ – dummy variable that equals one if the managers are undisclosed, and zero if otherwise. The standard deviation of each estimate is stated in parentheses. The sampling period comprises the months from January 2011 to December 2020. N regards the number of observations available for each of the categories and R2 represents the coefficient of determination, expressed as a percentage. Individually, ***, **, and * mark the estimates of the coefficients that are statistically significant for levels of significance of 1%, 5% and 10% respectively. Globally, all regressions are statistically significant at a significance level of 1%.

CATEGORY	N	TYPE	AGE	SIZE	MALE	FEMALE	MIX	TEAM	UNDISCLOSED	R2
NATIONAL	71897	a)	-0.00001	-0.00009***	0.7415	1.2199		23.9586***		77%
			(0.00101)	(0.00002)	(2.6031)	(2.5390)		(1.9081)		
		b)	-0.00016	-0.00009***			-23.1039***	24.3610***		77%
			(0.00096)	(0.00002)			(2.7061)	(1.8624)		
		c)	-0.00209	-0.00018***					-15.0171***	50%
			(0.00161)	(0.00003)					(3.1198)	
EUROPE	61349	a)	-0.00004**	-0.00000	0.0289*	0.0312*		-0.0278		15%
			(0.00002)	(0.00000)	(0.0171)	(0.0179)		(0.0191)		
		b)	-0.000037**	-0.00000			0.0041	-0.0300		14%
			(0.000018)	(0.00000)			(0.0187)	(0.0198)		
		c)	-0.000035**	-0.00000					-0.0067	13%
			(0.000015)	(0.00000)					(0.0143)	
USA	1486	a)	-0.00002***	-0.00000	-0.0023	-0.0006		-0.0125		10%
			(0.00001)	(0.00000)	(0.0098)	(0.0108)		(0.0154)		
		b)	-0.00002**	-0.00000			-0.0134	-0.0142		8%
			(0.00000)	(0.00000)			(0.0195)	(0.0157)		
		c)	-0.00008***	0.000001**					0.0580**	34%
			(0.00003)	(0.00000)					(0.0223)	
JAPAN	9 289	a)	-0.00009**	-0.000001*	0.0167	0.0052		-0.0590**		38%
			(0.00004)	(0.00000)	(0.0208)	(0.0182)		(0.0258)		
		b)	-0.00008*	-0.00000			0.0940	-0.0703***		30%
			(0.00004)	(0.00000)			(0.0794)	(0.0255)		
		c)	-0.00004	-0.00000					0.1181	13%
			(0.00005)	(0.00000)					(0.0833)	

Table 8 - Fund Performance and Determinants

Overall, the obtained results demonstrate that the determinants with the most significant impact on the funds' performance are **Age** and **Size**. Regarding the managerial characteristics, the two most significant characteristics were managers working together, **Team**, and funds not disclosing the identity of the managers (**Undisclosed**). However, despite having different levels of significance, all analysed characteristics can be considered as variables that determine the performance of the funds. Given that all of them have, for at least one of the fund categories, displayed a statistically significant coefficient.

Regarding the **Age** of the funds, the results reveal that its impact on excess returns is negative for all fund categories. This relationship is statistically significant for a level of 5% significance for all the models of the Europe category and for the a) and b) models of the Japan and USA categories, respectively. It is statistically significant for a level of 1% significance for the remaining USA category models. The results obtained for these categories of funds suggest that younger funds tend to perform better than funds that have been active for longer. These results coincide with Ferreira's et al. (2012) conclusions – younger funds outperform older funds.

Concerning the **Size** of the funds, the findings show that, in all but one model, its effect is negative for all fund categories. This relationship is statistically significant for a level of 1% significance for all models of the National category and for a level of 10% significance for model a) of the Japan category – the bigger the fund the lower the excess return. Model c) of the USA category is the only one with a positive relationship that is also statistically significant for a level of 5% significance.

The negative results can be explained by Loeb's (1983) reasoning that states that smaller funds can specify their investments - allowing them to not be pressured to find bigger and better opportunities. Which can eventually lead to diseconomies of scale, an occurrence popular with larger funds given the higher organizational expenses – thus, also agreeing with Grinblatt et al. (1989), Sawick et al. (2002), Otten et al. (2002), and Chen et al. (2004).

The positive results can also be justified by Sharpe (1966), and Indro (1999) that declare that, the larger the fund, the better the capability to dilute the fixed costs, opening the opportunity to invest in gathering more information.

Concerning the **Managerial** determinants:

- **Male and Female**:

Results are only present in model a) of each category and they show a positive relationship with excess returns in all but one category, the USA category. The only statistically significant relationship is for the Europe category for a level of significance of 10%. Regarding the range of the values, female managers accrue higher excess returns than male managers in all but one category, the one that relates to Japan – this could be justified by cultural norms. These results do not coincide with the literature, given that female managers have significant excess returns over male managers.

- **Mix**

Results are only present in model b) of each category and they show a negative relationship with excess returns in the National and USA category, and a positive relationship with excess returns in the remaining categories. The only statistically significant relationship is for the National category for a level of significance of 1%. Regarding its values, the National category has the lowest negative relationship by a huge margin, stating that teams that include both male and female managers do not achieve excess returns. The opposite can be stated for the categories that displayed positive values.

- **Team**

Results are only present in models a) and b) of each category and they show a negative relationship with excess returns in all but one category, National. The only statistically significant relationship is for the National and Japan categories for a level of significance of 1%. Except for model a) in the Japan category that achieves a 5% level of significance. Management teams in the National category work very well, given the high values presented in the table. In the other categories, the values reveal a negative relationship.

- **Undisclosed**

This managerial determinant relating to the funds that have not disclosed the identity of their managers is the oddest one. Nonetheless, it has significant relationships with excess returns – National and USA categories showcased 1% and 5% level of significance, respectively.

Positive relationships were found for USA and Japan categories, and negative relationships were found for the remainder. Regarding the National category, these undisclosed fund managers did not do so well as they have a low negative value compared to the other categories.

Finally, by analysing the coefficient of determination (R2) for all the categories, we can state that it validates the fact that the explanatory capacity of these features differs depending on the category of the funds. In fact, the characteristics of the funds cause the R2 to vary between 8% and 77%. Models a) and b) of the National category achieved the highest values, and model b) from the USA category displayed the lowest.

7. Conclusions

This dissertation aims to contribute to the literature that investigates the possibility of the mutual fund industry systematically obtaining abnormal returns. In case of positive abnormal returns, such evidence is contrary to the Hypothesis of Market Efficiency. In case of negative abnormal returns, the evidence is consistent with the idea that mutual fund industry destroys wealth.

For such proposal, this dissertation studies the Spanish mutual funds market from 2011 to 2020. The sample is comprised by 407 funds, located in Spain and aggregated into four categories, according to their geographical focus: Spanish, European, American, and Japanese markets.

In a first step, the performance was assessed through various established measures (Jensen's Alpha, Treynor Ratio and Sharpe Ratio). In a second step, the dissertation investigates if the performance (Jensen's Alpha) is related to certain characteristics of the funds. The information publicly available is short, and therefore the characteristics that we were able to study were limited to age, size and managerial characteristics.

This study found that all but one (National) of the four categories of funds of the Spanish market under analysis presented average positive performances measured by Jensen's Alpha or by Treynor Ratio. For the Sharpe Ratio, all categories present positive performances. The National category showed the lowest and closest value to zero. This means that, in global terms, the funds under study obtained, on average, positive abnormal returns.

Concerning the relationship between the characteristics of funds and their performance, the results showed that all analysed characteristics can be considered determinant variables of the performance of the funds. Since all of them have a statistically significant coefficient, for at least one of the fund categories.

Effectively, certain characteristics are capable of explaining part of the risk-adjusted excess returns. However, the relationships found between the characteristics of the funds and their performance differ across the different categories.

For instance, the Age and Size of the funds overall had a significant impact on the performance for most of the categories. Nevertheless, of the management, working in Teams and not disclosing the identity of the managers were the most significant determinant characteristics.

Regarding future iterations of similar studies, a normal expansion of this work involves trying to overcome possible limitations of the measures employed as well as including additional categories and characteristics of funds.

Concerning the limitations of the study, the characteristics of the funds are quite hard to collect given the lack of publicly available historical information. Perhaps, with the future integration of blockchain technology by every fund and regulatory body, this will become a thing of the past. Given that various Spanish financial institutions, such as BBVA, have shown an interest in the technology by being at the forefront of blockchain investment in the country.

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Annex

Annex 1 – Classification of sample funds

This appendix presents the funds included in each of the categories. The criteria followed for the classification of funds is presented in the right column, where 'Inverco', 'Banco de España', 'Reuters' or 'CNMV' indicates that the fund was classified following the classification of at least one if not all of the platforms and organizations. Also, the status, geographical focus, and Lipper Global classification for every fund by the previously mentioned entities can be found in Appendix 2 - Criteria for the classification of funds.

Table A.1 – National Category

Name	SUPERVISORY CODE	ISIN CODE
ABANCA RENTA VARIABLE ESPAÑA, FI	FI4807	ES0162948006
Allianz Bolsa, FI	1557	ES0108372030
ALLIANZ BOLSA ESPAÑOLA, FI	FI5441	ES0108192008
Aviva Espabolsa 2, FI	3033	ES0112357035
AZVALOR IBERIA, FI	FI4917	ES0112616000
Bancaja Small & Mid-Caps, FI	3247	ES0112979036
Banco Madrid Iberico Acciones Side Pocket, FI	3868	ES0114903018
Banif RV España, FI	702	ES0112795036
BANKIA BANCA PRIVADA RENTA VARIABLE ESPAÑA, FI	FI1235-Cartera	ES0108846009
BANKIA BANCA PRIVADA RENTA VARIABLE ESPAÑA, FI	FI1235-Universal	ES0108846033
BANKIA BOLSA ESPAÑOLA, FI	FI1528 - Cartera	ES0113002002
BANKIA BOLSA ESPAÑOLA, FI	FI1528- Universal	ES0113002036
BANKIA DIVIDENDO ESPAÑA , FI	FI1131-Cartera	ES0159076001
BANKIA DIVIDENDO ESPAÑA , FI	FI1131-Universal	ES0159076035
BANKIA SMALL & MID CAPS ESPAÑA, FI	FI186 - Cartera	ES0138800000
BANKIA SMALL & MID CAPS ESPAÑA, FI	FI186 - Universal	ES0138800034
BANKINTER BOLSA ESPAÑA, FI	FI1641 - C	ES0125621005
BANKINTER BOLSA ESPAÑA, FI	FI1641 - R	ES0125621039
BANKINTER FUTURO IBEX, FI	FI1418 - R	ES0114794037
BANKOA BOLSA, FI	FI996	ES0113418034
Barclays Bolsa España, FI	90	ES0138847035
BBVA Bolsa Ibex Quant, FI	3094	ES0114206032
BBVA BOLSA PLUS, FI	FI1052	ES0142451030
BBVA BOLSA, FI	FI131	ES0138861036
BESTINVER BOLSA, FI	FI502	ES0147622031
Beta Acciones, FI	774	ES0114677034
BK Bolsa España, FI	1000	ES0125631038
BMN Bolsa Espanola, FI	1526	ES0158324030

BNP PARIBAS BOLSA ESPAÑOLA, FI	FI762	ES0125471039
Bolsa Euro Valor, FI	3113	ES0107934038
Bolsa Euro Valor Side Pocket, FI	3113 - SP	ES0107934004
Caixa Catalunya Borsa Espanyola, FI	835	ES0115457030
CAIXABANK BOLSA ALL CAPS ESPAÑA, FI	FI2098 - Cartera	ES0114180005
CAIXABANK BOLSA ALL CAPS ESPAÑA, FI	FI2098 - Estandar	ES0114180039
CAIXABANK BOLSA ALL CAPS ESPAÑA, FI	FI2098 - Platinum	ES0114180013
CAIXABANK BOLSA ESPAÑA 150, FI	FI3351 - Cartera	ES0137878007
CAIXABANK BOLSA ESPAÑA 150, FI	FI3351 - Estandar	ES0137878031
CAIXABANK BOLSA ESPAÑA 150, FI	FI3351 - Extra	ES0137878015
CAIXABANK BOLSA GESTION ESPAÑA, FI	FI164 - Cartera	ES0105182028
CAIXABANK BOLSA GESTION ESPAÑA, FI	FI164 - Estandar	ES0105182036
CAIXABANK BOLSA GESTION ESPAÑA, FI	FI164 - Plus	ES0105182002
CAIXABANK BOLSA GESTION ESPAÑA, FI	FI164 - Premium	ES0105182010
Caixabank Bolsa, FI	856	ES0115508030
Caixabank Bolsa I, FI	497	ES0177860030
CAIXABANK MASTER RENTA VARIABLE ESPAÑA, FI	FI5377	ES0107439004
CaixaSabadell 7-R.V., FI	945	ES0142545039
Caixatarragona Bolsa 35, FI	453	ES0115067037
CAJA INGENIEROS IBERIAN EQUITY, FI	FI3231-A	ES0122708037
CAJA INGENIEROS IBERIAN EQUITY, FI	FI3231 - I	ES0122708003
Cajamar Bolsa, FI	3096	ES0115429039
Cajasur Hispania, FI	2590	ES0115447031
Cartera Variable, FI	1678	ES0116565039
CATALANA OCCIDENTE BOLSA ESPAÑOLA, FI	FI2688	ES0116901036
Citifondo Renta Variable, FI	228	ES0118927039
CREDIT SUISSE BOLSA, FI	FI1270-A	ES0113286001
CREDIT SUISSE BOLSA, FI	FI1270-B	ES0113286035
CX Borsa Espanya, FI	3151	ES0159529033
DP BOLSA ESPAÑOLA FI	FI3840-A	ES0170901005
DP BOLSA ESPAÑOLA FI	FI3840-C	ES0170901013
Dunas Seleccion Europa I, FI	787	ES0175445032
DUX UMBRELLA, FI/DUX UMBRELLA/BOLSAGAR	FI5259-2	ES0127059014
DWS Acciones Espanolas A, FI	477 - A	ES0114085030
DWS Acciones Espanolas C, FI	477 -C	ES0114085006
EDM-INVERSION, FI	FI46-I	ES0168674002
EDM-INVERSION, FI	FI46-L	ES0168674010
EDM-INVERSION, FI	FI46-R	ES0168674036
ESFERA I, FI/ESFERA I / FUNDAMENTAL APPROACH SPAIN	FI5206-11	ES0110407113
EUROVALOR BOLSA ESPAÑOLA, FI	FI2348	ES0133524035

EUROVALOR BOLSA, FI	FI351	ES0133871030
Foncaixa Acciones, FI	941	ES0165537038
Foncaixa Iberbolsa, FI	922	ES0114065032
Foncaixa Ideas Bolsa Espana Estandar, FI	4645 - Estandar	ES0164492011
Foncaixa Ideas Bolsa Espana Plus, FI	4645 - Plus	ES0164492003
Foncaixa Ideas Bolsa Espana Premium, FI	4645 - Premium	ES0164492029
FONDITEL LINCE, FI	FI4942-A	ES0137838001
FONDITEL LINCE, FI	FI4942-B	ES0137838019
FONDITEL LINCE, FI	FI4942-C	ES0137838027
FONDMAPFRE BOLSA IBERIA, F.I.	FI381	ES0165198039
Fondo Valencia Renta Variable, FI	1239	ES0138578036
GCO ACCIONES, FI	FI134	ES0126906033
GESCONSULT CRECIMIENTO	183	ES0138911039
GESCONSULT RENTA VARIABLE, FI	FI336-A	ES0137381036
GESCONSULT RENTA VARIABLE, FI	FI336-B	ES0137381002
GESTIFONSA RENTA VARIABLE DIVIDENDO, FI	FI5158-Base	ES0141989022
GESTIFONSA RENTA VARIABLE DIVIDENDO, FI	FI5158-Cartera	ES0141989014
GESTIFONSA RENTA VARIABLE DIVIDENDO, FI	FI5158-Reparto	ES0141989006
GESTIFONSA RENTA VARIABLE ESPAÑA, FI	FI660-Base	ES0138253036
GESTIFONSA RENTA VARIABLE ESPAÑA, FI	FI660-Cartera	ES0138253002
GREDOS BOLSA EURO, FI	FI4881	ES0143231001
GVCGAESCO BOLSALIDER, FI	FI487-A	ES0115068035
GVCGAESCO BOLSALIDER, FI	FI487-I	ES0115068001
HOROS VALUE IBERIA, FI	FI5267	ES0146311008
IBERCAJA BOLSA ESPAÑA, FI	FI539-A	ES0147186037
IBERCAJA BOLSA ESPAÑA, FI	FI539-B	ES0147186003
IBERIAN VALUE, FI	FI4860	ES0147229001
IMANTIA RV IBERIA, FI	475	ES0107472039
KUTXABANK BOLSA, FI	FI621-Cartera	ES0114388004
KUTXABANK BOLSA, FI	FI621-estandar	ES0114388038
KutxaValor, FI	282	ES0157029036
LABORAL KUTXA BOLSA,FI	FI511	ES0115467039
LIBERBANK RENTA VARIABLE ESPAÑA, FI	FI989-A	ES0111038032
LIBERBANK RENTA VARIABLE ESPAÑA, FI	FI989-C	ES0111038008
LIBERBANK RENTA VARIABLE ESPAÑA, FI	FI989-P	ES0111038016
LIBERBANK RENTA VARIABLE EURO, FI	FI1234-A	ES0111011039
LIBERBANK RENTA VARIABLE EURO, FI	FI1234-C	ES0111011005
Madrid Bolsa Oportunidad Eleccion, FI	2722	ES0158957037

Madrid Bolsa, FI	463	ES0158174039
MAGALLANES IBERIAN EQUITY FI	FI4840-E	ES0159201005
MAGALLANES IBERIAN EQUITY FI	FI4840-M	ES0159201013
MAGALLANES IBERIAN EQUITY FI	FI4840-P	ES0159201021
March Valores, FI	1579	ES0161033032
MAVERICK FUND CLASE B	5049 - B	ES0161621000
Mediolanum Espana R.V. E, FI	827 - E	ES0136466010
Mediolanum Espana R.V. L, FI	827 - L	ES0136466002
Mediolanum Espana R.V. S, FI	827 - S	ES0136466036
MEDIOLANUM SMALL & MID CAPS ESPAÑA, FI	FI4753-E	ES0136453026
MEDIOLANUM SMALL & MID CAPS ESPAÑA, FI	FI4753-L	ES0136453000
MEDIOLANUM SMALL & MID CAPS ESPAÑA, FI	FI4753-S	ES0136453018
METAVALOR, FI	FI104	ES0162735031
MUTUAFONDO ESPAÑA, FI	FI4107-A	ES0165144009
MUTUAFONDO ESPAÑA, FI	FI4107-D	ES0165144017
MUTUAFONDO ESPAÑA, FI	FI4107-F	ES0165144025
MUTUAFONDO ESPAÑA, FI	FI4107-L	ES0165144033
NB BOLSA SELECCION, FI	FI1786	ES0138517034
NB Renta Variable, FI	1706	ES0168668038
PBP Bolsa Espana A, FI	136 -A	ES0115063036
PBP Bolsa Espana Cartera, FI	136 - Estandar	ES0115063002
PBP BOLSA EUROPA CARTERA	1665	ES0147101002
Premium Bolsa España, FI	2870	ES0170650032
RENTA 4 BOLSA, FI	FI428-I	ES0173394000
RENTA 4 BOLSA, FI	FI428-R	ES0173394034
RENTA 4 SMALL CAPS EURO I	5111 - I	ES0113118014
RENTA 4 SMALL CAPS EURO R	5111 - R	ES0113118006
RURAL RENTA VARIABLE ESPAÑA, FI	FI1405-Cartera	ES0175734005
RURAL RENTA VARIABLE ESPAÑA, FI	FI1405-Estandar	ES0175734039
Rural Small Caps Euro Estandar, FI	4017	ES0141986002
Sabadell Bolsa Indice, FI	1102	ES0139013033
SABADELL ESPAÑA BOLSA, FI	FI2430-Base	ES0174404030
SABADELL ESPAÑA BOLSA, FI	FI2430-Cartera	ES0174404006
SABADELL ESPAÑA BOLSA, FI	FI2430-Empresa	ES0174404055
SABADELL ESPAÑA BOLSA, FI	FI2430-Plus	ES0174404014
SABADELL ESPAÑA BOLSA, FI	FI2430-Premier	ES0174404022
SABADELL ESPAÑA BOLSA, FI	FI2430-Pyme	ES0174404048
SABADELL ESPAÑA DIVIDENDO, FI	FI2572-Base	ES0111092039
SABADELL ESPAÑA DIVIDENDO, FI	FI2572-Cartera	ES0111092005
SABADELL ESPAÑA DIVIDENDO, FI	FI2572-Empresa	ES0111092047
SABADELL ESPAÑA DIVIDENDO, FI	FI2572-Plus	ES0111092013

SABADELL ESPAÑA DIVIDENDO, FI	FI2572-Premier	ES0111092021
SABADELL ESPAÑA DIVIDENDO, FI	FI2572-Pyme	ES0111092054
Sabadell Solbank Bolsa, FI	538	ES0158865032
SANTALUCIA ESPABOLSA, FI	FI2379-A	ES0170147039
SANTALUCIA ESPABOLSA, FI	FI2379-B	ES0170147005
SANTALUCIA ESPABOLSA, FI	FI2379-BR	ES0170147054
SANTALUCIA ESPABOLSA, FI	FI2379-C	ES0170147021
SANTALUCIA ESPABOLSA, FI	FI2379-CR	ES0170147047
SANTALUCIA IBÉRICO ACCIONES, FI	FI4878-A	ES0108642002
SANTALUCIA IBÉRICO ACCIONES, FI	FI4878-AR	ES0108642044
SANTALUCIA IBÉRICO ACCIONES, FI	FI4878-B	ES0108642010
SANTALUCIA IBÉRICO ACCIONES, FI	FI4878-BR	ES0108642051
SANTALUCIA IBÉRICO ACCIONES, FI	FI4878-C	ES0108642036
SANTALUCIA IBÉRICO ACCIONES, FI	FI4878-CR	ES0108642069
SANTALUCIA IBÉRICO ACCIONES, FI	FI4878-D	ES0108642028
SANTANDER ACCIONES ESPAÑOLAS, FI	FI58-A	ES0138823036
SANTANDER ACCIONES ESPAÑOLAS, FI	FI58-B	ES0138823010
SANTANDER ACCIONES ESPAÑOLAS, FI	FI58-C	ES0138823002
SANTANDER ACCIONES ESPAÑOLAS, FI	FI58-Cartera	ES0138823028
SANTANDER ACCIONES ESPAÑOLAS, FI	FI58-D	ES0138823044
SANTANDER ACCIONES ESPAÑOLAS, FI	FI58-Master	ES0138823051
Santander Small Caps Espana A, FI	3085 - A	ES0175224031
Santander Small Caps Espana Cartera, FI	3085 - Cartera	ES0175224007
Santander RV Espana A, FI	506 - A	ES0114039037
Santander RV Espana B, FI	506 - B	ES0114039003
Santander RV España Reparto A, FI	1581 -A	ES0175174038
Santander RV España Reparto C, FI	1581 - C	ES0175174004
Siitnedif Tordesillas Iberian Opportunities I, FI	130687	ES0175977000
Siitnedif Tordesillas Iberian Opportunities, FI	4170	ES0175977018
SOLVENTIS AURA IBERIAN EQUITY, F.I.	FI5434	ES0156135008
SOLVENTIS EOS EUROPEAN EQUITY	5164	ES0117106007
TREA CAJAMAR RENTA VARIABLE ESPAÑA, FI	FI4928	ES0180666002
Trea Iberia Equity A, FI	3868 - A	ES0114903000
Trea Iberia Equity B, FI	3868 - B	ES0114903026
UBS ESPAÑA GESTION ACTIVA, FI	FI2956-Q	ES0180943005
UBS ESPAÑA GESTION ACTIVA, FI	FI2956-P	ES0180943039
Unifond Renta Variable I, FI	1241	ES0181010036
UNIFOND RENTA VARIABLE ESPAÑA, FI	FI2989-A	ES0138628039
UNIFOND SMALL&MID CAPS, FI	FI5275-A	ES0178240018
UNIFOND SMALL&MID CAPS, FI	FI5275-C	ES0178240000
W4I European Opportunities A, FI	4853 - A	ES0184526004
W4I European Opportunities B, FI	4853 - B	ES0184526012

W4I European Opportunities C, FI	4853 - C	ES0184526020
W4I European Dividend A, FI	4852 - A	ES0184501007
W4I European Dividend B, FI	4852 - B	ES0184501015

Table A.2 – Europe Category

Name	SUPERVISORY CODE	ISIN CODE
Adriza International Opportunities Fund, FI	4907	ES0119375006
ABANCA RENTA VARIABLE EUROPA, FI	FI1540	ES0115411037
ABANTE INDICE BOLSA FI	FI5195 - A	ES0165939010
ABANTE INDICE BOLSA FI	FI5195 - L	ES0165939002
ACACIA REINVERPLUS EUROPA FI	FI4336	ES0157934003
ACURIO EUROPEAN MANAGERS, FI	FI5409 - Inst	ES0105953006
ACURIO EUROPEAN MANAGERS, FI	FI5409 - Retail	ES0105953014
Alpha Plus Europa Acciones D, FI	5148	ES0108612039
Banesto Dividendo Europa, FI	1861	ES0113109039
Banif Dividendo Europa, FI	2807	ES0113544037
Banif Dividendo Europa Reparto, FI	34736	ES0113544003
Bankia Banca Privada Renta Variable Europa, FI	2043	ES0177041037
BANKIA DIVIDENDO EUROPA, FI	FI151-Cartera	ES0138840006
BANKIA DIVIDENDO EUROPA, FI	FI151-Universal	ES0138840030
BANKIA MEGATENDENCIAS, FI	FI5404 - Cartera	ES0122079009
BANKIA MEGATENDENCIAS, FI	FI5404 - Universal	ES0122079017
BANKINTER DIVIDENDO EUROPA, FI	FI1718 - C	ES0114802012
BANKINTER DIVIDENDO EUROPA, FI	FI1718 - D	ES0114802004
BANKINTER DIVIDENDO EUROPA, FI	FI1718 - R	ES0114802038
BANKINTER FINANZAS GLOBALES, FI	FI2169 - C	ES0114805007
BANKINTER FINANZAS GLOBALES, FI	FI2169 - R	ES0114805031
BANKINTER Sector FINANZAS C, FI	2169	ES0114805007
BANKINTER TECNOLOGÍA, FI	FI1864 - C	ES0114797006
BANKINTER TECNOLOGÍA, FI	FI1864 - R	ES0114797030
BBVA Bolsa Europa Finanzas (EUR), FI (merged)	3822	ES0180661003
BBVA BOLSA EUROPA FINANZAS, FI	FI1423	ES0114277033
BBVA BOLSA EUROPA, FI	FI915-A	ES0114371034
BBVA BOLSA EUROPA, FI	FI915 - Cartera	ES0114371000
BBVA BOLSA PLAN DIVIDENDO EUROPA, FI	FI4212	ES0113536009
BBVA MI INVERSION BOLSA, FI	FI4771	ES0119178004
B&H ACCIONES EUROPA A	5202 - A	ES0112617008
B&H ACCIONES EUROPA C	5202 - C	ES0112617016
Cahispa Europa, FI	2039	ES0124541030
Caixabank Bolsa Gestion Suiza Estandar, FI	138 - Estandar	ES0177031038
Caixabank Bolsa Gestion Suiza Plus, FI	138 - Plus	ES0177031004

Caixabank Bolsa Rentas Estandar, FI	4809 - Estandar	ES0137412005
Caixabank Bolsa Rentas Premium, FI	4810 - Premium	ES0137412013
CAIXABANK BOLSA DIVIDENDO EUROPA, FI	FI3143 - Cartera	ES0184923045
CAIXABANK BOLSA DIVIDENDO EUROPA, FI	FI3143 - Estandar	ES0184923037
CAIXABANK BOLSA DIVIDENDO EUROPA, FI	FI3143 - Institutional	ES0184923029
CAIXABANK BOLSA DIVIDENDO EUROPA, FI	FI3143 - Plus	ES0184923003
CAIXABANK BOLSA DIVIDENDO EUROPA, FI	FI3143 -Premium	ES0184923011
CAIXABANK BOLSA GESTION EUROPA, FI	FI3377 - Cartera	ES0138068020
CAIXABANK BOLSA GESTION EUROPA, FI	FI3377 - Estandar	ES0138068038
CAIXABANK BOLSA GESTION EUROPA, FI	FI3377 - Plus	ES0138068004
CAIXABANK BOLSA GESTION EUROPA, FI	FI3377 - Premium	ES0138068012
CAIXABANK BOLSA SELECCION EUROPA, FI	FI2476 - Cartera	ES0138181021
CAIXABANK BOLSA SELECCION EUROPA, FI	FI2476 - Estandar	ES0138181039
CAIXABANK BOLSA SELECCION EUROPA, FI	FI2476 - Plus	ES0138181005
CAIXABANK BOLSA SELECCION EUROPA, FI	FI2476 - Premium	ES0138181013
CAIXABANK MASTER RENTA VARIABLE EUROPA, FI	FI5376	ES0145882009
CAIXABANK SMART RENTA VARIABLE EUROPA, FI	FI5229	ES0137509008
Credit Suisse Infraestructuras, FI	2970	ES0175449034
CX Borsa Europa, FI	993	ES0133802035
DWS Europa Bolsa, FI	876	ES0114087036
Eurovalor Dividendo Europa, FI	3241	ES0127025031
Eurovalor Europa, FI	2444	ES0133555039
Foncaixa 54 Bolsa Reino Unido, FI	1611	ES0182824039
FonCaixa Borsa Europa, FI	1558	ES0142470030
Foncaixa Cartera Bolsa Europa Divisa Cubierta, FI	4743	ES0137473007
Foncaixa I Bolsa Europa, FI	909	ES0138596038
Foncaixa Privada Europa Acciones, FI	991	ES0105008033
FONDMAPFRE BOLSA EUROPA, FI	FI532	ES0178520039
Fondo Valencia Renta, FI	1243	ES0138726031
Gestion Boutique III/Protona Europa	5186	ES0168798041
GVC GAESCO EUROPA, FI	FI1474	ES0140643034
Ibercaja Bolsa Europa 3, FI	FI1686 - 3	ES0130705033
IBERCAJA BOLSA EUROPA, FI	FI1686 -A	ES0130705033
IBERCAJA BOLSA EUROPA, FI	FI1686-B	ES0130705009
Ibercaja Dividendo 3, FI	FI4011-3	ES0146824026
IBERCAJA DIVIDENDO, FI	FI4011-A	ES0146824000
IBERCAJA DIVIDENDO, FI	FI4011-B	ES0146824018
IBERCAJA EUROPA STAR, FI	FI5007 -A	ES0146793015

IBERCAJA EUROPA STAR, FI	FI5007-B	ES0146793007
IBERCAJA GLOBAL BRANDS, FI	FI5004-A	ES0147109005
IBERCAJA GLOBAL BRANDS, FI	FI5004 - B	ES0147109013
IBERCAJA UTILITIES, FI	FI2178 - A	ES0147189031
IBERCAJA UTILITIES, FI	FI2178 - B	ES0147189007
MAGALLANES EUROPEAN EQUITY FI	FI4841 - E	ES0159259003
MAGALLANES EUROPEAN EQUITY FI	FI4841-M	ES0159259011
MAGALLANES EUROPEAN EQUITY FI	FI4841-P	ES0159259029
MAGALLANES MICROCAPS EUROPE, FI	FI5140-B	ES0159202011
MAGALLANES MICROCAPS EUROPE, FI	FI5140-C	ES0159202003
MARCH EUROPA, FI	FI3777-A	ES0160746030
MARCH EUROPA, FI	FI3777-C	ES0160746006
MULTIFONDO EUROPA, FI	FI1411	ES0138614039
NAO EUROPA SOSTENIBLE, FI	FI5313-D	ES0165283005
NAO EUROPA SOSTENIBLE, FI	FI5313-F	ES0165283013
NAO EUROPA SOSTENIBLE, FI	FI5313-M	ES0165283021
NB Bolsa Europa Seleccion, FI	2008	ES0158761033
NB VALOR EUROPA, FI	FI1083	ES0114917034
PBP Bolsa Europa A, FI	1665 -A	ES0147101036
PBP Bolsa Europa Cartera, FI	1665 - Estandar	ES0147101002
RENTAMARKETS NARVAL, FI	FI5200-A	ES0173367048
RENTAMARKETS NARVAL, FI	FI5200-B	ES0173367014
RENTAMARKETS NARVAL, FI	FI5200-E	ES0173367006
RENTAMARKETS NARVAL, FI	FI5200-F	ES0173367030
RENTAMARKETS NARVAL, FI	FI5200-Z	ES0173367063
SABADELL EUROPA BOLSA, FI	FI2147-Base	ES0174416034
SABADELL EUROPA BOLSA, FI	FI2147-Cartera	ES0174416000
SABADELL EUROPA BOLSA, FI	FI2147-Empresa	ES0174416042
SABADELL EUROPA BOLSA, FI	FI2147-Plus	ES0174416018
SABADELL EUROPA BOLSA, FI	FI2147-premier	ES0174416026
SABADELL EUROPA BOLSA, FI	FI2147-Pyme	ES0174416059
SABADELL EUROPA VALOR, FI	FI3425-Base	ES0183339037
SABADELL EUROPA VALOR, FI	FI3425-Cartera	ES0183339003
SABADELL EUROPA VALOR, FI	FI3425-Empresa	ES0183339045
SABADELL EUROPA VALOR, FI	FI3425-Plus	ES0183339011
SABADELL EUROPA VALOR, FI	FI3425-Premier	ES0183339029
SABADELL EUROPA VALOR, FI	FI3425-Pyme	ES0183339052
SANTALUCIA EUROPA ACCIONES, FI	FI5148-A	ES0108612021
SANTALUCIA EUROPA ACCIONES, FI	FI5148-B	ES0108612013
SANTALUCIA EUROPA ACCIONES, FI	FI5148-BR	ES0108612062
SANTALUCIA EUROPA ACCIONES, FI	FI5148-C	ES0108612005
SANTALUCIA EUROPA ACCIONES, FI	FI5148-CR	ES0108612047
Santander Beneficio Europa, FI	3089	ES0138325032

Santander Dividendo Europa A, FI	2164 - A	ES0109360034
Santander Dividendo Europa B, FI	2164 - B	ES0109360000
Santander Dividendo Europa Cartera, FI	2164 - Cartera	ES0109360026
Santander Dividendo Europa D, FI	2164 - D	ES0109360018
SANTANDER EQUALITY ACCIONES, FI	FI5301	ES0174710006
SANTANDER EQUALITY ACCIONES, FI	FI5301-Cartera	ES0174710014
SANTANDER SMALL CAPS EUROPA, FI	FI2156-A	ES0107987036
SANTANDER SMALL CAPS EUROPA, FI	FI2156-Cartera	ES0107987002
Santander Solidario Dividendo Europa, FI	1836	ES0114350038
SANTANDER SOSTENIBLE ACCIONES, FI	FI5273-A	ES0113607008
SANTANDER SOSTENIBLE ACCIONES, FI	FI5273-C	ES0113607016
SANTANDER SOSTENIBLE ACCIONES, FI	FI5273-Cartera	ES0113607032
SANTANDER SOSTENIBLE ACCIONES, FI	FI5273-I	ES0113607024
TEMPERANTIA FI	FI5005-A	ES0178487007
TEMPERANTIA FI	FI5005-B	ES0178487023
TEMPERANTIA FI	FI5005-I	ES0178487015
TEMPERANTIA FI	FI5005-J	ES0178487031
TREA CAJAMAR R.V. EUROPA	4929	ES0180642003
UNIFOND EUROPA DIVIDENDOS, FI	FI5006-A	ES0181405004
UNIFOND SELECCION BOLSA, FI	FI5050-A	ES0180998009

Table A.3 – USA Category

Name	SUPERVISORY CODE	ISIN CODE
Bancaja Renta Variable Estados Unidos, FI	1529	ES0112978038
BANKIA BOLSA USA, FI	FI1139-Cartera	ES0161937000
BANKIA BOLSA USA, FI	FI1139-Interna	ES0161937018
BANKIA BOLSA USA, FI	FI1139-Universal	ES0161937034
BBVA BOLSA USA (CUBIERTO), FI	FI705	ES0134599036
BBVA BOLSA USA, FI	FI974 - A	ES0110122035
BBVA BOLSA USA, FI	FI974 - Cartera	ES0110122001
BMN Bolsa USA, FI	1909	ES0138499035
CAIXABANK BOLSA SELECCION USA, FI	FI2477 - Cartera	ES0138189024
CAIXABANK BOLSA SELECCION USA, FI	FI2477 - Estandar	ES0138189032
CAIXABANK BOLSA SELECCION USA, FI	FI2477 - Plus	ES0138189008
CAIXABANK BOLSA SELECCION USA, FI	FI2477 - Premium	ES0138189016
CAIXABANK MASTER RENTA VARIABLE USA ADVISED BY, FI	FI5382	ES0171963004
CAIXABANK SMART RENTA VARIABLE USA, FI	FI5228	ES0115663009

CAJA INGENIEROS BOLSA USA, FI	FI3018 - A	ES0115359038
CAJA INGENIEROS BOLSA USA, FI	FI3018 - I	ES0115359004
DUX UMBRELLA, FI/DUX UMBRELLA/TRIMMING USA TECHNOLOGY	FI5259-4	ES0127059030
EUROVALOR ESTADOS UNIDOS, FI	FI2443	ES0133525032
Foncaixa Bolsa USA 1, FI	2678	ES0138113032
Foncaixa Cartera Bolsa USA, FI	2763	ES0137967032
Foncaixa I Bolsa USA, FI	2165	ES0124662034
Foncaixa USA, FI	1530	ES0138601036
FondEspaña USA, FI	2566	ES0138221033
FONDMAPFRE BOLSA AMERICA, FI	FI1354	ES0138658036
IBERCAJA BOLSA USA, FI	FI2605-A	ES0147034039
IBERCAJA BOLSA USA, FI	FI2605-B	ES0147034005
KUTXABANK BOLSA EEUU, FI	FI1992 - Cartera	ES0113191003
KUTXABANK BOLSA EEUU, FI	FI1992 - Estandar	ES0113191037
KUTXABANK BOLSA NUEVA ECONOMIA, FI	FI2027 - Cartera	ES0114222005
KUTXABANK BOLSA NUEVA ECONOMIA, FI	FI2027 - Estandar	ES0114222039
KutxavalorEEUU, FI	2136	ES0157014038
LABORAL KUTXA BOLSA USA, FI	FI2469	ES0115304034
META AMERICA USA, FI	FI5136-A	ES0162368015
META AMERICA USA, FI	FI5136-I	ES0162368007
MULTIFONDO AMERICA, FI	FI3126	ES0165092034
MUTUAFONDO RENTA VARIABLE EE. UU, FI	FI4083-D	ES0165269004
MUTUAFONDO RENTA VARIABLE EE. UU, FI	FI4083-L	ES0165269012
Renta 4 USA, FI	1780	ES0173364037
SABADELL ESTADOS UNIDOS BOLSA, FI	FI1017-Base	ES0138983038
SABADELL ESTADOS UNIDOS BOLSA, FI	FI1017-Cartera	ES0138983004
SABADELL ESTADOS UNIDOS BOLSA, FI	FI1017-Empresa	ES0138983053
SABADELL ESTADOS UNIDOS BOLSA, FI	FI1017-Plus	ES0138983012
SABADELL ESTADOS UNIDOS BOLSA, FI	FI1017-Premier	ES0138983020
SABADELL ESTADOS UNIDOS BOLSA, FI	FI1017-Pyme	ES0138983046
SANTANDER GO RV NORTEAMERICA, FI	FI5435-A	ES0174930000
SANTANDER GO RV NORTEAMERICA, FI	FI5435-B	ES0174930018
SANTANDER GO RV NORTEAMERICA, FI	FI5435-Cartera	ES0174930026
Santander Seleccion RV Norteamerica, FI	FI1973	ES0121761037
Segurfondo USA A, FI	2839	ES0175447038
VENTURE BOLSA AMERICANA	2667	ES0183221037

Table A.4 – Japan Category

Name	SUPERVISORY CODE	ISIN CODE
BANKINTER ÍNDICE JAPÓN, FI	FI2149 - C	ES0114104005
BANKINTER ÍNDICE JAPÓN, FI	FI2149 - R	ES0114104039
BBVA BOLSA JAPON, FI	FI1829	ES0147634036
BMN Bolsa Japon, FI	1910	ES0138605037
CAIXABANK BOLSA SELECCION JAPON, FI	FI1610 - Cartera	ES0122056023
CAIXABANK BOLSA SELECCION JAPON, FI	FI1610 - Estandar	ES0122056031
CAIXABANK BOLSA SELECCION JAPON, FI	FI1610 - Plus	ES0122056007
CAIXABANK BOLSA SELECCION JAPON, FI	FI1610 - Premium	ES0122056015
CAIXABANK MASTER RENTA VARIABLE JAPON ADVISED BY, FI	FI5386	ES0184982009
CAIXABANK SMART RENTA VARIABLE JAPON, FI	FI5234	ES0180966006
Eurovalor Japon, FI	2188	ES0133663031
FondEspaña Japon, FI	2565	ES0138183035
Fondmapfre Bolsa Asia, FI	2478	ES0138298031
GVCGAESCO JAPON, FI	FI3324	ES0141113037
IBERCAJA JAPON, FI	FI2025-A	ES0147129037
IBERCAJA JAPON, FI	FI2025-B	ES0147129003
JAPAN DEEP VALUE FUND FI	FI5051	ES0156673008
KUTXABANK BOLSA JAPON, FI	FI1990 - Cartera	ES0114232004
KUTXABANK BOLSA JAPON, FI	FI1990 - Estandar	ES0114232038
Kutxavalorjapon, FI	2137	ES0157034036
LABORAL KUTXA BOLSA JAPON, FI	FI2470	ES0115396030
Renta 4 Japon, FI	1383	ES0173356033
SABADELL JAPON BOLSA, FI	FI2019-Base	ES0174402034
SABADELL JAPON BOLSA, FI	FI2019-Cartera	ES0174402000
SABADELL JAPON BOLSA, FI	FI2019-Empresa	ES0174402042
SABADELL JAPON BOLSA, FI	FI2019-Plus	ES0174402018
SABADELL JAPON BOLSA, FI	FI2019-premier	ES0174402026
SABADELL JAPON BOLSA, FI	FI2019-pyme	ES0174402059
SANTANDER SELECCION RV JAPON, FI	FI1920	ES0112757036

Annex 2 - Criteria for the classification of funds.

Table A.1 – National Category

Name	**Asset Status**	Lipper Global	Geographical Focus
ABANCA RENTA VARIABLE ESPAÑA, FI	Active	Equity Spain	Spain
Allianz Bolsa, FI	Merged	Equity Spain	Spain
ALLIANZ BOLSA ESPAÑOLA, FI	Active	Equity Spain	Spain
Aviva Espabolsa 2, FI	Merged	Equity Spain	Spain
AZVALOR IBERIA, FI	Active	Equity Iberia	Iberia
Bancaja Small & Mid-Caps, FI	Merged	Equity EuroZone Sm&Mid Cap	Spain
Banco Madrid Iberico Acciones Side Pocket, FI	Liquidated	Equity Spain	Spain
Banif RV España, FI	Merged	Equity Spain	Spain
BANKIA BANCA PRIVADA RENTA VARIABLE ESPAÑA, FI	Active	Equity Spain	Spain
BANKIA BANCA PRIVADA RENTA VARIABLE ESPAÑA, FI	Active	Equity Spain	Spain
BANKIA BOLSA ESPAÑOLA, FI	Active	Equity Spain	Spain
BANKIA BOLSA ESPAÑOLA, FI	Active	Equity Spain	Spain
BANKIA DIVIDENDO ESPAÑA , FI	Active	Equity Spain	Spain
BANKIA DIVIDENDO ESPAÑA , FI	Active	Equity Spain	Spain
BANKIA SMALL & MID CAPS ESPAÑA, FI	Active	Equity Spain	Spain
BANKIA SMALL & MID CAPS ESPAÑA, FI	Active	Equity Spain	Spain
BANKINTER BOLSA ESPAÑA, FI	Active	Equity Spain	Spain
BANKINTER BOLSA ESPAÑA, FI	Active	Equity Spain	Spain
BANKINTER FUTURO IBEX, FI	Active	Equity Spain	Spain
BANKOA BOLSA, FI	Active	Equity Spain	Spain
Barclays Bolsa España, FI	Merged	Equity Spain	Spain
BBVA Bolsa Ibex Quant, FI	Merged	Equity Spain	Spain
BBVA BOLSA PLUS, FI	Active	Equity Spain	Spain
BBVA BOLSA, FI	Active	Equity Spain	Spain
BESTINVER BOLSA, FI	Active	Equity Iberia	Iberia
Beta Acciones, FI	Merged	Equity Spain	Spain
BK Bolsa España, FI	Merged	Equity Spain	Spain
BMN Bolsa Espanola, FI	Merged	Equity Spain	Spain
BNP PARIBAS BOLSA ESPAÑOLA, FI	Merged	Equity Iberia	Iberia
Bolsa Euro Valor, FI	Merged	Equity EuroZone	EuroZone
Bolsa Euro Valor Side Pocket, FI	Liquidated	Equity EuroZone	EuroZone
Caixa Catalunya Borsa Espanyola, FI	Merged	Equity Spain	Spain
CAIXABANK BOLSA ALL CAPS ESPAÑA, FI	Active	Equity Spain	Spain

CAIXABANK BOLSA ALL CAPS ESPAÑA, FI	Active	Equity Spain	Spain
CAIXABANK BOLSA ALL CAPS ESPAÑA, FI	Active	Equity Spain	Spain
CAIXABANK BOLSA ESPAÑA 150, FI	Active	Equity Spain	Spain
CAIXABANK BOLSA ESPAÑA 150, FI	Active	Equity Spain	Spain
CAIXABANK BOLSA ESPAÑA 150, FI	Active	Equity Spain	Spain
CAIXABANK BOLSA GESTION ESPAÑA, FI	Active	Equity Spain	Spain
CAIXABANK BOLSA GESTION ESPAÑA, FI	Active	Equity Spain	Spain
CAIXABANK BOLSA GESTION ESPAÑA, FI	Active	Equity Spain	Spain
CAIXABANK BOLSA GESTION ESPAÑA, FI	Active	Equity Spain	Spain
Caixabank Bolsa, FI	Merged	Equity Spain	Spain
Caixabank Bolsa I, FI	Merged	Equity Spain	Spain
CAIXABANK MASTER RENTA VARIABLE ESPAÑA, FI	Active	Equity Spain	Spain
CaixaSabadell 7-R.V., FI	Merged	Equity Spain	Spain
Caixatarragona Bolsa 35, FI	Merged	Equity Spain	Spain
CAJA INGENIEROS IBERIAN EQUITY, FI	Active	Equity Iberia	Iberia
CAJA INGENIEROS IBERIAN EQUITY, FI	Active	Equity Iberia	Iberia
Cajamar Bolsa, FI	Merged	Equity Spain	Spain
Cajasur Hispania, FI	Merged	Equity Spain	Spain
Cartera Variable, FI	Merged	Equity Spain	Spain
CATALANA OCCIDENTE BOLSA ESPAÑOLA, FI	Active	Equity Spain	Spain
Citifondo Renta Variable, FI	Merged	Equity Spain	Spain
CREDIT SUISSE BOLSA, FI	Active	Equity Spain	Spain
CREDIT SUISSE BOLSA, FI	Active	Equity Spain	Spain
CX Borsa Espanya, FI	Merged	Equity Spain	Spain
DP BOLSA ESPAÑOLA FI	Active	Equity Spain	Spain
DP BOLSA ESPAÑOLA FI	Active	Equity Spain	Spain
Dunas Seleccion Europa I, FI	Active	Equity EuroZone	EuroZone
DUX UMBRELLA, FI/DUX UMBRELLA/BOLSAGAR	Active	Equity Spain	Spain
DWS Acciones Espanolas A, FI	Merged	Equity Spain	Spain
DWS Acciones Espanolas C, FI	Merged	Equity Spain	Spain
EDM-INVERSION, FI	Active	Equity Spain	Spain
EDM-INVERSION, FI	Active	Equity Spain	Spain
EDM-INVERSION, FI	Active	Equity Spain	Spain
ESFERA I, FI/ESFERA I / FUNDAMENTAL APPROACH SPAIN	Active	Equity Spain	Spain
EUROVALOR BOLSA ESPAÑOLA, FI	Active	Equity Spain	Spain
EUROVALOR BOLSA, FI	Active	Equity Spain	Spain

Foncaixa Acciones, FI	Merged	Equity Spain	Spain
Foncaixa Iberbolsa, FI	Merged	Equity Spain	Spain
Foncaixa Ideas Bolsa Espana Estandar, FI	Merged	Equity EuroZone	EuroZone
Foncaixa Ideas Bolsa Espana Plus, FI	Merged	Equity EuroZone	EuroZone
Foncaixa Ideas Bolsa Espana Premium, FI	Merged	Equity EuroZone	EuroZone
FONDITEL LINCE, FI	Merged	Equity Spain	Spain
FONDITEL LINCE, FI	Active	Equity Spain	Spain
FONDITEL LINCE, FI	Active	Equity Spain	Spain
FONDMAPFRE BOLSA IBERIA, F.I.	Active	Equity Iberia	Iberia
Fondo Valencia Renta Variable, FI	Active	Equity Spain	Spain
GCO ACCIONES, FI	Active	Equity Spain	Spain
GESCONSULT CRECIMIENTO	Active	Equity EuroZone	EuroZone
GESCONSULT RENTA VARIABLE, FI	Active	Equity Iberia	Iberia
GESCONSULT RENTA VARIABLE, FI	Active	Equity Iberia	Iberia
GESTIFONSA RENTA VARIABLE DIVIDENDO, FI	Active	Equity Europe Income	EuroZone
GESTIFONSA RENTA VARIABLE DIVIDENDO, FI	Active	Equity Europe Income	EuroZone
GESTIFONSA RENTA VARIABLE DIVIDENDO, FI	Active	Equity Europe Income	EuroZone
GESTIFONSA RENTA VARIABLE ESPAÑA, FI	Active	Equity Spain	Spain
GESTIFONSA RENTA VARIABLE ESPAÑA, FI	Active	Equity Spain	Spain
GREDOS BOLSA EURO, FI	Active	Equity Europe Income	EuroZone
GVCGAESCO BOLSALIDER, FI	Active	Equity Spain	Spain
GVCGAESCO BOLSALIDER, FI	Active	Equity Spain	Spain
HOROS VALUE IBERIA, FI	Active	Equity Iberia	Iberia
IBERCAJA BOLSA ESPAÑA, FI	Active	Equity Spain	Spain
IBERCAJA BOLSA ESPAÑA, FI	Active	Equity Spain	Spain
IBERIAN VALUE, FI	Active	Equity Iberia	Iberia
IMANTIA RV IBERIA, FI	Active	Equity Iberia	Iberia
KUTXABANK BOLSA, FI	Active	Equity Spain	Spain
KUTXABANK BOLSA, FI	Active	Equity Spain	Spain
KutxaValor, FI	Merged	Equity Spain	Spain
LABORAL KUTXA BOLSA,FI	Active	Equity Spain	Spain
LIBERBANK RENTA VARIABLE ESPAÑA, FI	Active	Equity Spain	Spain

LIBERBANK RENTA VARIABLE ESPAÑA, FI	Active	Equity Spain	Spain
LIBERBANK RENTA VARIABLE ESPAÑA, FI	Active	Equity Spain	Spain
LIBERBANK RENTA VARIABLE EURO, FI	Active	Equity Europe Income	EuroZone
LIBERBANK RENTA VARIABLE EURO, FI	Active	Equity Europe Income	EuroZone
Madrid Bolsa Oportunidad Eleccion, FI	Merged	Equity Spain	Spain
Madrid Bolsa, FI	Merged	Equity Spain	Spain
MAGALLANES IBERIAN EQUITY FI	Active	Equity Iberia	Iberia
MAGALLANES IBERIAN EQUITY FI	Active	Equity Iberia	Iberia
MAGALLANES IBERIAN EQUITY FI	Active	Equity Iberia	Iberia
March Valores, FI	Merged	Equity Spain	Spain
MAVERICK FUND CLASE B	Active	Equity EuroZone Sm&Mid Cap	EuroZone
Mediolanum Espana R.V. E, FI	Merged	Equity Spain	Spain
Mediolanum Espana R.V. L, FI	Merged	Equity Spain	Spain
Mediolanum Espana R.V. S, FI	Merged	Equity Spain	Spain
MEDIOLANUM SMALL & MID CAPS ESPAÑA, FI	Active	Equity Spain	Spain
MEDIOLANUM SMALL & MID CAPS ESPAÑA, FI	Active	Equity Spain	Spain
MEDIOLANUM SMALL & MID CAPS ESPAÑA, FI	Active	Equity Spain	Spain
METAVALOR, FI	Active	Equity Iberia	Iberia
MUTUAFONDO ESPAÑA, FI	Active	Equity Iberia	Iberia
MUTUAFONDO ESPAÑA, FI	Active	Equity Iberia	Iberia
MUTUAFONDO ESPAÑA, FI	Active	Equity Iberia	Iberia
MUTUAFONDO ESPAÑA, FI	Active	Equity Iberia	Iberia
NB BOLSA SELECCION, FI	Active	Equity Spain	Spain
NB Renta Variable, FI	Merged	Equity Spain	Spain
PBP Bolsa Espana A, FI	Merged	Equity Spain	Spain
PBP Bolsa Espana Cartera, FI	Merged	Equity Spain	Spain
PBP BOLSA EUROPA CARTERA	Merged	Equity EuroZone	EuroZone
Premium Bolsa España, FI	Merged	Equity Spain	Spain
RENTA 4 BOLSA, FI	Active	Equity Spain	Spain
RENTA 4 BOLSA, FI	Active	Equity Spain	Spain
RENTA 4 SMALL CAPS EURO I	Active	Equity EuroZone Sm&Mid Cap	EuroZone
RENTA 4 SMALL CAPS EURO R	Active	Equity EuroZone Sm&Mid Cap	EuroZone

RURAL RENTA VARIABLE ESPAÑA, FI	Active	Equity Spain	Spain
RURAL RENTA VARIABLE ESPAÑA, FI	Active	Equity Spain	Spain
Rural Small Caps Euro Estandar, FI	Active	Equity EuroZone Sm&Mid Cap	EuroZone
Sabadell Bolsa Indice, FI	Merged	Equity Spain	Spain
SABADELL ESPAÑA BOLSA, FI	Active	Equity Spain	Spain
SABADELL ESPAÑA BOLSA, FI	Active	Equity Spain	Spain
SABADELL ESPAÑA BOLSA, FI	Active	Equity Spain	Spain
SABADELL ESPAÑA BOLSA, FI	Active	Equity Spain	Spain
SABADELL ESPAÑA BOLSA, FI	Active	Equity Spain	Spain
SABADELL ESPAÑA BOLSA, FI	Active	Equity Spain	Spain
SABADELL ESPAÑA DIVIDENDO, FI	Active	Equity Spain	Spain
SABADELL ESPAÑA DIVIDENDO, FI	Active	Equity Spain	Spain
SABADELL ESPAÑA DIVIDENDO, FI	Active	Equity Spain	Spain
SABADELL ESPAÑA DIVIDENDO, FI	Active	Equity Spain	Spain
SABADELL ESPAÑA DIVIDENDO, FI	Active	Equity Spain	Spain
SABADELL ESPAÑA DIVIDENDO, FI	Active	Equity Spain	Spain
Sabadell Solbank Bolsa, FI	--	Equity Spain	Spain
SANTALUCIA ESPABOLSA, FI	Active	Equity Spain	Spain
SANTALUCIA ESPABOLSA, FI	Active	Equity Spain	Spain
SANTALUCIA ESPABOLSA, FI	Active	Equity Spain	Spain
SANTALUCIA ESPABOLSA, FI	Active	Equity Spain	Spain
SANTALUCIA ESPABOLSA, FI	Active	Equity Spain	Spain
SANTALUCIA IBÉRICO ACCIONES, FI	Active	Equity Iberia	Iberia
SANTALUCIA IBÉRICO ACCIONES, FI	Active	Equity Iberia	Iberia
SANTALUCIA IBÉRICO ACCIONES, FI	Active	Equity Iberia	Iberia
SANTALUCIA IBÉRICO ACCIONES, FI	Active	Equity Iberia	Iberia
SANTALUCIA IBÉRICO ACCIONES, FI	Active	Equity Iberia	Iberia
SANTALUCIA IBÉRICO ACCIONES, FI	Active	Equity Iberia	Iberia
SANTALUCIA IBÉRICO ACCIONES, FI	Liquidated	Equity Iberia	Iberia
SANTANDER ACCIONES ESPAÑOLAS, FI	Active	Equity Spain	Spain
SANTANDER ACCIONES ESPAÑOLAS, FI	Active	Equity Spain	Spain
SANTANDER ACCIONES ESPAÑOLAS, FI	Active	Equity Spain	Spain
SANTANDER ACCIONES ESPAÑOLAS, FI	Active	Equity Spain	Spain
SANTANDER ACCIONES ESPAÑOLAS, FI	Active	Equity Spain	Spain
SANTANDER ACCIONES ESPAÑOLAS, FI	Active	Equity Spain	Spain
Santander Small Caps Espana A, FI	Merged	Equity Spain	Spain
Santander Small Caps Espana Cartera, FI	Merged	Equity Spain	Spain
Santander RV Espana A, FI	Merged	Equity Spain	Spain

Santander RV Espana B, FI	Merged	Equity Spain	Spain
Santander RV España Reparto A, FI	Active	Equity Spain	Spain
Santander RV España Reparto C, FI	Active	Equity Spain	Spain
Siitnedif Tordesillas Iberian Opportunities I, FI	Liquidated	Equity Spain	Spain
Siitnedif Tordesillas Iberian Opportunities, FI	Liquidated	Equity Spain	Spain
SOLVENTIS AURA IBERIAN EQUITY, F.I.	Active	Equity Iberia	Iberia
SOLVENTIS EOS EUROPEAN EQUITY	Active	Equity EuroZone	EuroZone
TREA CAJAMAR RENTA VARIABLE ESPAÑA, FI	Active	Equity Spain	Spain
Trea Iberia Equity A, FI	Merged	Equity Spain	Spain
Trea Iberia Equity B, FI	Merged	Equity Spain	Spain
UBS ESPAÑA GESTION ACTIVA, FI	Active	Equity Spain	Spain
UBS ESPAÑA GESTION ACTIVA, FI	Active	Equity Spain	Spain
Unifond Renta Variable I, FI	Merged	Equity Spain	Spain
UNIFOND RENTA VARIABLE ESPAÑA, FI	Active	Equity Spain	Spain
UNIFOND SMALL&MID CAPS, FI	Active	Equity Spain	Spain
UNIFOND SMALL&MID CAPS, FI	Active	Equity Spain	Spain
W4I European Opportunities A, FI	Merged	Equity EuroZone	EuroZone
W4I European Opportunities B, FI	Merged	Equity EuroZone	EuroZone
W4I European Opportunities C, FI	Liquidated	Equity EuroZone	EuroZone
W4I European Dividend A, FI	Merged	Europe	Spain
W4I European Dividend B, FI	Merged	Europe	Spain

Table A.2 – Europe Category

Name	**Asset Status**	Lipper Global	Geographical Focus
Adriza International Opportunities Fund, FI	Merged	Equity Global Income	Europe
ABANCA RENTA VARIABLE EUROPA, FI	Active	Equity Europe	Europe
ABANTE INDICE BOLSA FI	Active	Equity Global	Global
ABANTE INDICE BOLSA FI	Active	Equity Global	Global
ACACIA REINVERPLUS EUROPA FI	Active	Equity Europe	Europe
ACURIO EUROPEAN MANAGERS, FI	Active	Equity Europe	Europe
ACURIO EUROPEAN MANAGERS, FI	Active	Equity Europe	Europe
Alpha Plus Europa Acciones D, FI	Liquidated	Equity Europe	Europe
Banesto Dividendo Europa, FI	Merged	Equity Europe	Europe
Banif Dividendo Europa, FI	Merged	Equity Europe	Europe

Banif Dividendo Europa Reparto, FI	Merged	Equity Europe	Europe
Bankia Banca Privada Renta Variable Europa, FI	Merged	Equity Europe	Europe
BANKIA DIVIDENDO EUROPA, FI	Active	Equity Europe Income	Europe
BANKIA DIVIDENDO EUROPA, FI	Active	Equity Europe Income	Europe
BANKIA MEGATENDENCIAS, FI	Active	Equity Global	Global
BANKIA MEGATENDENCIAS, FI	Active	Equity Global	Global
BANKINTER DIVIDENDO EUROPA, FI	Active	Equity Europe Income	Europe
BANKINTER DIVIDENDO EUROPA, FI	Active	Equity Europe Income	Europe
BANKINTER DIVIDENDO EUROPA, FI	Active	Equity Europe Income	Europe
BANKINTER FINANZAS GLOBALES, FI	Active	Equity Sector Financials	Global
BANKINTER FINANZAS GLOBALES, FI	Active	Equity Sector Financials	Global
BANKINTER Sector FINANZAS C, FI	Active	Equity Sector Financials	Global
BANKINTER TECNOLOGÍA, FI	Active	Equity Sector Information Tech	EuroZone
BANKINTER TECNOLOGÍA, FI	Active	Equity Sector Information Tech	EuroZone
BBVA Bolsa Europa Finanzas (EUR), FI (merged)	Merged	Equity Sector Financials	Europe
BBVA BOLSA EUROPA FINANZAS, FI	Active	Equity Sector Financials	Europe
BBVA BOLSA EUROPA, FI	Active	Equity Europe	Europe
BBVA BOLSA EUROPA, FI	Active	Equity Europe	Europe
BBVA BOLSA PLAN DIVIDENDO EUROPA, FI	Active	Equity Europe Income	Europe
BBVA MI INVERSION BOLSA, FI	Active	Equity Europe	Europe
B&H ACCIONES EUROPA A	Active	Equity Global	Global
B&H ACCIONES EUROPA C	Active	Equity Global	Global
Cahispa Europa, FI	Merged	Equity Europe	Europe
Caixabank Bolsa Gestion Suiza Estandar, FI	Merged	Equity Switzerland	Switzerland
Caixabank Bolsa Gestion Suiza Plus, FI	Merged	Equity Switzerland	Switzerland
Caixabank Bolsa Rentas Estandar, FI	Merged	Equity Europe Income	Europe
Caixabank Bolsa Rentas Premium, FI	Merged	Equity Europe Income	Europe
CAIXABANK BOLSA DIVIDENDO EUROPA, FI	Active	Equity Europe Income	Europe
CAIXABANK BOLSA DIVIDENDO EUROPA, FI	Active	Equity Europe Income	Europe
CAIXABANK BOLSA DIVIDENDO EUROPA, FI	Active	Equity Europe Income	Europe
CAIXABANK BOLSA DIVIDENDO EUROPA, FI	Active	Equity Europe Income	Europe
CAIXABANK BOLSA DIVIDENDO EUROPA, FI	Active	Equity Europe Income	Europe

CAIXABANK BOLSA GESTION EUROPA, FI	Active	Equity Europe	Europe
CAIXABANK BOLSA GESTION EUROPA, FI	Active	Equity Europe	Europe
CAIXABANK BOLSA GESTION EUROPA, FI	Active	Equity Europe	Europe
CAIXABANK BOLSA GESTION EUROPA, FI	Active	Equity Europe	Europe
CAIXABANK BOLSA SELECCION EUROPA, FI	Active	Equity Europe	Europe
CAIXABANK BOLSA SELECCION EUROPA, FI	Active	Equity Europe	Europe
CAIXABANK BOLSA SELECCION EUROPA, FI	Active	Equity Europe	Europe
CAIXABANK BOLSA SELECCION EUROPA, FI	Active	Equity Europe	Europe
CAIXABANK MASTER RENTA VARIABLE EUROPA, FI	Active	Equity Global	Global
CAIXABANK SMART RENTA VARIABLE EUROPA, FI	Active	Equity Europe	Europe
Credit Suisse Infraestructuras, FI	Merged	Equity Sector Real Est Global	Global
CX Borsa Europa, FI	Merged	Equity Europe	Europe
DWS Europa Bolsa, FI	Merged	Equity Europe	Europe
Eurovalor Dividendo Europa, FI	Active	Equity Europe Income	Europe
Eurovalor Europa, FI	Merged	Equity Europe	Europe
Foncaixa 54 Bolsa Reino Unido, FI	Merged	Equity UK	United Kingdom
FonCaixa Borsa Europa, FI	Merged	Equity Europe	EuroZone
Foncaixa Cartera Bolsa Europa Divisa Cubierta, FI	Merged	Equity Europe	Europe
Foncaixa I Bolsa Europa, FI	Merged	Equity Europe	Europe
Foncaixa Privada Europa Acciones, FI	Merged	Equity Europe	Europe
FONDMAPFRE BOLSA EUROPA, FI	Active	Equity Europe	Europe
Fondo Valencia Renta, FI	Merged	Equity EuroZone	EuroZone
Gestion Boutique III/Protona Europa	Active	Equity Europe	Europe
GVC GAESCO EUROPA, FI	Active	Equity Europe	Europe
Ibercaja Bolsa Europa 3, FI	Merged	Equity Europe	Europe
IBERCAJA BOLSA EUROPA, FI	Active	Equity Europe	Europe
IBERCAJA BOLSA EUROPA, FI	Active	Equity Europe	Europe
Ibercaja Dividendo 3, FI	Merged	Equity Europe	Europe
IBERCAJA DIVIDENDO, FI	Active	Equity Europe Income	Europe
IBERCAJA DIVIDENDO, FI	Active	Equity Europe Income	Europe
IBERCAJA EUROPA STAR, FI	Active	Equity Europe	Europe
IBERCAJA EUROPA STAR, FI	Active	Equity Europe	Europe
IBERCAJA GLOBAL BRANDS, FI	Active	Equity Global	Global
IBERCAJA GLOBAL BRANDS, FI	Active	Equity Global	Global
IBERCAJA UTILITIES, FI	Active	Equity Sector Utilities	Global

IBERCAJA UTILITIES, FI	Active	Equity Sector Utilities	Global
MAGALLANES EUROPEAN EQUITY FI	Active	Equity Europe	Europe
MAGALLANES EUROPEAN EQUITY FI	Active	Equity Europe	Europe
MAGALLANES EUROPEAN EQUITY FI	Active	Equity Europe	Europe
MAGALLANES MICROCAPS EUROPE, FI	Active	Equity Europe Sm&Mid Cap	Europe
MAGALLANES MICROCAPS EUROPE, FI	Active	Equity Europe Sm&Mid Cap	Europe
MARCH EUROPA, FI	Active	Equity Europe	Europe
MARCH EUROPA, FI	Active	Equity Europe	Europe
MULTIFONDO EUROPA, FI	Active	Equity Europe	Europe
NAO EUROPA SOSTENIBLE, FI	Active	Equity Europe	Europe
NAO EUROPA SOSTENIBLE, FI	Active	Equity Europe	Europe
NAO EUROPA SOSTENIBLE, FI	Active	Equity Europe	Europe
NB Bolsa Europa Seleccion, FI	Merged	Equity Europe	Europe
NB VALOR EUROPA, FI	Active	Equity Europe	Europe
PBP Bolsa Europa A, FI	Merged	Equity EuroZone	EuroZone
PBP Bolsa Europa Cartera, FI	Merged	Equity EuroZone	EuroZone
RENTAMARKETS NARVAL, FI	Active	Equity Europe	Europe
RENTAMARKETS NARVAL, FI	Active	Equity Europe	Europe
RENTAMARKETS NARVAL, FI	Active	Equity Europe	Europe
RENTAMARKETS NARVAL, FI	Active	Equity Europe	Europe
RENTAMARKETS NARVAL, FI	Active	Equity Europe	Europe
SABADELL EUROPA BOLSA, FI	Active	Equity Europe	Europe
SABADELL EUROPA BOLSA, FI	Active	Equity Europe	Europe
SABADELL EUROPA BOLSA, FI	Active	Equity Europe	Europe
SABADELL EUROPA BOLSA, FI	Active	Equity Europe	Europe
SABADELL EUROPA BOLSA, FI	Active	Equity Europe	Europe
SABADELL EUROPA BOLSA, FI	Active	Equity Europe	Europe
SABADELL EUROPA VALOR, FI	Active	Equity Europe	Europe
SABADELL EUROPA VALOR, FI	Active	Equity Europe	Europe
SABADELL EUROPA VALOR, FI	Active	Equity Europe	Europe
SABADELL EUROPA VALOR, FI	Active	Equity Europe	Europe
SABADELL EUROPA VALOR, FI	Active	Equity Europe	Europe
SABADELL EUROPA VALOR, FI	Active	Equity Europe	Europe
SANTALUCIA EUROPA ACCIONES, FI	Active	Equity Europe	Europe
SANTALUCIA EUROPA ACCIONES, FI	Active	Equity Europe	Europe
SANTALUCIA EUROPA ACCIONES, FI	Active	Equity Europe	Europe
SANTALUCIA EUROPA ACCIONES, FI	Active	Equity Europe	Europe

SANTALUCIA EUROPA ACCIONES, FI	Active	Equity Europe	Europe
Santander Beneficio Europa, FI	Merged	Equity Europe	Europe
Santander Dividendo Europa A, FI	Active	Equity Europe Income	Europe
Santander Dividendo Europa B, FI	Active	Equity Europe	Europe
Santander Dividendo Europa Cartera, FI	Active	Equity Europe Sm&Mid Cap	Europe
Santander Dividendo Europa D, FI	Active	Equity Europe Sm&Mid Cap	Europe
SANTANDER EQUALITY ACCIONES, FI	Active	Equity Europe	Europe
SANTANDER EQUALITY ACCIONES, FI	Active	Equity Europe	Europe
SANTANDER SMALL CAPS EUROPA, FI	Active	Equity Europe Sm&Mid Cap	Europe
SANTANDER SMALL CAPS EUROPA, FI	Active	Equity Europe Sm&Mid Cap	Europe
Santander Solidario Dividendo Europa, FI	Merged	Equity Europe Income	Europe
SANTANDER SOSTENIBLE ACCIONES, FI	Active	Equity Europe	Europe
SANTANDER SOSTENIBLE ACCIONES, FI	Active	Equity Europe	Europe
SANTANDER SOSTENIBLE ACCIONES, FI	Active	Equity Europe	Europe
SANTANDER SOSTENIBLE ACCIONES, FI	Active	Equity Europe	Europe
TEMPERANTIA FI	Active	Equity Europe	Europe
TEMPERANTIA FI	Active	Equity Europe	Europe
TEMPERANTIA FI	Active	Equity Europe	Europe
TEMPERANTIA FI	Active	Equity Europe	Europe
TREA CAJAMAR R.V.EUROPA	Active	Equity Europe	Europe
UNIFOND EUROPA DIVIDENDOS, FI	Active	Equity Europe Income	Europe
UNIFOND SELECCION BOLSA, FI	Active	Equity Europe	Europe

Table A.3 – USA Category

Name	**Asset Status**	Lipper Global	Geographical Focus
Bancaja Renta Variable Estados Unidos, FI	Merged	Equity US	USA
BANKIA BOLSA USA, FI	Active	Equity US	USA
BANKIA BOLSA USA, FI	Active	Equity US	USA
BANKIA BOLSA USA, FI	Active	Equity US	USA
BBVA BOLSA USA (CUBIERTO), FI	Active	Equity US	USA
BBVA BOLSA USA, FI	Active	Equity US	USA
BBVA BOLSA USA, FI	Active	Equity US	USA
BMN Bolsa USA, FI	Merged	Equity US	USA
CAIXABANK BOLSA SELECCION USA, FI	Active	Equity US	USA
CAIXABANK BOLSA SELECCION USA, FI	Active	Equity US	USA
CAIXABANK BOLSA SELECCION USA, FI	Active	Equity US	USA
CAIXABANK BOLSA SELECCION USA, FI	Active	Equity US	USA
CAIXABANK MASTER RENTA VARIABLE USA ADVISED BY, FI	Active	Equity Global	Global
CAIXABANK SMART RENTA VARIABLE USA, FI	Active	Equity US	USA
CAJA INGENIEROS BOLSA USA, FI	Active	Equity US	USA
CAJA INGENIEROS BOLSA USA, FI	Active	Equity US	USA
DUX UMBRELLA, FI/DUX UMBRELLA/TRIMMING USA TECHNOLOGY	Active	Equity US	USA
EUROVALOR ESTADOS UNIDOS, FI	Active	Equity US	USA
Foncaixa Bolsa USA 1, FI	Merged	Equity US	USA
Foncaixa Cartera Bolsa USA, FI	Merged	Equity US	USA
Foncaixa I Bolsa USA, FI	Merged	Equity US	USA
Foncaixa USA, FI	Merged	Equity US	USA
FondEspaña USA, FI	Merged	Equity US	USA
FONDMAPFRE BOLSA AMERICA, FI	Active	Equity US	USA
IBERCAJA BOLSA USA, FI	Active	Equity US	USA
IBERCAJA BOLSA USA, FI	Active	Equity US	USA
KUTXABANK BOLSA EEUU, FI	Active	Equity US	USA
KUTXABANK BOLSA EEUU, FI	Active	Equity US	USA
KUTXABANK BOLSA NUEVA ECONOMIA, FI	Active	Equity Sector Information Tech	Global

KUTXABANK BOLSA NUEVA ECONOMIA, FI	Active	Equity Sector Information Tech	Global
KutxavalorEEUU, FI	Merged	Equity US	Global
LABORAL KUTXA BOLSA USA, FI	Active	Equity US	USA
META AMERICA USA, FI	Active	Equity US	USA
META AMERICA USA, FI	Active	Equity US	USA
MULTIFONDO AMERICA, FI	Active	Equity US	USA
MUTUAFONDO RENTA VARIABLE EE. UU, FI	Active	Equity US	USA
MUTUAFONDO RENTA VARIABLE EE. UU, FI	Active	Equity US	USA
Renta 4 USA, FI	Merged	Equity US	USA
SABADELL ESTADOS UNIDOS BOLSA, FI	Active	Equity US	USA
SABADELL ESTADOS UNIDOS BOLSA, FI	Active	Equity US	USA
SABADELL ESTADOS UNIDOS BOLSA, FI	Active	Equity US	USA
SABADELL ESTADOS UNIDOS BOLSA, FI	Active	Equity US	USA
SABADELL ESTADOS UNIDOS BOLSA, FI	Active	Equity US	USA
SABADELL ESTADOS UNIDOS BOLSA, FI	Active	Equity US	USA
SANTANDER GO RV NORTEAMERICA, FI	Active	Equity US	North America
SANTANDER GO RV NORTEAMERICA, FI	Active	Equity US	North America
SANTANDER GO RV NORTEAMERICA, FI	Active	Equity US	North America
Santander Seleccion RV Norteamerica, FI	Active	Equity US	North America
Segurfondo USA A, FI	Merged	Equity US	North America
VENTURE BOLSA AMERICANA	Merged	Equity US	North America

Table A.4 – Japan Category

Name	**Asset Status**	Lipper Global	Geographical Focus
BANKINTER ÍNDICE JAPÓN, FI	Active	Equity Japan	Japan
BANKINTER ÍNDICE JAPÓN, FI	Active	Equity Japan	Japan
BBVA BOLSA JAPON, FI	Active	Equity Japan	Japan
BMN Bolsa Japon, FI	Merged	Equity Japan	Japan
CAIXABANK BOLSA SELECCION JAPON, FI	Active	Equity Japan	Japan
CAIXABANK BOLSA SELECCION JAPON, FI	Active	Equity Japan	Japan
CAIXABANK BOLSA SELECCION JAPON, FI	Active	Equity Japan	Japan
CAIXABANK BOLSA SELECCION JAPON, FI	Active	Equity Japan	Japan
CAIXABANK MASTER RENTA VARIABLE JAPON ADVISED BY, FI	Active	Equity Japan	Japan
CAIXABANK SMART RENTA VARIABLE JAPON, FI	Active	Equity Japan	Japan
Eurovalor Japon, FI	Merged	Equity Japan	Japan
FondEspaña Japon, FI	Merged	Equity Japan	Japan
Fondmapfre Bolsa Asia, FI	Merged	Equity Asia Pacific	Asia Pacific
GVCGAESCO JAPON, FI	Active	Equity Japan	Japan
IBERCAJA JAPON, FI	Active	Equity Japan	Japan
IBERCAJA JAPON, FI	Active	Equity Japan	Japan
JAPAN DEEP VALUE FUND FI	Active	Equity Japan	Japan
KUTXABANK BOLSA JAPON, FI	Active	Equity Japan	Japan
KUTXABANK BOLSA JAPON, FI	Active	Equity Japan	Japan
Kutxavalorjapon, FI	Merged	Equity Japan	Japan
LABORAL KUTXA BOLSA JAPON, FI	Active	Equity Japan	Japan
Renta 4 Japon, FI	Merged	Equity Japan	Japan
SABADELL JAPON BOLSA, FI	Active	Equity Japan	Japan
SABADELL JAPON BOLSA, FI	Active	Equity Japan	Japan
SABADELL JAPON BOLSA, FI	Active	Equity Japan	Japan
SABADELL JAPON BOLSA, FI	Active	Equity Japan	Japan
SABADELL JAPON BOLSA, FI	Active	Equity Japan	Japan
SABADELL JAPON BOLSA, FI	Active	Equity Japan	Japan
SANTANDER SELECCION RV JAPON, FI	Active	Equity Japan	Japan