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To What Extent Are Spanish Investors Financially Literate?

Does Their Portfolio Management Notions Contribute in the 'Sensemaking' of Their Investment Decisions?

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Abstract

The ways in which investors engage in their investment decisions are often far from the behavioural theories described in the literature. In line with the increasing interest in the field of Behavioural Finance lately, this piece of research aims to shed some light over the intricate criteria and processes undergone by investors before making investment decisions. Specifically, the focus has been placed on a sample of eight Spanish independent investors who share a common interest and activity: they invest in the capital markets for their own account. Among the different responses obtained through conducting the interviews, there is a strong determining factor in the study: age. Depending on the age of the interviewee, the responses regarding their investing criteria were either more risk loving or more risk averse. Moreover, considering the tremendous financial shock lived in Spain since 2008, the decisions about asset selection and purchase are now fundamentally based upon the prudence principle. Investors are more reluctant to facing risks and prefer the assets considered a 'flight to quality', such as Fixed income securities like Treasury bills. With the growing and fast-paced technologies and innovation, a massive amount of information has been made available to all market participants willing to build a portfolio. The perception of the information available has also been investigated in this research and, one of the findings have been that data is very useful but experience is needed in order to successfully filter and classify the reliable and unbiased portions of information. The report, therefore, provides thorough insights into the rationale behind the sampled investors' decisions, drawing on theoretical assumptions and other existing literature of Portfolio Management and Behavioural Finance to dilucidated whether investors rely on their theoretical notions and concepts when constructing their portfolio, or instead they draw on their past experience to do so.

Keywords: Behavioural Finance, investment decisions, Portfolio Management, cognitive bias, Asset Allocation, risk profile.

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Introduction

Main objectives of the investigation

The research intends to uncover the factors considered when investing, and also the perceptions and motivations that lead to the final investment decisions. Hence, given the qualitative nature of the data collected, a questionnaire was designed with a series of questions addressed at the individuals with the intention of learning the different methods and processes that each investor undergoes when deciding what and where to invest (Eisenhardt, 1989). Commonly, investment decisions are regarded as complex activities which are performed by highly financially-literate persons, but, in fact, most of the people who invest nowadays are practically financially-illiterate (Paramés, 2017). Nevertheless, they all share a common objective: the maximisation of their returns with the minimum exposure to risk. As a fund and portfolio manager, Francisco Paramés advices to search for undervalued assets, 'the Euros for cents' – any investor should aim at buying cheap and selling expensive (Paramés, 2017). However, once having the advice of an asset manager, how do these investors make their decision? Do they do further research? Do they go deep into technical analysis? Or even fundamental analysis? This investigation seeks to unwind these unsolved questions taking a small sample of Spanish investors, both own account investors and fund investors (essentially, retail investors).

Motivation of the investigation

Both the motivation and choice of the elaboration of this report stem from the author's interest in investigating the effective application of the existing financial theories in investment decision making. Specifically, the focus is placed in the extent to which the available strategies and literature developed by professionals and academics are employed when investors decide upon certain assets or investment techniques. While currently approaching the end of a Masters in Finance, the author has developed a strong curiosity around the way in which individuals choose how to invest their money, and especially, the way in which these investors make use or not of the information to support their decisions. For this reason, Behavioural Finance will be central to the investigation, and the work of authors like Fama (1991;1997;2004), Markowitz (1952), Ritter (2003), Shiller (2006), and Bondt and Thaler (1994) will be repeatedly referred to with the intention of complying a deeper understanding of the context of the investigation, as well as to expound the already existing theories which will be recurrently used throughout the report.

The idea of investigating the rationale and the psychology behind these financial decisions was also driven by the words of the well-known and extremely successful Spanish investor and fund manager Francisco Paramés, who gave a delightful speech at Universidad

Pontificia Comillas (ICADE) about the investor's decisions. In his discourse, he frequently mentioned the strong pressure and influence that market participants exert on individual investors, and how this 'peer pressure' makes investment decisions challenging (Paramés, 2017). Interestingly, he explained that at times, to be a successful investor, it is important to learn how to remain independent – irrespective of what other investors are doing, one has to have clear ideas and a solid intellectual support to make decisions which apparently are not common in the market. This notion is in line with another famous American investor called Peter Lynch, whose book 'One up on Wall Street' written with John Rothchild, triggered a powerful inquisitiveness in the author about the possible perspectives of the capital markets from an investor's point of view. Both Lynch and Paramés agree with the fact that most investors should focus on the stocks which are off Wall Street's radar – avoiding the 'hottest stocks', and looking for those which, are apparently, less attractive to the majority of the institutional investors. Lynch's theories can seem striking and controversial for many academics, and provided that the opinions and perceptions of the intricate investment world are very diverse and subjective, the author decided to enclose the investigation around the existing literature to provide a greater objectivity to the research. However, the underlying notion which these authors tried to explain or provide guidelines about relates to the concept of 'Sensemaking' introduced by Karl Weick (1988; 1995) in his work about the process of making sense of situations lived by individuals in stressful conditions. This investigation will therefore apply this notion when attempting to explain the rationale behind the sampled investors' decisions and behaviours in the market, and this, together with the qualitative nature of the data collection methodology employed, will provide some subjectivity to the investigation.

Context overview

In order to build the context for the investigation, the main concepts and notions that characterise the two most relevant financial disciplines explored – Behavioural Finance and Portfolio Management –, should be understood by the reader since they will appear frequently throughout the sections. Table 1 and 2 summarise the central concepts and notions that will be recurring, especially in the Literature Review and the Findings section since a connection is made between these existing theories and the sample of real-life scenarios.

Behavioural Finance

Concepts	Overreaction hypotheses	Market prices might overreact when private information is disclosed – excessive and significant price fluctuations as a result of an event (Kent et al., 2005; Kahneman and Tversky, 1973).
	Underreaction hypotheses	Prices underreact when public information signals are received (Kent et al., 2005).
	Overconfidence	Excessive trust on an individual's abilities and decisions (Shiller, 2003).
	Self-attribution bias	Investors tend to credit themselves when they succeed and blame external factors when fail (Miller and Ross, 1975).
Investor type definitions	News watchers	Investors who analyse fundamentals (Paramés, 2017; Bondt and Thaler, 1994).
	Momentum traders	Investors who rely on market timing and price movements (Paramés, 2017; Hommes and Wagener, 2008).
	Retail investors	Mainly unexperienced investors; usually have scarce financial knowledge and require support.
	Professional investors	Investors with a deep understanding and knowledge of financial markets and products; usually require less guidance.
Connection with 'Sensemaking' notion	Considering the psychological perspective of finance, the discipline of Behavioural Finance refers to the study and interpretation of the behaviour of market participants in the financial markets arena. Likewise, the concept of 'sensemaking' connects with the mentioned discipline given that it attempts to construct the driving forces which guide individuals' behaviour by making sense of changing and adverse situations (Weick, 1995).	

Table 1. Behavioural Finance main concepts

Portfolio Management

Concepts	Asset portfolio	Portfolio made up of financial assets, including non-complex securities (common stock, bonds, etc.) and/ or complex securities (structured products, derivatives, preferred shares, etc.)
	Asset allocation	Attribution of weights or proportions to different asset types when building a portfolio. Asset selection must be in line with risk profile of investor. The allocation can be strategic (long term-focus) or tactical (short term-focus) (Campbell and Viceira, 2002).
	Risk or investor profile	Refers to the investor's risk appetite or risk tolerance. According to the degree of risk exposure that investor is willing to assume, the asset allocation is made (Perold and Sharpe, 1995; Bondt and Thaler, 1994).
	Diversification	Common to most investors is the desire to minimise and reduce the level of risk of their portfolios. By diversifying the portfolio – investing in different assets with different correlations – the risk can be compensated with returns of other assets (Grinold and Kahn, 2000; Schleifer, 2000).

Table 2. Portfolio Management main concepts.

Methodology employed

Regarding the collection of data, a qualitative research was chosen to capture not only the factual information, but also the behavioural background of the interviewee. Since this piece of research attempts to shed some light over the connection between the available investment decision theories related with Portfolio Management and Behavioural Finance, and the actual decisions that investors make in a real-life scenario, a Qualitative Research Questionnaire (QRI) has been designed. The QRI was chosen as the most adequate data collection method since it leaves space for the interviewee to provide information without having to follow fixed-structure questions – richer data will be collected and the conclusions from the results will be more solid. The interviews will be carried out via telephone and the responses given will be transcribed as literally as possible in order to extract the core elements to answer the research question.

Structure of the report

This research paper has been divided into six sections to fulfil the objectives and research question of the investigation. These sections are the following:

1. Introduction: situates the reader in context and provides a brief description of the objectives of the study and the approach taken to tackle the research question.

2. Literature Review: provides insights into the existing literature and academic evidence of the central concepts of the investigation. In this case, definitions and perceptions of Portfolio Management, Behavioural Finance or the Psychodynamic Theory ('Sensemaking') will be explored.

   This section is made up of three subsections:

   a. Overview of the existing literature of Behavioural Finance
   b. Portfolio Management perspective of investors' decisions
   c. Contextualisation of the investigation

3. Methodology: includes a description of the sample chosen (8 interviewees), the process of the collection of data through the QRI, and finally a thorough analysis of the data collected.

4. Findings: tables were used in order to organise and code the findings, and to simplify the interpretation of the responses of the interviewed participants.

5. Conclusions: drawing on the interpretation and analysis of the data, consistent conclusions will be expounded, coinciding with the author's hypothesis. This hypothesis supports that age and experience are determining factors, and the

weights allocated to theoretical knowledge and practical experience change over time.

6. Limitations of the study: the main limitations and improvements of the investigation are outlined.

Literature Review

Overview of existing literature on Behavioural Finance

In order to gain knowledge about the existing studies and theories concerning individuals' investment decisions and the rationale behind them, a thorough review of the available literature on the science of Behavioural Finance was conducted. The main objective of this was to extract the underlying reasons and triggers that drive reasonably financially-literate individuals to make investment decisions. For this, the review of the literature was divided into three main sections: an overview of the existing work on Behavioural Finance, an analysis of the literature focused on individual financial decisions from a Portfolio Management perspective, and finally, a section dedicated to the contextualisation of this investigation. Likewise, the overview of the existing literature has been classified into three subsections accounting for the central paradigms of Behavioural Finance, the origins and main notions and assumptions of this discipline, and the relevance and implications of the existence of this discipline in the financial world. Similarly, the section which discusses the Portfolio Management perspective of investor decisions has been divided into four areas: the risk profile of the investor, the main asset allocation strategies, active and passive portfolio management, and lastly, a section focused on the review of the regulations and compliance rules required within the field of Wealth Management – which arguably can impact on the way in which investors make final investment decisions.

Central Paradigms of Behavioural Finance

The notion of Behavioural Finance encompasses assumptions that stemmed from the traditional conception of individuals as *rational investors* (Sewell, 2007; Fama, 1997). This classical approach to finance had its roots in the concept of *homo oeconomicus*: the perception of human beings as 'perfect humans' who succeeded in the process of optimising their intended benefit (Fromlet, 2001). Traditional finance theory postulates an economic individual who is assumed to have a clear knowledge of its environment, a 'well-organised stable system of preferences' and the ability to evaluate alternative courses of action available (Simon, 1955). The assumption of universal rationality has been justified by two main arguments: the first one is the 'as if defence' mechanism, and the second relies on market competition forces (Friedman, 1953). The former refers to the tendency of simplification when defining financial market theories and behavioural patterns among market participants. Whereas the latter, relates to the irrationality of

agents who plunge in the market to aggressively exploit inefficiencies which, at the same time, have been created by irrational behaviours. Friedman argues that theories must be judged 'on the validity of their predictions' and not 'on the basis of their assumptions' (Bondt and Thaler, 1994). This controversial conception laid the foundations for the introduction of Neoclassical Finance (Ross, 2002), which is still latent in the current portfolio management and financial instrument valuation theories being used today.

Originally, Eugene F. Fama introduced the Efficient Market Hypothesis (EMH) which defines a market as 'efficient' when the securities' prices 'fully reflect' all of the available information (Fama, 1991). In this model, all investors are not considered as rational, but markets are considered as rational since it is assumed that when investors compete to achieve abnormal profits – through arbitrage – the market 'corrects' itself leading to market efficiency (Ritter, 2003). Derived from the EMH theory, Fama concluded there were three information conditions that could take place: an efficient market in the *weak form* – a market in which prices only reflected historical past prices (fundamental data) –, an efficient market in the *semi-strong form* – where prices not only concern the historical prices but also those that are publicly available and specific of a company –, and finally, the efficient market in the *strong form* – the concern is placed on whether investors have 'monopolistic access' to privileged information which would provide them with an advantageous position when making investment decisions. In essence, the EMH argues that competing arbitrageurs contribute to achieving efficient prices through the exploitation of market *inefficiencies* – similar securities found at different prices in different markets – performed by arbitrageurs (Fama, 1997; Fama, 1991). This eventually leads to the elimination of inefficiencies, and therefore, leaves an efficient market, according to Fama. This cyclical perception of the market system requires the understanding of investors as individuals who strive to maximise the utility and returns of their decisions and transactions (Ritter, 2003). A correlation could be established between the pillars supporting the EMH and the famous Capital Asset Pricing Model (CAPM), by Markowitz, 1952. In their critical review of the CAPM, Fama and French (2004) highlight Markowitz's perspective of investors as risk averse individuals who choose the portfolio with the smallest variance (lowest risk) and greatest return from a pool of risk-return possible combinations. Hence, both the EMH and the CAPM share the view that investors are focused on maximising their returns and utility, and minimising the risk or variance of their investment decisions. Essentially, the efficient markets theory and the asset pricing models described above constitute the twin basic pillars of Neoclassical Finance, movement which began around the 1960s (Ross, 2002; Fromlet, 2001; Shiller, 2006). These theories are based upon the belief that prices are the consequence of market agents' actions and decisions, and that these prices are effectively reflecting the information of the market participants, preventing these from gaining advantageous information. This thought leads to the consideration of self-

correcting markets which are able to eliminate inefficiencies through arbitrage activity, hence, leaving the market in an efficient position where it is unlikely to achieve 'excess risk-adjusted returns' given the well-functioning efficient capital markets (Ross, 2002).

Nevertheless, while perceiving these financial tools as intuitive when making decisions, and useful for making broad predictions about the relationship between risk and returns, their existing empirical failures and misleading assumptions must be taken into account. From the 1970s onwards, authors like Merton (1973) and Breeden (1980), began to envisage some limitations and anomalies deriving from Fama's EMH. Some of the contributions that dilucidated these anomalies respond to the temporal limitation of the CAPM, which was enhanced in order to be transposable to a general equilibrium model by Merton (1973), as well as Breeden's correlation between the beta of a stock and its relationship with consumption (Shiller, 2003). The efficient markets theory was considered to stray off the 'fundamental truth' given that the volatility of the systematic risk coefficient (Beta) was left unexplained, leaving an 'excess volatility' behind (Shiller, 2003; Schleifer, 2000; Tseng, 2006). Moreover, Shiller (2003) highlights the contested issue of the assumption of constant discount rate under the present value model used in efficient markets theory, and states that this assumption may only be sustained for the first period since this model ignores the time-varying interest rates. These underlying deviations have led to considering that Neoclassical Finance derives 'optimal life-cycle portfolios' (Shiller, 2006), provided that it sets a solid framework which people may deploy to know what they 'ought' to do with their portfolios in an ideal and optimal environment. Therefore, these models are mere optimistic projections of risk-return investment decisions which lack empirical evidence (Ritter, 2003; Bondt and Thaler, 1994; Shiller, 2003).

Consequently, recent papers have approached this excessive optimality surrounding traditional finance theories, and have attempted to 'calibrate' these models in order to achieve concrete recommendations about optimal management of portfolios. Likewise, Lynch and Tan (2004) carry out a 'conditional joint distribution' in order to calibrate the optimal asset allocation for young investors' portfolios controlling for variables like 'income' which provide validity to the model. Similarly, Viceira (2001) builds on the work of Merton (1973) stating that portfolio decision rules arise from the time-specificity of investment opportunities, and that these are largely influenced by an 'intertemporal hedging component' whose magnitude depends on the investment horizon of the individual. Essentially, asset allocation choices are guided not only by the objective recommendations of financial advisors, but also the risk appetite of the investor plays an important role. This risk appetite, also referred to as risk profile, is determined by the time period in which this investor is found: variables like age (perhaps close to retirement), gender or professional status are key to understand the risk choice of an individual (Viceira, 2001; Shiller, 2006; Samuelson, 1969). Samuelson (1969) began the discourse of return maximisation through

the selection of assets in terms of their riskiness with the focus on the utility function: if the utility – preferences combinations inherent of an individual – remains unchanged overtime, then allocation will not change. The appearance of numerous researchers who were willing to improve and enhance the usability of the existing neoclassical theories just like the authors mentioned above, led to the appearance of Behavioural Finance, a new financial discipline characterised by its cognitive psychology component and by its focus on the limits to arbitrage (Ritter, 2003).

Origins and Assumptions of Behavioural Finance

Modern financial analysis is currently dominated by Behavioural Finance which is widely considered as being a 'valuable supplement' for classical and neoclassical finance (Fromlet, 2001). Curiously, Financial Economics is perhaps the 'least behavioural' of all the fields of economics (Bondt and Thaler, 1994). Behavioural Finance provides the 'rational' ingredient required for the neoclassical finance theories to make complete sense. Drawing on the concept of 'bounded rationality', Simon (1997) explains that when an individual is faced with incomplete or asymmetric information, or with an environment of a high degree of complexity, they will experience cognitive limitations which will drive the decision-maker to behave in an irrational manner. The concept of 'bounded rationality' is central when approaching economics from a behavioural perspective: analysing the rationale behind individuals' financial decisions is deeply concerned with the actual decisions and their consequences. In line with the notion of bounded rationality, Clark (1918) remarks the importance of considering psychology when studying economics since if psychology is ignored, human nature would be ignored and then errors would be incurred. Similarly, a connection can be established with the Sensemaking theory, focusing on the efforts to make sense of behaviours and actions of individuals, who strive to understand their rationale and the psychological reasons which engage them in the intricate decision making processes like the investment choices (Weick, 1988;1995).

Considering the fallible nature of human decision-making when reviewing the modern financial theories (based on efficient market models), the 'realistic characterisation' of humans would be found to be missing given that these theories simplify these intricate characterisations into models based on representative agents – with generic patterns of conduct – to which any individual's conduct is supposed to match (Bondt and Thaler, 1994). Conversely, Behavioural Finance assumes that not all market agents are rational, and that their behaviour is individual-specific and dependent on endogenous variables. Ritter (2003) mentions the notion of 'psychological biases' which refer to the valuation errors that market participants make driven by psychological factors like 'overconfidence' – individuals tend to believe excessively in their abilities –, or 'framing' – the way a concept is presented to an individual affects their perception of it. As researchers identified faults in the existing traditional theories, the available models

began to be corrected and improved to capture the important fluctuations and aspects that they initially ignored (Shiller, 2003). Shiller (2003) describes the efficient financial markets theoretical models as 'metaphors' of reality since he asserts the absurdity of assuming that everyone is capable of solving 'complex stochastic optimisation models' in order to make the optimal asset allocation decisions. Moreover, the EMH suggests that security prices reflect 'unbiased estimates of the underlying values', and when analysing performance ratios such as the Price-to-Earnings (P/E) ratio, some researchers claim that prices of securities are biased and reflected in this ratio (Basu, 1977). Empirical studies have unleashed a stream of doubts regarding the validity of the EMH, especially regarding its underlying assumptions: efficient market theories deny the possibility of generating excess return while the P/E ratio indicates future investment performance. Meaning with this, that given the 'exaggerated investor expectations', the future returns of an investment can be reflected or estimated by the price of securities, hence, the behaviour of participants is not unbiased (Basu, 1977; Shleifer, 2000). Essentially, following the lines of Schleifer's (2000) assertions, and drawing back on Behavioural Finance, the Efficient Markets Hypothesis presents anomalies provided that investor sentiment is inherent to every market, and attempting to predict the behaviour of securities' prices from an EMH perspective implies ignoring the presence of the human rationality and irrationality. Lastly, market participants' behaviour may not be estimated under the assumption that individuals have equal capabilities and knowledge of financial actions (Ross, 2002; Sewell, 2007). The weak evidence supporting traditional finance theories has impelled academics to delve into the intricate concepts underlying Behavioural Finance to enhance the public's understanding of financial markets.

Elaborating on the increasing need of incorporating psychological notions to the financial markets behavioural analysis, Sewell (2007) reinforces the importance of Behavioural Finance by relating the market price movements with the mental predisposition of the market participants. Shefrin and Statman (2000) conduct a detailed analysis of portfolio construction decisions based upon some of the principles of financial decision-making stated by Kahneman and Tversky (1973). Kahneman and Tversky (1973) argue that the 'most important decisions are based on beliefs concerning the likelihood of uncertain events', which can be quantified and estimated through the assessment of probabilities, according to their study. Most importantly, these authors set the context and the pillars of Behavioural Finance by describing two ways in which individual's choices deviate from their utility preferences: the first, the excessive and sole focus on gains and losses by market participants – which leads to the isolation of the asset selection influence on the decision –, and the second, the 'replacement of subjective possibilities' by weights related to uncertainty tolerance – which links with the modern asset allocation concept of 'risk tolerance profile' that will be developed later. These aspects define the 'Prospect Theory' which revolves around decision-making under uncertain conditions. Unlike Modern Portfolio

Theory, Prospect Theory holds that value or wealth maximisation involves gains and losses (Kahneman and Tversky, 1973; Barberis and Thaler, 2003). In this theory, gains and losses are measured against a reference point which is usually the purchase price (market value) of a stock – the maximum price of a stock among the stocks' historical prices affects an investor's trading decisions to a great extent. In addition, prospect theory explains how different people make different choices and decisions while obtaining the same final wealth level (Barberis and Thaler, 2003). Further in their research, Kahneman and Tversky (1973) apply utility theory to identify the three factors influencing individuals' decisions: expectations – described by a utility function of the expected outcomes of the investment –, asset position (allocation) within the portfolio of assets, and risk aversion degree – the tolerance to risk and uncertainty exposure of the individual. Following their research, Richard Thaler (2005) and Kahneman et al., (1991) introduced the notion of 'endowment effect' to refer to the fact that individuals often demand and expect more to decide on giving up an object – or asset in this financial discourse – compared to the payment they would be willing to make in order to acquire it. This concept relates with the idea of 'loss aversion' introduced by Kahneman and Tversky, referring to the innate human fear of failing. Individuals prefer to stay in their comfort zone –where their utility is not maximised but it is falls within acceptable limits – rather than moving away from it. This is what Thaler called the 'status quo bias': individuals present a strong tendency to remain at the Status Quo 'because the disadvantages of leaving it loom larger than advantages' (Kahneman et al., 1991; Bondt and Thaler, 1994). In essence, Behavioural Finance attempts to shed some light over the mistakes or judgemental errors made by investors, since most of the traditional finance models tend to simplify and assume rational or constant behaviours (Fuller and Worthington, 1998). These mistakes have been discussed by several academics in terms of 'cognitive biases' translate into differences among the market participants' behaviours when facing similar situations and conditions. The cognitive biases discussed repeatedly by researchers include *Heuristics* – or the 'rule of thumb', which leads to an oversimplification of investment decisions, blurring the real complexity of the activity (Ritter, 2003); *Overconfidence* – usually reflected in poorly diversified portfolios (people are bounded by what is familiar to them and tend to reject diversifying with new assets); *Mental Accounting* – Ritter (2003) explains this type of cognitive bias through a curious example: households tend to separate the budget for food from the budget for leisure, so when deciding what to have for meal at home, they decide the cheaper option such as chicken wings instead of choosing lobster, whereas, when going to a restaurant, households will choose lobster because they perceive it as leisure time. As a result, having separate budgets for both activities increase the cost, since having lobster at home would be much cheaper. Moreover, and the cognitive bias which most authors agree has the greatest impact on the way individuals make investment decisions is *Framing* – refers to the way concepts and ideas are presented to an individual shaping their decision (Muneer and Rehman, 2012; Ritter, 2003; Kahneman and

Tversky, 1973; Kahneman et al., 1991). *Representativeness* reflects the overweighting of prolonged market averages (i.e.: high equity prices maintained for many years lead to thinking that equity prices are naturally high) (Ritter, 2003; Kahneman et al., 1991; Muneer and Rehman, 2012). Lastly, *Conservatism* and *Disposition Effect* are two other relevant biases. The former is sometimes referred to as *anchoring*, and it relates to the attachment of individuals to the strategies and decisions from the past that worked and which they are used to performing; while the latter, refers to the tendency of investors to avoid realised losses and are obsessed with achieving realised gains (Muneer and Rehman, 2012; Ritter, 2003; Kahneman and Tversky, 1973; Kahneman et al., 1991; Barberis and Thaler, 2003).

Having expounded the underlying foundations and assumptions of Behavioural Finance, the shift from the traditional mathematical Neoclassical approach towards an investor psychology-based financial model is understood given its relevance in the current financial situation (Hommes and Wagener, 2008; Hirshleifer and Hong, 2003). The assumption that securities are rationally priced would require utility functions with constant and persistent habits in order to explain the 'predictable variation' of market returns (Hommes and Wagener, 2008; Campbell and Cochrane, 1994). Logically, Hommes and Wagener (2008) realised that extreme habit persistence would also require a strong covariance between the marginal utility and the returns of the portfolios. According to the existing ample literature, there is no evidence that proves the presence of these requirements, and indeed, there are academic papers showing the lack of habit persistence among both rational and irrational investor behaviour models.

Relevance and Implications of Behavioural Finance

Reviewing the literature, the vast majority of academics agree that there are anomalies which dismantle the efficient markets viewpoint (Hirshleifer and Teoh, 2003; Hommes and Wagener, 2008; Kent et al., 2005). Some of these anomalies include short term momentum – market timing, long term reversal – negative autocorrelations of short term return over long periods of time lags, or the high volatility of security prices in relation to fundamentals (Kent et al., 2005). One of the fundamental factors that contributed to the turn to Behavioural Finance was the presence of irrationality in the behaviours and decisions of market participants. Hirshleifer and Teoh (2003) considered that a possible reason behind this irrationality could be the 'herd instinct' innate to human beings – contagion effect due to emotion-driven behaviours under financial stress conditions. They argue that investors do not always act accordingly to the information they possess; financial decisions are, at times, made with not enough justifiable news. When analysing the individual investors' behaviours in the market, it is essential to take into account that corporate actions like takeovers or IPOs (securities issuances) 'move in waves' (Hirshleifer and Teoh, 2003) as well as having a clear idea that analysts have a recurring tendency

to fall in love with certain sectors and industries. This means that when individual investors make use of financial advice from advisors or portfolio managers or asset managers, there is a high probability that the feedback received will be somehow biased by the advisors' preferences, in the same way that the investors' preferences or asset-appetite might also be driven by the general herd behaviour they have previously observed in the market. Nevertheless, authors like Hommes and Wagener (2008) argue that the behavioural approach towards financial markets behaviour and portfolio management leaves many 'degrees of freedom' to explain how individuals are prone to deviate from the assumed rationality-driven behaviour. In the existing literature, researchers have frequently considered that irrational investors would not be able to survive to the tough market competition, therefore converging with some assumptions of market efficiency theories (Johnson, 1969; Alchian, 1950). They both agreed that investor behaviour is in part driven by natural selection and realised profit maximisation, and that this way, non-rational behaviours could be eliminated from the market, leading to a rational market competition arena. However, Farmer and Joshi (2002) reached the conclusion that non-rational participants may survive in the competitive financial markets through their studies on artificial stock markets driven by agent-based models – they simulated the behaviours of modelled agents and the consequences of their trading strategies. In order to consider the survival of investors in the competitive financial jungle, the markets must be defined as 'evolutionary adaptive systems' where participants act driven by their bounded rationality (Hommes and Wagener, 2008; Tseng, 2006; Simon, 1997).

In an attempt to develop a model which reliably explains the behavioural patterns in securities markets, Kent et al., (2005) and Ritter (2003) focused on the overconfidence of investors and the under and overreactions of the market. In the financial markets, information is disclosed through interviews, technical or fundamental analyses performed by experts – financial statements and graphs analysis, or through the verification of rumours (Kent et al., 2005). In line with the existing overconfidence of market participants stated by the previous authors, if an investor is overconfident of their interpretation of the information that they personally were able to generate, it is easy for them to underestimate the potential losses or errors that might arise from their decisions (Bondt and Thaler, 1994). Hence, an overconfident investor strongly relies on and believes the information they found, overestimating its precision, whereas they will underestimate the publicly available information. Consequently, the overconfident behaviours in the market cause the stock prices to overreact – due to the reception of private information signals, and underreact when facing public information signals (Kent et al., 2005). Another factor being studied by academics is the 'self-attribution' effect – when individual investors tend to credit themselves for their success in the past and blame the external factors for their failures (Kent et al., 2005; Taylor and Brown, 1988; Miller and Ross, 1975). According to the psychological insights of Taylor and Brown (1988), individuals are prone to developing optimistic perceptions

of their self, especially if they put a great amount of effort in their decisions. This conception can be extrapolated to the financial arena where market participants develop excessively positive views of themselves, believing in the precision of their personal control of securities prices and market movement predictions.

Having reviewed the most current assumptions and theories behind Behavioural Finance and its application to the securities markets phenomena, it is surprising that there is still not a single model that has successfully captured the complexity of these markets' movements and behaviours (Kent et al., 2005). A model which is solely based on perfect investor rationality will never be able to predict or explain these behaviours, in the same way that a model which is entirely focused on the irrational aspect of investor behaviour will also generate empirically-incorrect predictions. To gain general acceptance, a theory or model should be characterised by frugality and should have the ability to explain a range of anomalies within different contexts, and from these, generate new empirical evidences (Kent et al., 2008; Bondt and Thaler, 1994).

Portfolio Management perspective of investor decisions

Portfolio Management refers to the decisions made by professionals, usually asset or portfolio managers, regarding investors' investment in a variety of assets, typically with the objective of maximising the returns while minimising the exposure to risk (Markowitz, 1952; Muneer et al., 2012; Lynch and Tan, 2004). Logically, portfolio managers must have a crystal-clear knowledge of their client's financial perspective, both in terms of the time horizon of the investments and of their risk tolerance or appetite. In order to establish a link between Portfolio Management theory and Behavioural Finance, Behavioural Portfolio Theory must be mentioned. This modern approach to portfolio management studies investors' behaviour with special interest in how the individual investors divide their wealth and adopt a mind-set with the focus on portfolio 'mental account layers' corresponding with their ambitions (Muneer et al., 2012). These 'mental account layers' notion was introduced by Shefrin and Statman (2000) who analysed how investors tend to divide their money in layers of a virtual portfolio pyramid according to their objectives. Depending on the time frame in which these objectives are located – either long term or short term –, the risk tolerance and the preferences of the investors will vary. For instance, young investors who seek financial advice from a portfolio manager or a financial planner, might want to see immediate results and therefore have shorter term expectations, whereas an older investor might be more interested in stability and in ensuring a decent retirement plan for the long term. Likewise, the risk tolerance profile of an investor is dependent on the time and condition in which they find themselves. For a recent graduate who has been saving money for the past three years of work, the main financial objective might be related with maximising the returns in the short term, to be able to purchase a car or use the returns for entertainment purposes. For this

reason, the risk appetite of this young individual would be more aggressive. In other words, this investor would be keen on investing their savings in equities and other risky assets in order to obtain greater profits. Contrastingly, an investor in their fifties would be looking towards securing their retirement. This means that the investment decisions would be focused in the long term, and would be characterised by a moderate or even conservative profile: this investor would prefer investing in fixed income or in money markets, in line with their lower risk tolerance (Sharpe, 1992; Shefrin and Statman, 2000).

In order to set the context for this investigation, the concepts of 'asset allocation', 'risk profile' and 'asset selection' must be explored.

Risk profile in Portfolio Management

The definition of the level of risk exposure that an investor is willing to assume is crucial for an effective Portfolio Management. Following William Sharpe's discourse, the risk appetite of an individual portfolio must be clearly established before proceeding to the asset selection and allocation (Sharpe, 1992). Drawing on Prospect Theory, individuals tend to make decisions under high uncertainty shaped by their perspectives towards risk and failure (Kahneman and Tversky, 1973; Barberis and Thaler, 2003). Of course, when discussing about risk tolerance a link can be made with the risk profile of portfolio or fund managers, who are also affected by their risk preferences when designing the asset allocation for a specific investor (Maug and Naik, 1995; Muneer et al., 2012). Both investors and fund managers sometimes perform what in the risk management jargon is called 'herd behaviour', in the case of the managers, ignoring their privileged information and making investment decisions driven by what other funds are doing. In other words, imitating the most repeated decisions in the market assuming they guarantee a certain level of success (Maug and Naik, 1995; Hirschleifer and Teoh, 2003). Nevertheless, focusing on the risk profile of individual investors, for an effective asset allocation, it is essential to define the level of volatility or risk an investor is willing to bear during the time the fund manages their wealth.

To provide support and advice to investors, asset managers must make use of certain tools which describe the risk propensity of the investor using risk-return combinations with the objective of translating their risk tolerance towards financial assets into coherent financial decisions (Kaufmann et al., 2013). In essence, the aim is to understand the potential subjective consequences arising from the risk-return profile selected for a given portfolio. Usually, investment funds develop special tools to measure the level of riskiness that an investor is willing to face when investing their wealth. These tools may have a numerical nature such as 'numerical descriptions' – using a numerical scale and plotting the risk position of the investor on the scale; 'experience sampling' – making use of the past experience of the investor in terms of their

investment decisions in order to trace a profile regarding their past behaviour; or 'graphical displays' – involves communicating risk through the graphical representation of the historical volatility of a certain Index, for instance (Kaufmann et al., 2013; Bondt and Thaler, 1994). Some studies have raised evidence that investment decisions made in a retrospective way – drawing on one's own past decisions and feedback –, allow investors to sample their own experience in order to make improvements and modifications of their risk profile and risk preferences (Kaufmann et al., 2013). In addition, the risk-return designing tools employed by investment funds and private equity funds have proved to increase the investors' propensity to become riskier in their investment decisions and preferences (Kaufmann et al., 2013; Maug and Naik, 1995; Muneer et al., 2012). Indeed, one of the most important aspects that portfolio managers must consider when defining the risk profile of a customer is the way in which risk is presented to them. The risk presentation may depend on how the investor has gained access to the information they use to make decisions, or on how already retrieved information is shown to them. For instance, if an investor skim-reads over several newspapers or even over an Index report to collect information for their investment decisions, they will be deciding from descriptive data or *description* (Hertwig et al., 2004; Campbell et al., 1994; Kaufmann et al., 2013). Whereas if the investor revises their past performance retrospectively, they will be making decisions from *experience* (Hertwig et al., 2004). Interestingly, Hertwig et al., (2004) concluded that investor decisions based upon past experience leads to the underweighting of the possibility of rare events' occurrence, while investors making decisions based on description tend to overweight the possibility of rare events happening. These results converge with the existing overconfidence bias – investors have developed a great reliance on their own judgement and past actions, and are more confident on their decisions than on others' (Hertwig et al., 2004; Ritter, 2003; Shiller, 2003; Bondt and Thaler, 1994; Kahneman et al., 1991).

Essentially, the risk profile of an investor must be rigorously defined, either numerically through numerical descriptions or retrospectively through experience, for it to provide the asset manager with sufficient information. This information must enable the manager to allocate different exposures to different types of assets in terms of their risk when constructing the investor's portfolio.

Asset allocation and selection

Asset allocation can be defined as the attribution of specific weights or proportions among the 'major' asset classes when building an asset portfolio (Sharpe, 1992). Allocating the level of exposure of each asset or component of an investor's total portfolio is essential to shape the potential effects on their returns (Hirschleifer and Teoh, 2003; Sharpe, 1992). As mentioned above, this level of exposure will be determined to a great extent by the risk tolerance and the

time horizon of the investor. Generally, the allocation will be in line with the investors' preferences and profile, and will surely be oriented towards the realisation of a short or long term financial objective (Perold and Sharpe, 1995; Kaufmann et al., 2013).

Furthermore, the difference between the existing asset allocation strategies must be established in order to enhance the understanding of the reader. Most academics have conducted econometric tests and experiments to disclose the real effectivity and reliability of the different asset allocation methods which, usually, are classified according to the time frame in which they are embedded. *Strategic* asset allocation is believed to be the most important step in the investment process in portfolio management (Rasmussen, 2003). It implies the long-term decision of an asset allocation or allocation of the investor's funds according to the long-term risk and returns expectations of the investor, from a futuristic perspective (Harlow, 1991; Perold and Sharpe, 1995; Campbell and Viceira, 2002). Strategic asset allocation also involves the consideration of the desired correlation between asset classes within the portfolio. In Rasmussen's words (2003), 'It is not so much a question of attempting to determine the return that one can expect from an asset class' or the determination of the asset weights; it rather involves taking advantage of the existing correlations among the 'investable universe' of assets to achieve the desired risk-return combinations over a long-term period. In terms of roles, it is important to acknowledge the relevance of a financial planner in the design of a strategic asset allocation given that the goal of most financial planner's clients is to obtain a comfortable retirement plan – long term objectives and usually conservative profiles (Campbell and Viceira, 2002). A specific asset allocation strategy conducted by financial planners is the *deterministic lifestyling*, which consists of enhancing the performance of a pension plan by investing initially most of the wealth in equities, taking advantage of the upsides, and prior to retirement, the asset mixt is switched gradually to bonds (Cairns et al., 2006). Strategically, the nature of the investments becomes more conservative towards the end of the pension plan and is focused solely on fixed income and money markets in order to hedge against the unpredictable stock market volatility. Oppositely, the asset mix or initial asset allocation may be changed over time according to the current market situation, for instance. This type of asset allocation is usually referred to as *dynamic or tactical* asset allocation (Campbell and Viceira, 2002; Perold and Sharpe, 1995; Harlow, 1991). In essence, tactical strategies are active strategies which seek to improve the performance of a portfolio by changing the asset mix in an opportunistic manner responding to shifts and patterns in the capital markets' behaviour (Arnott and Fabozzi, 1988).

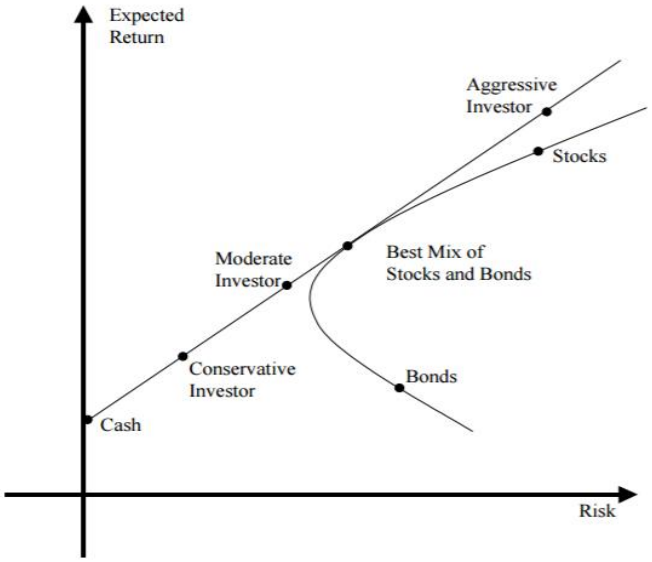

Figure 1: Strategic Asset Allocation: Portfolio Choice for Long Term Investors (Campbell and Viceira, 2002).

To achieve a formal understanding of the impact of the risk profile of an investor on the investment preferences, Figure 1 provides a clear representation of the asset class selection and the risk-return combinations according to the main risk profiles: conservative, moderate and aggressive. A *conservative* investor (inverted pyramid shape) will seek to invest in low risk assets given that this type of investor is characterised by its risk aversion (i.e.: investing most of their funds in money markets – cash, or in fixed income – treasury or Government bonds, and the least in equities). A *moderate* investor (rhomboidal shape) will be situated in the middle, with preference for medium risk assets – will be willing to invest most of their funds in fixed income, and equal amounts in equities and cash (Viceira, 2001). Lastly, an *aggressive* investor (regular pyramid) will be identified by its clear risk loving profile – these investors are driven by the belief that the greater the risk exposure the higher the returns, so most of their wealth is invested in stock markets (Rasmussen, 2003; Perold and Sharpe, 1995; Arnott and Fabozzi, 1988). Therefore, these risk profiles are determined initially to design an adequate strategic asset allocation. During the time the investors' funds are invested in the fund, tactical modifications will be made to the asset mix by the portfolio manager in order to take advantage of the current market movements in favour of the desired combination of risk and returns of the investor.

Nevertheless, when deciding which asset allocation strategies to implement, portfolio managers and financial planners select either an active or a passive management style to handle their investors' portfolios. These two forms of portfolio management are key when satisfying investor preferences and are of utmost importance to be able to diversify the risk of a portfolio, for instance, when investing internationally.

Active and Passive Portfolio Management

Depending on the term and nature of the investors' objectives, the portfolio constructed will be managed actively or passively with respect to a market Index. In the past, passive management was widely used given its simplicity. However, nowadays, investors are allowing increasingly riskier management of their portfolios and their preferences are shifting towards active management strategies.

In structuring the approach to the diversification of a portfolio, both nationally or internationally, investment funds usually follow one of the above-mentioned management styles. The passive management of a portfolio consists on reproducing or imitating an existing market capitalisation index, such as the Spanish IBEX 35 or the American Dow Jones (Solnik and Noetzlin, 1982). Whereas the active management style, focuses on outperforming a specific index, that is, trying to achieve better performance than an index (Grinold and Kahn, 2000). Of course, active management requires a greater effort and is more time consuming for the fund manager given the amount of research needed. For this, actively managed portfolios require higher fees and commissions than passively managed portfolios. Both styles are subject to high uncertainty levels, but undoubtedly, passive management demands less strategy modifications since it is just replicating an existing index. Active portfolio managers make decisions according to the investor preferences which tend to be focused on the achievement of high residual returns with a low level of residual risk (Grinold and Kahn, 2000). Additionally, unlike passive management, active management requires constant feedback and monitoring given that losses and mistakes have a greater impact on the overall portfolio returns than under a passive management.

Once the understanding of the two available routes to manage a portfolio has been consolidated, it is interesting to highlight how financial planners and asset managers encourage their investors to make certain investments depending on their investment horizon. For instance, young investors are encouraged to make riskier asset choices because it is widely believed that the risk tolerance of young individuals is greater than that of older investors (Campbell and Viceira, 2002; Viceira, 2001). Paradoxically, while their risk appetite might be higher, the tolerance to failure in young investors can sometimes be even greater than that of experienced investors (Barberis and Thaler, 2003). It is in the professionals' hands the ability to match investors' preferences with investment decisions and portfolio management techniques, always keeping track of the changes in their investment horizon objectives.

Compliance and Investor Protection in Portfolio Management

It is of utmost importance to include a discussion of the existing laws and norms corresponding to the protection of investors when making decisions in the financial arena. As a result of the financial crisis in 2008, one of the milestones to be accomplished by the new

enhanced regulations in Basel III was to restore trust in the financial system and in its institutions (Basel Committee Report, 2014). Driven by the over relaxation of the banks' lending activities and the outrageous underestimation of credit and market risk, stricter supervisory processes and capital requirements were implemented with the intention of solving the latent liquidity and solvency problems of these entities. Hence, the degree of accomplishment of these new regulations must increase until there is full compliance, as the Basel Committee on Banking Supervision predicts, by 2019. By complying with the new capital requirements, and by improving the quality of the banks' capital base (including capital buffers and a greater availability of CET 1 capital), investors and other banks will recover their confidence and, progressively, the financial system will become more and more resilient. In order to enhance this recovery process, some rules regarding the protection of investors have been installed to ensure that decisions are made from a rational and well-informed position. These norms are included in the Markets in Financial Instruments Directive (MiFID) and they oblige investment firms and banks in Europe to provide clients with clear, transparent and impartial information about the investment, as well as providing appropriate products and services according to the specific conditions of each client, and most importantly, ensuring their full understanding of the consequences and risks that the investments and securities entail before any decision is made or an order is placed (Spindler, 2011). Logically, these new compliance rules have given rise to debate regarding the degree of autonomy of the managers or bankers who ought to provide their clients with the required information and ensure their understanding. To what extent should an asset manager allow a client to invest in a complex structured product which he or she does not completely understand? How can a banker be sure about the awareness of the client about the possible risks deriving from a transaction? Despite the uncertainty, a client classification is made under the MiFID before any investment is approved, and every client has the right to know what their classification is:

- *Professional clients* – those clients who dispose of sufficient knowledge and experience to make investments under their own judgement, and are able to identify the potential risks implied in their decisions (Spindler, 2011). These include corporations, and financial institutions.

- *Eligible counterparties* – sub category of professional clients; require very scarce advice and have enough information and knowledge to make investment decisions.

- *Retail clients* – clients which could not be classified neither as professionals nor as eligible counterparties. These clients need guidance and must be well informed

of the characteristics, procedures and risks inherent to the different investment options and asset types (Spindler, 2011; Hommes and Wagener, 2008).

Considering the underlying subjectivity resulting from the relatively free judgement of managers and the imperative nature of the regulation, the actual investment decision has to be made by the client, and without ensuring complete information and an adequate understanding, wealth managers and banks will not be able to perform 'best efforts practices' (Spindler, 2011). So, the relevance of being a well-informed client of a Private Banking service or a Mutual Fund is very high since the elaboration of a risk profile and an asset allocation is irrelevant as long as the wealth tenor is ignorant about the possible benefits and downsides of the business. This aspect will be tackled in the questionnaires conducted in the collection of data.

Contextualisation of the investigation

After thoroughly reviewing and analysing the existing Behavioural Finance and Portfolio Management literature, the context and rationale behind the elaboration of this investigation must be expounded. There are several academics who have tackled the ways in which investors make financial decisions from a psychological and behavioural perspective, but leave some traits unexplained. The available literature presents all the possible profiles and methods of decision-making, but the real knowledge that an investor has before making any decision has not yet been investigated. Authors from Markowitz (1952) to Hommes and Wagener (2008) or Kaufmann et al., (2013) have explored the behaviour of investors from the existing psychological and financial perspectives, tackling the importance of the investors' knowledge of the risks and the consequences inherent to mutual or hedge funds. However, there is not much literature ambitious enough to inquire into the intricate decisions made by investors and the knowledge behind those decisions, in terms of the theories outlined in the literature overview. However, there is some relevant literature on the psychological processes undergone by individuals when making decisions under stressful conditions, and how they try to make sense of their choices given the circumstances which they encounter (Weick, 1995). The concept of 'Sensemaking', introduced by Karl Weick, attempts to explain how individuals make sense of changes happening in their environment (Weick, 1988), and this notion can be used in the interpretation of the findings of this investigation. Provided that the aim is to learn how a sample of investors reach final investment decisions, it will be very relevant to use the essence of Weick's 'Sensemaking' when understanding the criteria employed to make such decisions. From a practical perspective, making financial decisions involves changes, and these have to be expected by the investor and derived from their deliberate choice. Nevertheless, it is relevant to highlight the overwhelming bombardment of complex information that investors receive during their research processes before engaging in decision making. Herrmann (2007) concentrated his investigations in

establishing a link between Karl Weick's 'Sensemaking' theories and the behaviours of investors in the stock market, with the intention of explaining how individual and collective investors attempt to understand the massive amounts of data they receive. Nevertheless, his research only covered the psychological processes experienced by investors when interpreting the available financial data to make sense of their decisions; the existing literature falls short to examine the specific Portfolio Management and financial decision-making theories considered by investors before placing orders or selecting securities. Hence, this piece of research will attempt to complete the available literature by providing primary data about the different benchmarks and behavioural patterns found in a sample of 10 Spanish investors when facing investment decisions, with special interest in disclosing the specific theories they know and the extent to which they rely on literature and academic research to make such decisions. The following research question will be addressed in order to explore the main drivers of the sampled investors' investment decisions, drawing on the literature on 'Sensemaking' to extract relevant conclusions on the matter:

To what extent are Spanish investors financially literate: does their Portfolio Management notions contribute in the 'Sensemaking' of their investment decisions?

Therefore, the intention of the author is to make a contribution to the existing literature by providing a case study of Spain, to determine the extent to which the knowledge of Spanish investors on asset allocation strategies and portfolio management theories shapes their investment decisions.

This gap in the literature might have been caused by the existing limitations and regulations applied on professionals like investment fund and asset managers. These individuals are responsible of the portfolio performance of the fund, in the case of investment funds, or of the performance of a private individual portfolio, in the case of private banking. In order to prevent fraudulent activities and to disincentivise both investors and managers to perform illicit actions, a set of rules and requirements is designed and compliance by all the agents is demanded. These regulations are embedded in the corporate governance of institutions like banks and funds in order to avoid unethical behaviours. If a private portfolio manager is investing the wealth of a very high net worth family, or even, a corporate banker has received the order of a large multinational to make a multimillion asset purchase, these managers will possess privileged information which they are forbidden to use. If they were to make use of this information for their own benefit or the benefit of their company, they would be sanctioned and could even be sent to jail, nowadays. Another possible reason for the lack of literature exploring this matter is the excessive information available for investors when making decisions about their optimal asset allocation and portfolio construction (Herrmann, 2007). Plunging into the complex examination of the specific criteria driving investor decisions is challenging provided the investors' exposure to mass amounts of

data which is not always certain. Andrew Herrmann (2007) refers to this pool of information as 'equivocal financial messages' which might lead to irrational decisions due to the great uncertainty and, in most cases, the lack of understanding of investors – mainly retail investors (Friedman, 1953; Bondt and Thaler, 1994; Ritter, 2003). Drawing back on Ritter's (2003) 'framing' concept, the way in which information is received by individuals affects their perceptions and drive their decisions, at times, in mistaken directions.

Thus, this report will complete this existing gap in the literature by providing the results of a specific national case, using qualitative methods like questionnaires in order to collect the necessary data to draw conclusions on the research question. The main aim pursued will therefore be to make a contribution to the available literature on the concrete practical and theoretical criteria used by investors to make decisions and to provide insights on the ways in which these individuals strive to make sense of their decisions in the financial markets.

Methodology

A qualitative study of the rationale that drives investor decisions has been conducted in order to answer the research questions that arise from the thorough review of the literature: how do Spanish investors invest their wealth? What criteria do they follow, if any? Do they find support in the existing theories or mathematical calculations? What steps do they follow when deciding where to invest? Are Markowitz or Fama's theories familiar to them? Are Spanish investors comfortable with technical or fundamental analysis? What are the main concepts that cross their minds when deciding upon an investment? How do they perceive the existing financial information? To what extent do they rely on their abilities?

Since the data to be collected is fundamentally abstract and subjective, the nature of the research method chosen is entirely qualitative. A sample of 8 telephone interviews were conducted in Madrid, Spain, and the expected duration of the conversations was approximately of 15 to 20 minutes. The questions are 'open-ended' and have been designed this way to encourage the interviewee to deviate from the established questions when necessary to enhance the richness of the data collected (Doody and Noonan, 2013). Among the case studies analysed, as Table 3 shows, 50% were Spanish companies, among which the largest in size are Mutua Madrileña and Ahorro Corporación. Moreover, two American companies were included Thomson Reuters and Pacifica Capital, and lastly, the Swiss bank UBS. The sample also includes an individual independent investor whose main professional activity has been investing in the financial markets for a whole life time. This particular case study was chosen by the author in order to provide a different perspective of the financial investment decisions – the perception of the financial world of an individual who has learned the dynamics behind financial investments from experience alone is different from how individuals within a company perceive the

investments given that their daily working routine involves making investment decisions for their clients. Nevertheless, all the participants are active investors, despite deciding upon the investments of their clients' portfolios. Regarding the nature of the sample, it involves firms operating in the financial sector, but performing diverse activities ranging from insurance consulting to Private Equity activities – investing in declining companies in order to improve their capital structures. Provided the variety among the firms and individuals sampled, the investigation's reliability and consistency has been enhanced – giving a thorough analysis of real-life individual experiences enrichens the results obtained and provides strength to the arguments later expounded (Schultze and Avital, 2011).

Company name	Country of origin	Industry / sector	Number of employees (company size)	Participant name	Investing experience (years)	Date of interview
Thomson Reuters	US	Consulting and technological platform	More than 45000	J.R.C.	20	21/04/17
Ahorro Corporación	Spain	Financial investment services	More than 200	I.G.	10	24/04/17
Thesan Capital	Spain	Venture Capital & Private Equity	11-50	J.C.	1	24/04/17
Ibersuizas	Spain	Venture Capital & Private Equity	11-50	L.G.	25	25/04/17
Mutua Madrileña	Spain	Insurance	5000-10000	A.R.	3	27/05/17
UBS	Switzerland	Banking	More than 10000	I.P.	15	27/04/17
Pacifica Capital	US	Investment Management	2-10	J.L.	35	29/04/17
-	Spain	Independent investor	-	J.R.	45	01/05/17

Table 3. Overview of participants and companies sampled in QRI.

Sample

Regarding the organisational context of the research, the interviewees were active male and female employees and own-account investors, of ages spanning from 25 to 65 years old. As to the professional positions within their companies, the interviewed participants had high-responsibility positions, closely related with investment activities. Prior to conducting the interviews, research was carried out in order to gain knowledge about the firms involved in the sample, regarding their origin, sector and number of employees, as well as some basic data from the interviewees – this information was collected in Table 3. As seen in Table 3, the firms sampled have diverse sizes – having conducted the same interview to individuals from small and large companies adds diversity and richness to the study given that responses differ depending on the

size and organisational structure. Individuals working in smaller corporations provide a more internally-focused perspective, whereas workers from larger companies project a broader perspective since the global reach of bigger firms is generally greater. Having included individuals from a similar professional and socio-economic background has increased the consistency of responses since in certain aspects of the questionnaire employed in the interviews, interviewees shared the same opinions and these were reinforced (Schultze and Avital, 2011; Murray, 1998). The vast majority of the companies selected have an annual turnover of 30 Million Euros or above, and most of them operate globally and have a strong international presence.

Regarding the interviewees, both the authors' End of Master Project tutor and other contacts suggested the participants as optimal candidates for the research. The most important trait that the sample ought to have was that the individuals shared the common characteristic of being an individual investor – they invest for their own account or interest, irrespective of their jobs. Provided that the main objective of this investigation is to gain insight into the specific and most common criteria used by investors when investing their money, the individuals selected provided a wide range of responses, from the most detailed ones to the simplest. This might have been due to the time constraint of the interviewees since most of the calls were made during working days. Another reason for these divergent responses could have been that the questions posed during the interviews were relatively personal – they required specific responses related to the investor's own strategy. Logically, the interviewees controlled what information they wanted to disclose, so depending on the confidence and the personality of the interviewee, the responses obtained were either more general or more specific, but this did not influence the utility of the data collected. In fact, the richness of the analysis has been enhanced given that trends can be identified in line with the personality of the individual – drawing on Behavioural Finance, investors are always considered risk averse at first, and this risk appetite profile often translates into a more protective and inwardly-focused behaviour when discussing these individuals' investment strategies (Ritter, 2003; Muneer et al., 2012).

Regarding the questions included in the interviews, the questionnaire attached in the Appendix section contains a series of sample questions which were used by the interviewer in order to guide the conversation. The main objective was to stimulate the individuals to engage in an honest description and reflection about their strategies and preliminary research processes before making financial investment decisions. All the questions were applicable to all of the case studies, and there were no hypothetical scenarios involved – every situation described in the interviews was a real-life scenario, there was no need for the interviewer to simulate any situation in order to achieve a response.

Data collection

The appropriateness of interviews (qualitative research interviews - QRIs) in this investigation is given by the subjective and abstract nature of the complex behavioural data explored (Doody and Noonan, 2013). Particularly, semi-structured or 'in-depth' questionnaires were employed during the interviews with the intention of gaining insights directly from the interviewee's perspective – instead of being the interviewer the one in charge of guiding the interview, it was the interviewee who set the direction of the research during the QRIs (Murray, 1998; Schultze and Avital, 2011). The intention is to drive the reader's understanding of the investors' perceptions of their investment decisions further by taking individuals with different professional backgrounds as a sample. As the existing literature and academic papers read, often, investors develop strong cognitive biases (which have been described in previous sections) which shape their portfolio management style. Hence, by conducting the 8 telephone interviews, this report will eventually prove how theoretical notions and existing theories are often ignored by mature and experienced investors when making portfolio construction decisions, whereas the younger investors tend to rely more on the theory and academic knowledge acquired during their degree or further higher education to design their investment portfolio.

With regard to the content of the QRI used, it can be classified into four sections: awareness of Portfolio Management and Asset Allocation knowledge, enquiry into the perception and use of the information available when making investment decisions, enquiry into the preliminary research strategies and processes, and enquiry into the degree of reliance on theory and experience when making investment decisions (Table 4). The structure used was considered the most appropriate since, in QRIs it is indispensable to situate the interviewee in the context of the investigation, ensuring the full understanding of the objectives of the research. In order to achieve this, the questions in Section 1 are related to the awareness of the interviewees about the existing portfolio management theories and concepts: 'are you familiar with Portfolio Management theories?' 'What are the main requirements for a good portfolio manager?' Since all the participants had a significant financial knowledge and investing experience, the concepts were familiar to all of them so further explanations were not necessary. Moreover, following the structure of the questionnaire, Section 2 contains questions regarding the perception of the information readily available for decision-making, with questions directly addressed at the criteria used by investors to classify and select the data to decide upon their investments. Representative questions like 'How reliable is the data available?' 'Give a score from 1 to 5 in terms of utility and reliability' were made in order to gain knowledge about the perceptions of investors and how these perceptions impact and shape their behaviour and decisions. Furthermore, Section 3 questions address the research methodology preferences of the sample of investors – the objective was to enquire into the most used methods such as fundamental and technical analysis, and the

interest was also on the least preferred methods. Questions like 'what techniques do you use the least and why?' were addressed at the interviewees. Lastly, Section 4 was intended to elucidate the extent to which investors rely on theory and experience to make investments, as Table 4 describes.

Having collected the data, the interviews were transcribed and a coding system was developed to classify the data into the four sections coinciding with four different themes. In line with the main objectives of each section, the data was analysed in the following section of the report. This coding will enhance the understanding of the research by the reader.

Section 1 – Awareness of Portfolio Management & Asset Allocation knowledge		
Main objective	*Representative questions*	*Procedure when there was a lack of understanding*
Enquiry into the degree of awareness of Portfolio Management theories (Fama & French, Markowitz, Sharpe, etc.) as well as of asset allocation and portfolio construction aspects.	Which two characteristics would you say that a good Portfolio Manager should have? What concepts come to your mind when talking about Portfolio Management? How would you define asset allocation?	In case the interviewee was unsure about the exact reference or concept being discussed, the interviewer drew on the main concepts and aspects to provide a clear and concise definition in order to restore the individual's understanding and continue with the research.
Section 2 – Enquiry into the perception & use of the information available when making investment decisions		
Main objective	*Representative questions*	*Procedure when there was a lack of understanding*
Enquiry into the interviewees' perception of the excess of information existing and available to investors to decide upon securities and investment opportunities. The interest was in learning if the information from platforms like Morningstar or more sophisticated ones like Bloomberg or Thomson Reuters is considered as reliable and accurate or not.	In a scale from 1 to 5 being 5 very reliable, how do you perceive the available information? How do you find the process of filtering and selecting the right information?	The interviewer clarified the objective of the section 2 questions since some interviewees did not understand the rationale behind them – the intention was to know whether investors take time to filter and classify the information they receive, or if they consider it completely reliable, or even, if they solely rely on the information.
Section 3 – Enquiry into the preliminary research strategies & processes		
Main objective	*Representative questions*	*Procedure when there was a lack of understanding*
The questions under Section 3 were intended to address the most frequently used techniques and research	Which are the techniques or the research strategies that you use the least? Why?	Some interviewees used a mixture of strategies and research processes so they really did not have any technique that

strategies before deciding an investment. The interviewees were asked about their preferences and also about the usual step-by-step process prior to making the investment decisions.	What is the usual process you follow before making any decision? What aspects do you search for? (ratios, financials, graphs, etc.)	they did not use. In these cases, the interviewer mentioned Technical analysis, fundamental analysis, news watching, etc. as possible aspects to consider.
Section 4 – Enquiry into the degree of reliance on theory & experience when making investment decisions		
Main objective	*Representative questions*	*Procedure when there was a lack of understanding*
Investors tend to rely on both theoretical notions and practical (learnt) notions when investing. These questions attempted to shed light over the criteria on which investors base their decisions – whether they clearly used both in equal proportions, or in different weights. It also touched on the different cognitive biases. This Section is the most important for the research since it tried to discover if the theoretical notions of investors truly shape their investment decisions and the sensemaking out of them.	In what proportion (%) would you say that you rely on when making investment decisions? Would you consider yourself an overconfident investor? To what extent do you rely on your own past experience and on other investors' experience?	Often, interviewees were not aware of the different possible cognitive biases that investors can experience, according to Behavioural Finance. A brief description and definition of the most common biases was provided to enhance the individuals' understanding and to drive the interview forward.

Table 4. Structure of QRI and representative questions which served as support during the interviews.

Data analysis

Retrospectively, once having transcribed the interviews, the data collected was analysed. To achieve a thorough understanding of the methodology followed, the data was coded into different themes according to the answers raised by the participants. There is a clear trend among the eight interviewees in terms of the criteria and rationale behind their investment behaviour. Drawing on the most representative questions as Table 4 (above) and Figure 2 (Appendix) show, investors tend to struggle in their investment decisions at the beginning of their investor activity – before they have gained any experience, investors demonstrate a sense of insecurity and lack of confidence in their decisions and actions. As J.C. discussed, he considers that the successful positions have been purely due to luck and fate – in his case, the self-attribution bias was not applicable, since he attributed the losses to his actions but not the good positions held. Therefore, age plays a very important role in the field of Behavioural Finance, and particularly, it has a significant impact on individual investors' investing decisions – the younger the investor is, the

more the decisions rely on theoretical notions and academic knowledge; likewise, the more experienced the investor is, the more the decisions rely on past experience and practice.

Regarding the research question which this paper aims to respond, the degree of financial literacy among the sampled investors was significantly high. Despite having chosen individuals whose main professional activity was closely linked with the financial markets, their perspectives towards investing were different given the factors of age and experience. These two factors are present throughout the transcribed interviews (Appendix) because the responses given by the youngest individuals were usually typical of risk-loving profiles, given their short experience and ambition – younger investors have a propensity to invest in high risk securities since for them, higher returns outweigh the higher risk being faced. Oppositely, the more mature investors, have a historical record which has taught them the prudence with which everyone should approach the financial investment world. Their responses were driven by a prudent and slightly more conservative mindset, typically falling in within the boundaries of a conservative-moderate risk profile. In essence, the answers to the questions under Section 1, 3 and 4 were the most relevant to the investigation provided the technical nature of the aspects being researched through them. As Figure 2 shows, every single interviewee was able to provide a clear and comprehensible definition of both Portfolio Management and Asset Allocation, both of which constitute the basis of the investment activity. Some of the most relevant and accurate answers obtained were the following: '…risk to be a central element to control when managing a portfolio' (J.R.C., 2017), 'underlying asset comes to my mind…expectations… profitability and time' (I.G.,2017), or 'Prudence, return, independence, professionalism and emotional intelligence' (L.G., 2017). All the interviewees mentioned risk or volatility as a central element to control wen managing a portfolio, both a personal portfolio or that of a client. An aspect which was also recurrently mentioned was the need of being emotionally intelligent to handle a portfolio – emotions play a crucial role when making decisions of investment since depending on the sentiment and the confidence of the individual, the decisions will be biased and oriented towards a more moderate or aggressive profile. As L.G., I.G., J.R.C., J.R., I.P.F., and J.L. mentioned, being able to govern your emotions and your feelings is a very difficult task to accomplish but it is an essential characteristic that a good portfolio manager should have. J.R. and L.G. stressed the idea that when you are holding profitable positions within your portfolio, it is important to know your limits and to stay within those boundaries – it is very easy to get carried away by the adrenaline and the motivation of a good asset and double or triple the position, and this visceral decision may not be the most adequate given the unexpected moves of market prices. Nevertheless, the youngest interviewees, A.D.R. and J.C., provided a more adventurous perspective of their investing decisions. In numerous questions, they highlighted their lack of experience with a friendly and innocent tone. Consequently, their criteria when investing was fundamentally based upon the

basic notions of asset management and other related disciplines. These participants had not yet developed their own personal decision-making process when designing their portfolio, for instance. They were still immersed in the conception of portfolio management as a process in which first, the asset selection must be carried out – it involves picking the most adequate assets according to the investors' objectives and time horizon. The choice of asset is always preceded by a thorough preliminary research during which, the corporation or the issuer of the security is studied, as well as the asset characteristics and limitations. In addition, asset selection is theoretically followed by the optimal asset allocation – among the asset classes comprising the portfolio, the weights or proportions of each asset are allocated in order to maximise the expected return of the portfolio. A.D.R. and J.C. based on this theoretical 'routine' when performing their decision-making process and eventual investment strategies. This means that when attempting to make sense of their strategies, they are used to drawing on their theoretical notions given the lack of expertise in the field, so again, age is the strongest determinant of the 'sensemaking' criteria in investment decisions.

Having made sense of the data, the major findings will be explored, focusing on each of the most relevant questions of every section to extract the richest and most useful conclusions. The rationale behind the responses will be analysed at an individual level in the following Findings section, and a series of tables will be elaborated in order to clarify and organise the analysis.

Findings

Having analysed the data collected, several correlations and trends can be observed. However, prior to engaging in the meticulous understanding and dissection of the results obtained, it is of utmost important to discuss the importance of the location of the research on the data it revealed. Given that the Spanish financial environment has constituted the contextual framework of the investigation, the recent changes and requirements currently being phased-in by financial institutions as a result from the financial crisis must be expounded. Considering the relaxed lending behaviour of banks beginning in 2007, along with the overwhelming financial euphoria and the undervaluation of the credit quality of debt holders, the financial system of most European countries was struck by the crisis, and Spain was one of the most affected countries (Carvajal et al., 2009). This event triggered a tremendous lack of trust and confidence on the financial sector since, not only households, but also corporations and other financial entities became increasingly leveraged and were unable to repay their debts (European Central Bank, 2013; Praet, 2016; Stark, 2009). Today the Spanish banks, as well as many others, are immersed in a restructuring process through which the financial system is being reformed and strengthened by new regulations – Basel III requires, among other requirements, that Banks and other systemically-important institutions

hold enough high-quality capital (Core Equity Tier 1 and Additional Tier 1) to absorb unexpected losses (Basel III, 2017; European Commission, 2009; European Central Bank, 2013). Hence, resulting from the crisis, a more prudent and cautious sentiment has been installed in the member countries of the EU and this sentiment has had an even stronger impact on investors' behaviour (Stark, 2009; Praet, 2016). All of the participants in the interviews were Spanish and had undergone the financial crisis mentioned before – some had lived the beginning of the crisis when they were actively investing and experienced the devastating effects; others lived the crisis before they had initiated their investing activity. The crisis has been a determining factor in the investment decisions of many investors in the recent years: the approach towards investing has shifted from an aggressive and daring behaviour, to a moderate and prudent risk profile. This can be sensed in the market sentiment – now more than ever the news and unfounded rumours have the relentless power to switch the market participants' preferences radically, from one extreme to another. This translates into an increase in the volatility and fluctuations of the market prices which adds uncertainty to the financial system. Hence, probably, a hypothesis could be that the investors' knowledge and mastery of the financial products and the dynamics behind the financial markets has been enhanced by the shock lived in Spain some years ago. In fact, today, investors who were comfortably investing in high-risk securities like preferred shares or Real Estate promotors' stocks, are now carrying out a much more exhaustive research prior to making the decision of investing. The depth with which investors analyse assets before selecting and constructing their portfolios is much greater than that of previous years (I.G., 2017; J.R.C., 2017; L.G., 2017; J.R., 2017). These ideas and arguments have been clearly reflected in the interviews, especially when asking the questions from Section 2 and 3 – those related to the criteria and methodology employed by the participants prior to investing their wealth in one asset or another. Obviously, this growing prudence and shift in the mindset of investors is triggered, not only by the latency of the effects of the crisis, but also by factors mentioned before such as age, experience, and of course, personality – an individual's psychological traits shape the way they make sense of their decisions (Weick, 1988; Weick, 1995).

In line with this increase in the cautiousness and sophistication of investors in Spain, and considering the main object of this study, a correlation between the higher degree of prudence and the turn to the investor's own investing method (always founded upon the theoretical pillars to keep their investment strategies within the prudence boundaries). The following Table 5 contains an analysis by themes of the responses given by participants – discrimination by age, experience, prudence degree, and confidence.

Theme	Representative quotes	Underlying interpretation
Main aspects to consider for an optimal portfolio management	'…profitability, which in the end is the final goal, and of course volatility which leads to risk' (J.R.C., 2017). '…expectations… profitability and time' (I.G., 2017). 'Risk profile, return and volatility' (J.C., 2017). 'Good luck, professionalism, and training' (J.L., 2017).	Irrespective of the age and experience of the participant, the responses were similar – at some point during the interviews, every interviewee mentioned the concepts of risk profile, time or investment horizon, and volatility or risk. Hence, the sampled investors fall into the category of financially-literate individuals regarding portfolio management.
The main factors affecting an investor's asset allocation	'…once I have a clear idea of my time frame, I move on to analyse the market situation, what is usually called market timing or momentum' (J.R.C., 2017). 'The economic cycle is key when deciding upon which assets to invest in…' (J.C., 2017). 'Your risk profile and your investment horizon…also the historical record of investments…and the ability to extract what is important from the news and fundamentals' (A.D.R., 2017).	All of the interviewees were familiar with the concept of asset allocation and they recognised it as an essential part of a good portfolio management. When performing one's own asset allocation, many participants had interiorised this process so deeply that they had to pause and think in order to provide the interviewer with the main factors which determine their asset allocation. This implies that the sample of investors was chosen correctly since they were very used to designing portfolios, not only theirs but also for their clients, and they mastered the jargon used.
Overall perception of the information available for decision-making (1-5 scale where 5 is most useful and reliable)	'I consider that there is an excess of information (…) there always needs to be independent research and analysis by oneself…' (I.G., 2017). '…the information available reflects the underlying market sentiment which in mi opinion gives a lot of information…' (L.G., 2017). 'The day to day experience teaches you how to filter and discriminate the information available' (I.P.F., 2017). 'I would say that it is quite useful but it is difficult to find the right one… in a scale from 1 to 5 being 5 very useful, I would give it a 2 over 5' (J.C., 2017).	In the perception of the available financial information (ranging from financial statements of companies to platforms such as Morningstar and forums), different perceptions were found. These differences were attributed to the age discriminant – the youngest and unexperienced perceived the information as less reliable and useful perhaps given the lack of expertise in selecting and filtering the data. Unlike the younger participants, the more experienced considered the information as very useful and trustful, giving a score of 4 out of 5 on average. Provided their experience and the time they have been investing in choosing the right data and discriminating among the excess of information, they have identified the most feasible and reliable sources and therefore, their perception of the information is more positive.
Preponderance of experience over theory and vice versa	'Sometimes, theory converges with the past experience or the practical knowledge of an investor' (J.R.C., 2017). 'I would say that I used to rely more on theory in the past… now 40% theory and 60% practice or experience' (I.G., 2017). '… you cannot separate them… they are intrinsic to each other…' (L.G., 2017). '…I would say 65% theory and 35% experience…' (A.D.R., 2017). 'I rely more on my experience of course…practically 90% I would say practice and 10% theory' (J.R., 2017).	This section is perhaps the most relevant to the research given that it has been designed to address the extent to which theoretical knowledge shapes the investors' decisions. The influence of age and experience are key – participants like J.C. and A.D.R., showed a higher reliance on theory than practice. Of course, since their experience was short, they resorted to their academic notions acquired in order to build their decisions. Logically, depending on their risk profile, the degree of reliance on theory would change overtime as the investor gained experience. As to the most experienced participants, the vast majority agreed that more than 50% of their decisions were based on previous experience.

Sensemaking process prior to investing (criteria and step-by-step method)	'…first, I always look for news in different sources…then I try to forecast micro and macro variables (…) and lastly, I do follow-up and reporting' (I.G., 2017). 'I always start by choosing the asset type – asset selection… Then I look for undervalued companies in the market (…) always adapt to my time horizon…' (J.R.C., 2017). 'First, I look for news, then I do research to find brokers, and finally I move on to analysing the fundamentals…' (J.C., 2017).	Each investor elaborates their own personal criteria and process prior to making the investment decisions over time. However, at the beginning, investors experience a lack of confidence which is usually translated in the turn to theory and 'what others have done' (Shefrin and Statman, 2000; Fromlet, 2001). The most confident and experienced investors tend to ignore other investors' moves, and try to find their own path towards their decisions, gaining more independence.
Bias experienced by investor	'I would say anchoring bias – I do a lot of technical analysis, and availability heuristic. If a value moves sharply up and down, this has a strong impact on your perception and mood!' (J.R.C., 2017). 'I wouldn't say that my behaviour as an investor is biased… I try not to be influenced just by the first thing I read…' (L.G., 2017). 'I reckon that I have the anchoring bias… and as I was saying before, aversion to making losses…' (I.P.F., 2017). 'I think that the times in which I have been successful in my investments it has been due to luck and fate…' (J.C., 2017).	As most papers on Behavioural Finance have shown in the Literature Review section, investors are unique human beings whose behaviours are shaped by several factors. Investors who trust their decisions and actions, and who have confidence on their performance tend to consider themselves 'unbiased'. In fact, no participant in the financial markets can be completely unbiased – news affect investors' decisions, as well as other investors' opinions and moves. Logically this degree of bias can vary depending on the expertise – the younger and unexperienced investors are more influenced than the experienced individuals. There are also opposite biases in the sampled investors – J.C. considers the successful positions as a matter of luck, as opposed to the self-attribution bias experienced by some investors. Of course, the bias is determined by the risk profile. The more risk averse the investor is, the greater the influence of external factors will be and vice versa (Miller and Ross, 1975; Schleifer, 2000).

Table 5. Representative quotes and the link with the research question.

Conclusions

Having conducted the Qualitative Research Interviews as the main data collection method for this investigation, the data extracted has given rise to several conclusions providing different insights to those existing in the available literature. Despite the fact that all of the participants had different professional backgrounds and experiences, they all showed a solid understanding of what investments entail. Most of the investors sampled work on a daily basis with financial products and investment strategies, and they are also investors at a private level – for their own account. The case of J.R., however, is different since this interviewee has not been trained or taught in any corporation – the financial knowledge has been acquired entirely through the lifetime experience. For this, the research provides enough data to conclude that the sampled investors have interiorised the fundamental concepts of the disciplines of Portfolio Management and Behavioural Finance and these contribute in their decision-making when investing. Nevertheless, despite the financial mastery of these individuals, the tendency to deviate from these theoretical pillars exacerbates over time since investors develop their own mid-set and their personal strategies. When building these strategies, the degree of reliance on both theory and practice varies significantly depending on the maturity of the investor (age and experience factors). As reflected on Tables 4 and 5, J.C. and A.D.R. were the youngest investors who, therefore, attributed a higher weight to the theory than to practice when reflecting over their decision-making processes. The reason for this can be found in the need of feeling secure and being accepted by other investors – by relying on theory and the basic portfolio theories, newcomers to the financial markets ensure a certain level of confidence when deciding since theory is usually perceived as legitimate and accurate, hence reliable.

Regarding the existing work on empirical studies of Behavioural Finance, there is still little research focused on the enquiry into the degree in which theory and practice shape investors' decisions. There is a vast amount of research into the evolution from Neoclassical Finance to the recent Behavioural Finance, discussed by authors like Bondt and Thaler (1994), Fama (1997), Ross (2002), Kent et al. (2005) and Shiller (2006). The formal characteristics of Portfolio Management theories and their limitations have been exhausted in literature, in the same way that behavioural surveys have been conducted in order to provide insights into the decisions of investing in specific assets. The enquiry into the investors' mastery of financial content along with the research into the specific criteria employed by them has not yet been tackled. Others have explored further, but narrowing their investigation around a single type of investor, or a specific security or market (i.e.: fixed income versus stock market or Real Estate). Academics have focused primarily on specific cases, falling short to explain the rationale behind the decisions. Moreover, a particular contribution of the investigation lies in the use of Karl Weick's

'sensemaking' concept to interpret and make sense of the results obtained. Adding a psychodynamic approach to the interpretation of the research provides a different perspective to the readers. In line with this, the findings resulting from the case studies considered reveal that experienced investors often feel more proactive and comfortable when they elaborate their own strategies, instead of replicating others'. Contrastingly, newcomers feel safer by relying on what they learnt (theoretical knowledge) and also on other investors' successful decisions. Therefore, if Karl Weick's study on 'sensemaking' is applied on the present research, it could be established that investors reach their investment decisions by making sense of a prior research based partly on theory and practice. This preliminary process is focused on achieving the optimal strategy according to the individual financial needs, objectives and horizon. Interestingly, these criteria used before investing has been varying over time – the participants with the greatest expertise like J.L., L.G., or J.R., reiterated the impact that the crisis had on their behaviour as investors. The shift to prudence that most investors experienced can be aligned with the 'flight to quality' driven by the caution installed after the collapse in 2008. Investor preferences have changed and so have their portfolio construction 'rituals'.

This piece of research has, therefore, contributed to the existing literature not only by supporting the existing theories on portfolio construction and management, but also by implementing a psychodynamic perspective of the ways in which a sample of Spanish investors make sense of their investment decisions through Karl Weick's research.

Limitations of the investigation

Despite the relevance of the results obtained from the qualitative research conducted, several improvements could have been made to enhance the reliability and robustness of the findings given the potential of this investigation. Considering the case study approach employed, the main objectives pursued were to enquire into the degree of reliance on existing literature and strategies in investors' decisions, and to deduct possible reasons behind these decisions – i.e. what criteria do investors use to decide upon one asset or another? Why do they prefer one criteria or another? How do they evaluate the trade-offs of the possible investment opportunities? How do they perceive and make sense of the available financial data? When addressing these issues, the author had a limited period of time to dedicate to the research; had there been a longer time frame available, the results would have been much more reliable and the extrapolation of the conclusions would have been more consistent (Weiss, 1994). Moreover, and in line with the time limitation, if the interviews could have been prolonged, the rigour and the thoroughness of the research would have been enhanced, and therefore, the results obtained would have conferred a higher degree of respectability and reliability. In addition, the interviews were carried out via telephone given that this was the most convenient method for the interviewees – to avoid disturbing the

professional routines of the interviewees, the interviewer avoided face-to-face interviews. Nevertheless, the data collected would have been richer if both verbal and non-verbal information had been observed and analysed (Weiss, 1994). Also in line with the nature of the interviews, given the anonymization of the interviewees, the data discussed during the telephone conversations had to be collected by note-taking. Had the respondents accepted to be recorded or had the interviews been face-to-face, the data obtained would have been not only richer in terms of information and details, but also in terms of the sensory data that would have been captured (Eisenhardt, 1989). However, the decision of keeping the participants anonymous stemmed from the limitation that the research would experience if the interviewees realised that they were going to be recorded – their responses would have been conditioned and they would not have been comfortable to express their perspectives. Whenever individuals feel constrained they become confused and inhibited, unable to conduct full sensemaking of the situation being posed (Weick, 1988; Weick, 1995).

Despite the most significant limitations of the research and the theories used, the consistency and rigour of the results obtained must be acknowledged. The interviewees were asked for their opinion about the interview once the conversation was ended and they all provided very positive feedback. Also, considering that the interviewer had completed a Masters in Finance, this provided the interviews with additional richness since the discussions were fluent and the financial context was shared by both interviewer and interviewee. The friendly and relaxed tone of the interviews encouraged the participants to further develop the questions posed and the responses were enriched. However, taking into account the downside of the time constraint that limited the dedication to the research, the conclusions extracted can effectively provide a surplus of information and therefore enrich the existing studies related with this investigation.

Appendix

Questionnaire

Date of interviews: specified on Table 3 (in the Sample section)

This questionnaire contains the possible questions and guidelines that the interviewer used to support the interviews.

In order to make the interviewing as convenient as possible for the interviewees, some questions were shortened as the flexible structure of the questionnaire allowed for these adjustments.

Before engaging in the interview: introduce yourself, thank the interviewee for their time, and provide a clear and brief description of the objectives and duration of the call. Ask them if they have any questions before starting the questionnaire.

Section 1. Enquiry into the awareness of the existing Portfolio Management and Asset Allocation notions.

Are you an active investor? Do you invest on your own account or through a fund/ bank?	In case the interviewee is unfamiliar with any concept, provide a brief definition and explanation to set the context, and continue with the questions. Make sure that the interviewees know that the responses will be anonymous (no names of individuals or firms will appear in the report) in order to instil trust and make the interviewees feel comfortable.
For how long have you been engaged in financial investments?	
Are you familiar with the discipline of Portfolio Management?	
What concepts cross your mind when thinking of Portfolio Management?	
Would you be able to describe the main role and responsibilities of a portfolio manager?	
Are you familiar with the concept of Asset Allocation?	
What would you say are the factors which determine the asset allocation of a portfolio?	
Would you be able to describe the difference between strategic and tactical asset allocation?	

Section 2. Enquiry into the perceptions of the financial information and messages received when making investment decisions.

- How do you search for information prior to making investment decisions?
- How do you perceive the quality of the information available?
- Do you feel overwhelmed by the amounts of data?
- Are you comfortable with the reception of the data?
- Do you find it easy to organise and select the data you need? ('sensemaking' of information)
- Do you perceive this information as reliable? Why?
- To what extent do you rely on this data?
- What consequences does having access to such amounts of data have in your decision making?

Section 3. Enquiry into the criteria used when making decisions in financial markets.

Before making any order or decision, what criteria do you use to reach your decisions?	Guide interviewee by mentioning technical analysis, fundamental analysis, market timing, news-watching, etc.
Why do you use that criteria as opposed to X?	Mention other criteria or practice which the interviewee has not mentioned.
Do you receive any help when deciding upon an investment?	Guide interviewee by providing examples: do you discuss your ideas with other investors before placing your orders? Do you receive some advice or replicate the investment decisions of successful investors you know?

Section 4. Enquiry into the way in which interviewee perceives their investment decision making process.

Would you say that your financial knowledge enhances your investment results?	Since the interviewees are experienced investors, specify what does 'knowledge' imply: to what extent do you rely on your knowledge when making decisions as opposed to conducting preliminary research?
Would you consider yourself 'overconfident' in your decisions?	Mention other criteria or practice which the interviewee has not mentioned.
Do you perceive that your behaviour as an investor is biased in some way?	Make use of the 'psychological biases' literature to guide the interviewee: status quo bias, rule of thumb, cognitive bias, etc.

When closing the telephone interview, thank the interviewee for their help and time, and make a reminder of the anonymity of the content extracted from the interview. Ask interviewee if they have enjoyed the questionnaire, or if they found the conversation too long or too short, etc.

Interview Transcription

Interviewee: J.R.C.
Gender: male
Date of interview: 21/04/17

Section 1	
Active investor	Yes
Invests for own account & via fund or bank	Yes
Has been investing for	20 years
Familiar with Portfolio Management theories (Markowitz, Fama, etc.)	Yes
Concepts arising from thinking of Portfolio Management	'I consider risk to be a central element to control when managing a portfolio, but we must not forget about profitability, which in the end is the final goal, and of course volatility which leads to risk'.
Familiar with Asset Allocation concept and strategies	Yes
Factors which determine your optimal Asset Allocation when building your own portfolio	'Well, the first thing I consider is the time horizon of my investment – do I need the money now or in some years… once I have a clear idea of my time frame, I move on to analyse the market situation, what is usually called market timing or momentum. Finally, I select the assets in which I want to invest and study them, and design the best allocations – attributing the weights according to their risk and returns'.
Difference between strategic and tactical Asset Allocation	'I would say that the strategic allocation involves the adjustment to the risk profile – when talking about your own portfolio or a clients' portfolio –, and the focus is on the long term. The tactical allocation involves the adaptation to the current market situation – in order to take advantage of a market opportunity'.
Section 2	
How do you perceive the information available in the market? i.e.: the data available in websites like Morningstar, Bloomberg, Thomson Reuters, etc.	'I consider that there is more than enough information available, of course, but it is difficult to filter and summarise. The approach to the available information must be thorough and with a handful of patience since the data analysis is very time consuming'.
How do you do your research prior to making investment decisions? Do you find it simple or complex?	'I find it difficult now, as it has always been.'
Would you consider the information reliable overall? Useful?	'Well, you need to have a lot of experience in order to be able to filter the right information and use it wisely. Sometimes it is very difficult to select the information since there are many discrepancies… as time goes by you end up focusing and relying less on the information available, and more on your past experience and feelings'.
What would be the main consequences of having such amount of information available when it comes to making investment decisions?	'Well, as the saying says, I think that maybe given the excess of information, sometimes you are unable to see the trees and the forest… being able to summarise the current situation and discriminate, and not being carried away by discrepancies is key…'

Section 3	
What criteria do you usually follow before investing?	'I always start by choosing the asset type – asset selection. Do I want fixed income or stocks, etc. Then I look for undervalued companies in the market, and basically, I try to find bargains…and of course I always adapt my portfolio construction to my time horizon which becomes more longer term over time…'
Which are the techniques that you use the least and why?	'Generally, I focus 85% on my strategic allocation, and I investigate about it to see whether I need to make tactical changes or not, and the remaining 15% I dedicate it to the bargain search'.
Do you receive any help or advice during this research and investment decision process?	'No, I do it on my own'.
Section 4	
Would you say that your financial knowledge (theoretical, academic, etc.) improve your investment results?	'I would say it is a mixture of both, practice and theory. Sometimes, theory converges with the past experience or the practical knowledge of an investor'.
To what extent do you rely on what you already know from experience and to what extent do you prefer focusing on others' experience? i.e.: there is a high chance that a strategy which was successful for an investor, will be successful for me...	'I tend to rely on what others have done, yes, even more than relying on what I thinks, at times.'
Do you consider yourself an overconfident investor?	'No. In the past, when I was younger maybe I assumed a greater level of risk, but now, after gaining experience, I have become more prudent and cautious.'
*Do you consider that your behaviour as an investor is biased in some way? i.e.: anchoring bias, availability heuristic, cognitive bias, etc.**	'I would say anchoring bias – I do a lot of technical analysis, and availability heuristic. If a value moves sharply up and down, this has a strong impact on your perception and mood! It can determine your next decision or move…there is also the illusion of gaining control and the motivation felt when being under control can also drive your decisions…oh, and the hand side bias is also important – basically, you can end up making decisions very quickly just by synthesising the information too fast.'

*******The interviewer provided a brief explanation of each bias in order to clarify the concept in case the interviewee was unfamiliar with it, and to ensure full understanding.*

Interviewee: I.G.
Gender: female
Date of interview: 24/04/17

Section 1	
Active investor	Yes
Invests for own account	Yes
Has been investing for	10 years
Familiar with Portfolio Management theories (Markowitz, Fama, etc.)	Yes
Concepts arising from thinking of Portfolio Management	'Let's see…underlying asset comes to my mind…expectations… profitability and time. Those I

	would say are the main ideas that arise when I think of managing a portfolio'.
What would you say is the most important role of a good Portfolio Manager?	'It depends a lot on the person…but of course the more dedicated the manager is to the design of the asset allocation, the control of volatility and risk… a good portfolio manager should analyse the investment very carefully… the main characteristics that a successful portfolio manager should have I would say are a deep understanding of the underlying assets and a thorough capacity of following up the impact and evolution of the market on the portfolio.'
Familiar with Asset Allocation concept and strategies	Yes
Factors which determine your optimal Asset Allocation when building your own portfolio	'My time horizon – am I focusing on 10 years from now? Do I need to keep a cash position? Then, of course, my risk profile, and finally the macroeconomic situation – inflation levels… Logically, I look for undervalued assets and opportunities'.
Difference between strategic and tactical Asset Allocation	'Obviously, tactical allocation refers to the short term, and is defined by unexpected market movements – taking advantage of new market opportunities and higher returns… and strategic asset allocation focuses on the long term and it is basically the initial positions of the assets within a portfolio – defining a clear and consistent strategic allocation determines the direction and nature of the portfolio'.
Section 2	
How do you perceive the information available in the market? i.e.: the data available in websites like Morningstar, Bloomberg, Thomson Reuters, etc.	'I consider that there is an excess of information. We cannot solely focus on the available information from ever source; there always needs to be independent research and analysis by oneself to complement. However, I would classify most sources as useful and reliable… For instance, in a scale from 1 to 5, being 5 very reliable, I would say 3/5, and 5/5 useful. Nevertheless, we must not forget that many sources are linked, and that the information they provide might be biased…therefore, investors must carry out independent analysis'.
What criteria or steps do you usually follow before investing? What do you look for?	'Well… first I always look for news in different sources…then I try to forecast micro and macro variables by checking sites like Morningstar…and lastly, I do follow-up and reporting'.
What would be the main consequences of having such amount of information available when it comes to making investment decisions?	'There is a need to filter all the information in order to find the one that will really be useful to make the investment decision. We are living a tough situation in the markets driven by overreactions, fluctuating market sentiments and binary behaviour, and this logically has consequences on the investors' behaviours.'

Section 3	
Which are the techniques that you use the least and why?	'What I most use if fundamental analysis. I don't usually carry out technical analysis because I don't usually have a short-term horizon in my portfolio…technical analysis is only useful for trading'.
Do you receive any help or advice during this research and investment decision process?	'Normally no, I don't receive any help'.
Section 4	
Would you say that your financial knowledge (theoretical, academic, etc.) improve your investment results?	'I would say that I used to rely more on theory in the past… now 40% theory and 60% practice or experience. However, it depends on the investment objective I have'.
To what extent do you rely on what you already know from experience and to what extent do you prefer focusing on others' experience? i.e.: there is a high chance that a strategy which was successful for an investor, will be successful for me…	'I have always believed that past returns do not justify future returns (laughed).'
Do you consider yourself an overconfident investor?	'We are all very influenceable, despite having consistent ideas and experience. Whenever you have a clear opinion and strategy and you read the opposite… imagine how you feel… of course it is a matter of balancing your opinion and feelings.'
*Do you consider that your behaviour as an investor is biased in some way? i.e.: anchoring bias, availability heuristic, cognitive bias, etc.**	'I wouldn't say that I am biased as an investor… perhaps in the past I was.'

Interviewee: J.C. Gender: male Date of interview: 24/04/17	
Section 1	
Active investor	Yes
Invests through fund or a bank	Yes
Has been investing for	1 year
Familiar with Portfolio Management theories (Markowitz, Fama, etc.)	Yes
Concepts arising from thinking of Portfolio Management	'…Risk profile, return and volatility'.
What would you say is the most important role of a good Portfolio Manager?	'To me, a good portfolio manager should have a very clear idea of the objectives of the investor – since we are talking about independent investors, the investor itself should know exactly what objectives they want to achieve…And, being able to avoid being carried away by emotions…which I find terribly difficult to achieve. Patience is also very necessary when managing a portfolio.'
Familiar with Asset Allocation concept and strategies	Yes

Factors which determine your optimal Asset Allocation when building your own portfolio	'The economic cycle is key when deciding upon which assets to invest in and in what proportions within the portfolio… Having a deep understanding of where in the cycle we are now is very useful to try to predict or at least expect certain movements in the market. Of course, the fundamentals of a company – whenever I want to invest in a company, I study its financials, ratios like the PER or others'.
Difference between strategic and tactical Asset Allocation	'From what I remember from my Masters, strategic asset allocation was related with the long term, whereas the tactical asset allocation is done in the short term to correct or adapt the weights of the different assets comprising the portfolio to the current market conditions.'
Section 2	
How do you perceive the information available in the market? i.e.: the data available in websites like Morningstar, Bloomberg, Thomson Reuters, etc.	'I would say that it is quite useful but it is difficult to find the right one… in a scale from 1 to 5 being 5 very useful, I would give it a 2 over 5'.
What criteria or steps do you usually follow before investing? What do you look for?	'First, I look for news, then I do research to find brokers, and finally I move on to analysing the fundamentals, and of course, contrast between the different options I am considering'.
Do you consider the information easy to classify and organise?	'I think that a lot of the information available is biased. I always try to find pieces of data without any opinion – the most objective as possible…It is not the same to read a report in which a financial institution talks about its own indebtedness, than reading the same information but written by other source, like analysts for instance. Depending on the source or issuer of the information, I try to see whether the data is reliable or not.'
What would be the main consequences of having such amount of information available when it comes to making investment decisions?	'Being able to access to such amount of information may be confusing. It makes the filtering process more complex since we are often being bombarded with biased and manipulated information.'
Section 3	
Which are the techniques that you use the least and why?	'Technical analysis is not for me…not only I do not have much experience doing technical analysis, but also I consider it a bit useless since it does not explain the market trends… from simple technical analysis you cannot predict or project the future…I do fundamental analysis always'.
Do you receive any help or advice during this research and investment decision process?	'I do it on my own'.
Section 4	
Would you say that your financial knowledge (theoretical, academic, etc.) improve your investment results?	'…70% experience or practical, and 30% theoretical'.
To what extent do you rely on what you already know from experience and to what	'…let's say 50% and 50%...I have very little experience and I am still learning.'

extent do you prefer focusing on others' experience? i.e.: there is a high chance that a strategy which was successful for an investor, will be successful for me…	
Do you consider yourself an overconfident investor?	'Not at all, in fact, I think that the times in which I have been successful in my investments it has been due to luck and fate (laughs).'
*Do you consider that your behaviour as an investor is biased in some way? i.e.: anchoring bias, availability heuristic, cognitive bias, etc.**	'I usually study with depth all the options I am considering because I try to avoid being biased or making a decision too quickly. I look for alternative sources and sometimes I also read other investors' opinions.'

Interviewee: L.G.
Gender: male
Date of interview: 25/04/17

Section 1	
Active investor	Yes
Invests for own account and also through banks and funds	Yes
Has been investing for	25 years
Familiar with Portfolio Management theories (Markowitz, Fama, etc.)	Yes
Concepts arising from thinking of Portfolio Management	'Prudence, return, independence, professionalism and emotional intelligence'.
What would you say is the most important role of a good Portfolio Manager?	'Again, prudence and common sense.'
Familiar with Asset Allocation concept and strategies	Yes
Factors which determine your optimal Asset Allocation when building your own portfolio	'I think that the risk profile, the time horizon and the financial objectives are essential. We must know how to invest, being an observer – checking out the blue chips, innovation and tech companies…'
Difference between strategic and tactical Asset Allocation	'From my experience, strategic allocation is the initial weightings you assign to the assets in your portfolio, usually with a long-term perspective, and tactical is done in the short term focusing on the current market situation… Of course, we always need to specify whether we want to speculate or we want a more conservative portfolio management.'
Section 2	
How do you perceive the information available in the market? i.e.: the data available in websites like Morningstar, Bloomberg, Thomson Reuters, etc.	'I perceive the information as very useful and reliable, so I would say 5 out of 5. The market type, the sector, the market sentiment… they all influence the final decision…the information available reflects the underlying market sentiment which in mi opinion gives a lot of information…'
Do you consider the information easy to filter or to organise?	'Here, I would give it a 4 out of 5, because it is true that classifying the information to find the part which is useful to an investor is a time-consuming activity…However, with the experience, you learn how

	to effectively filter the useful information from the biased mass of data.'
What criteria or steps do you usually follow before investing? What do you look for?	'I look at everything. Usually, I start with the company, and do a bottom-up approach'.
What would be the main consequences of having such amount of information available when it comes to making investment decisions?	'To me, the excess of information is positive. The market behaviour is driven by exogenous factors, and you, as an investor, react in a way or another. For example, last week's France elections – I was very prudent and careful, and had to restrict my investments until the elections were over.'
Section 3	
Which are the techniques that you use the least and why?	'I never use technical analysis, only fundamental because it is more useful for the type of investments that I do'.
What are your areas of focus before investing? What do you analyse and look for?	'I focus on the type of business and the forecasts – projected future cash flows and also the dividend pay-out'.
Do you receive any help or advice during this research and investment decision process?	'No, I don't receive any help'.
Section 4	
Would you say that your financial knowledge (theoretical, academic, etc.) improves your investment results?	'… you cannot separate them… they are intrinsic to each other…both determine your reactions and decisions'.
To what extent do you rely on what you already know from experience and to what extent do you prefer focusing on others' experience? i.e.: there is a high chance that a strategy which was successful for an investor, will be successful for me...	'It all depends. And it depends on the moment as well. It often happens that you do not have a company under your radar and it appears on the news. You always have to analyse the market niches and look for opportunities.'
Do you consider yourself an overconfident investor?	'No, when I invest on my own account, the stomach stays away.'
*Do you consider that your behaviour as an investor is biased in some way? i.e.: anchoring bias, availability heuristic, cognitive bias, etc.**	'I wouldn't say that my behaviour as an investor is biased… I try not to be influenced just by the first thing I read, so I analyse further the news to gain as much knowledge as possible.'

Interviewee: A.D.R.
Gender: male
Date of interview: 27/04/17

Section 1	
Active investor	Yes
Invests for own account and also through banks and funds	Yes
Has been investing for	3 years
Familiar with Portfolio Management theories (Markowitz, Fama, etc.)	Yes
Concepts arising from thinking of Portfolio Management... What would you say is the most important role of a good Portfolio Manager?	'Fundamental analysis and diversification'.

Familiar with Asset Allocation concept and strategies	Yes
Factors which determine your optimal Asset Allocation when building your own portfolio	'Your risk profile and your investment horizon…also the historical record of investments…and the ability to extract what is important from the news and fundamentals.'
Difference between strategic and tactical Asset Allocation	'Well, strategic asset allocation involves searching for synergies…focused on the long term…it implies designing the initial strategy of the investment…tactical allocation depends on the current market situation – more short-term focused. For example, if some assets are yielding losses, your diversification can compensate these losses, or even you can sell a part of these worst performing assets and balance with more weight on the best performing assets in the portfolio.'
Section 2	
How do you perceive the information available in the market? i.e.: the data available in websites like Morningstar, Bloomberg, Thomson Reuters, etc.	'4 over 5 in terms of utility and reliability.'
Do you consider the information easy to filter or to organise?	'I guess this depends on your preferences… investors often have certain sources which they consider more reliable and accurate. Once you have identified these sources, you just have to monitor them.'
What criteria or steps do you usually follow before investing? What do you look for?	'First, I design my asset allocation, then I read the news, I choose the companies with the fundamentals that I most like and then I begin making decisions'.
What would be the main consequences of having such amount of information available when it comes to making investment decisions?	'Having an excess of information is better than only having two sources… however, the information can be contradictory.'
Section 3	
Which are the techniques that you use the least and why?	'I never use technical analysis, always fundamental.'
What are your areas of focus before investing? What do you analyse and look for?	'I mainly focus on ratios like the PER and often I construct Excel spreadsheets to make some projections of cash flows in the future to see whether the company seems interesting in the long term, etc.'
Section 4	
Would you say that your financial knowledge (theoretical, academic, etc.) improves your investment results?	'…I would say 65% theory and 35% experience, due to my lack of experience (laughs)'.
To what extent do you rely on what you already know from experience and to what extent do you prefer focusing on others' experience? i.e.: there is a high chance that a strategy which was successful for an investor, will be successful for me...	'I often focus more on what others have done with success – 60% other investors' experience –, and I would say that around 40% is what I already know from my little experience.'
Do you consider yourself an overconfident investor?	'No, the opposite. I always try to ensure that what I am reading is truthful and I avoid biases. I never rely on

	the first piece of information I read, I continue reading before making the decision.'
*Do you consider that your behaviour as an investor is biased in some way? i.e.: anchoring bias, availability heuristic, cognitive bias, etc.**	'As I was saying, I try to read as much as I can about a company under my radar… I think it is important to have a certain financial knowledge when investing because you gain perspective easily and you learn to rely on your own ideas, although you can also find different opinions elsewhere. Therefore, I wouldn't say that I am biased.'

Interviewee: I.P.F. Gender: male Date of interview: 27/04/17	
Section 1	
Active investor	Yes
Invests for own account and also through banks and funds	Yes
Has been investing for	15 years
Familiar with Portfolio Management theories (Markowitz, Fama, etc.)	Yes
Concepts arising from thinking of Portfolio Management… What would you say is the most important role of a good Portfolio Manager?	'Return expectations, and price calculations – undervalued assets… A good portfolio manager should be able to gain distance from the market and feelings and understand their own objectives'.
Familiar with Asset Allocation concept and strategies	Yes
Factors which determine your optimal Asset Allocation when building your own portfolio	'Risk profile…time…objectives…confidence.'
Difference between strategic and tactical Asset Allocation	'Strategic refers to long term weightings of the assets and tactical allocation involves changing the initial allocation to improve the returns.'
Section 2	
How do you perceive the information available in the market? i.e.: the data available in websites like Morningstar, Bloomberg, Thomson Reuters, etc.	'In terms of utility and reliability…3 over 5.'
Do you consider the information easy to filter or to organise?	'The day to day experience teaches you how to filter and discriminate the information available… with time you identify the biased and useless data and keep the rigorous one'
What criteria or steps do you usually follow before investing? What do you look for?	'I usually begin by learning about the current market sentiment, with special focus in the securities I like. Then I analyse the available prices and I keep an eye on volatilty'.
What would be the main consequences of having such amount of information available when it comes to making investment decisions?	'…I think that the main consequence is that investors can be biased and complacent with little research…reading the firsts news that you see and being influenced by it happens often.'
Section 3	
Which are the techniques that you use the least and why?	'I use very little fundamental analysis…I like to check the historical prices and record of the asset or company…price depends on many different factors…'

What are your areas of focus before investing? What do you analyse and look for?	'I look for the PER and compare it with that of the sector. Also, the returns and net income, and RSI.'
Section 4	
Would you say that your financial knowledge (theoretical, academic, etc.) improves your investment results?	'…I would say 20% theory and 80% experience.'
To what extent do you rely on what you already know from experience and to what extent do you prefer focusing on others' experience? i.e.: there is a high chance that a strategy which was successful for an investor, will be successful for me...	'50-50%. I rely on my past experience and knowledge but also on what others have done. I think it is intelligent to see whether your strategy has already been used successfully or not.'
Do you consider yourself an overconfident investor?	'No. I am very focused on avoiding losses…when I see that I am losing I am very influenced.'
*Do you consider that your behaviour as an investor is biased in some way? i.e.: anchoring bias, availability heuristic, cognitive bias, etc.**	'Bias… I reckon that I have the anchoring bias… and as I was saying before, aversion to making losses. We could say that when things go wrong, my emotions take action.'

Interviewee: J.L. Gender: male Date of interview: 29/04/17	
Section 1	
Active investor	Yes
Invests for own account	Yes
Has been investing for	35 years
Familiar with Portfolio Management theories (Markowitz, Fama, etc.)	Yes
Concepts arising from thinking of Portfolio Management... What would you say is the most important role of a good Portfolio Manager?	'…Good luck, professionalism, and training'.
Familiar with Asset Allocation concept and strategies	Yes
Factors which determine your optimal Asset Allocation when building your own portfolio	'Localisation and sector.'
Difference between strategic and tactical Asset Allocation	'Tactical asset allocation is circumstantial and strategic allocation involves the design of a safe initial strategy and weight allocation. This initial allocation can be changed or corrected according to the market environment.'
Section 2	
How do you perceive the information available in the market? i.e.: the data available in websites like Morningstar, Bloomberg, Thomson Reuters, etc.	'I would give it a 3 over 5 in terms of utility and a 4 out of 5 in terms of reliability. I have made more mistakes than succeeded in the investment arena…'
Do you consider the information easy to filter or to organise?	'The excessive information which we have access to turns the decision-making process into a more time-consuming one… and possibly more complex in the sense of having to filter the information and look carefully at the source or issuer to identify the

	reliability of the data. I think that the biases in the information given stem from the fluctuating market sentiment of the current situation… in good periods of expansion and prosperity, the market sentiment is usually more optimistic, whereas in the bad times it is more negative and pessimistic.'
What criteria or steps do you usually follow before investing? What do you look for?	'I always Google the company, the asset and the information that I want to find in order to build my decision. I study the company, its financials…investors must have a good feeling towards the company to invest in it…and this is always very personal – Renta4 was much more reliable to me in the 80s than nowadays'.
What would be the main consequences of having such amount of information available when it comes to making investment decisions?	'Discrepancies between sources, the interdependence of firms in the market… if Banco Santander goes up, others go up, but you have to see whether this has been an effect of an action of the bank, or just some fake news to boost sales…'
Section 3	
Which are the techniques that you use the least and why?	'…Technical analysis is the strategy that I use the least…I do a lot of fundamental analysis…'
What are your areas of focus before investing? What do you analyse and look for?	'Technical data, financials…I search for ratios EBITDA, PER, but I like doing them myself – with pen and paper, to see if the ones available are accurate…also the debt to equity ratio and the leverage ratios to see the level of indebtedness of a company…the rating…'
Section 4	
Would you say that your financial knowledge (theoretical, academic, etc.) improves your investment results?	'I think that theory and practice are of courses correlated, but if you tell me to weight the proportion of theory and practice that I use in my decisions… 10% would be theory and 90% experience.'
To what extent do you rely on what you already know from experience and to what extent do you prefer focusing on others' experience? i.e.: there is a high chance that a strategy which was successful for an investor, will be successful for me...	'I don't need to see others' decisions, I make my decisions on my own…I tend to focus on my record and what I have done in the past, but not on what others have done…Obviously, I don't make decisions in 10 minutes.'
Do you consider yourself an overconfident investor?	'No. I have a stop loss and a limit for everything, if I invest 10 I only invest 10, I never increase it.'
*Do you consider that your behaviour as an investor is biased in some way? i.e.: anchoring bias, availability heuristic, cognitive bias, etc.**	'I am a human being…if a security calls my attention, I monitor it and follow it to gain more insights into its performance…I prefer private investments than investing in listed companies…the larger the company the more requirements you have to meet in order to invest in it…'

Interviewee: J.R.
Gender: male
Date of interview: 01/05/17

Section 1	
Active investor	Yes
Invests via bank	Yes
Has been investing for	45 years
Familiar with Portfolio Management theories (Markowitz, Fama, etc.)	Yes
Concepts arising from thinking of Portfolio Management... What would you say is the most important role of a good Portfolio Manager?	'Managing risks is fundamental when managing a portfolio…also knowing how to deal with bullish and bearish cycles…being able to hold your investment is key.'
Familiar with Asset Allocation concept and strategies	Yes
Factors which determine your optimal Asset Allocation when building your own portfolio	'The securities with the best graphs (technical analysis), the sector economic cycle…quality of the assets…of course the volatility and the risk appetite.'
Difference between strategic and tactical Asset Allocation	'From a strategic perspective, the initial allocation must be relatively secure and consistent with what I expect to happen… no sudden sharp drops should cause a disaster in my portfolio…then the tactical side refers to the adaptation to the market. When the tendency shifts and becomes more bearish, it is better to avoid investing, but in the case that you are, a tactical allocation can be made to modify the weightings of the riskiest securities. However, we should never panic sell everything – the ideal thing is to take advantage of the entire bullish cycle to generate returns, and avoid the exposure to all risks.'
Section 2	
How do you perceive the information available in the market? i.e.: the data available in websites like Morningstar, Bloomberg, Thomson Reuters, etc.	'4 over 5 I would say, in terms of utility and reliability…the financial statements published in the official websites of the companies are usually accurate, but I always contrast them with the fundamentals published in Morningstar for instance.'
Do you consider the information easy to filter or to organise?	'There is too much information and it is difficult to extract the most relevant pieces of information. However, when making my investment decisions, I rely 100% on the information I have retrieved once I have filtered it, of course.'
What criteria or steps do you usually follow before investing? What do you look for?	'To me, the most important part is the technical analysis – graphs, trends, cycles, historical record…I don't usually rely a lot on ratings because they can be very biased…fundamentally, graphs and screeners…the last thing maybe fundamentals'.
What would be the main consequences of having such amount of information available when it comes to making investment decisions?	'I tend to ignore the newspapers…to me rather than informing they misinform. Life teaches you…experience is everything… at the beginning when I started investing I relied much more on the news, but over time, I have learnt to discriminate among the excess of information. Fundamentals are

	very useful to project the future of a company, but graphs allow me to expect trends and movements'.
Section 3	
Which are the techniques that you use the least and why?	'News watching would be what I perform the least. It just contributes to the noise of the market which impedes the extraction of your own ideas.'
What are your areas of focus before investing? What do you analyse and look for?	'RSI, graphs, and ratios…there is no perfect recipe for portfolio management and investments. I cannot predict the future and I will continue making mistakes…but the wise thing to do is to hold the good positions and if you have made a mistake, keep those mistaken positions the fewest time as possible – sell them. If you have a good position, increase its weight tactically, and otherwise, reduce it or sell it…always doing this with a stop loss in my case of 1%. I say, I don't want to lose more than 1% in my investments, so I cover myself against losing.'
Section 4	
Would you say that your financial knowledge (theoretical, academic, etc.) improves your investment results?	'I rely more on my experience of course…practically 90% I would say practice and 10% theory. The essential part is to keep calm, and avoid the urge for quick returns…being patient is very important.'
To what extent do you rely on what you already know from experience and to what extent do you prefer focusing on others' experience? i.e.: there is a high chance that a strategy which was successful for an investor, will be successful for me...	'I rely on my experience…and usually try not to be influenced by others. Experience is the key, every investor has made mistakes and it is important to keep your feet on the ground, and avoid getting carried away by overconfidence or insecurity.'
Do you consider yourself an overconfident investor?	'It has happened to all of us – I get excited and I assume more risk than I should. We must never forget our values and bear in mind that we only earn money when we don't need the money…investors must only invest when they do not need the money in the short term.'
*Do you consider that your behaviour as an investor is biased in some way? i.e.: anchoring bias, availability heuristic, cognitive bias, etc.**	'Looking back, when I was younger, I consider that I was more overconfident than now… Any investor sees a very high PE ratio and feels unattracted to the asset at a first glance. We all follow each other in our strategies but there is nothing certain. The focus must always be placed on what works, avoiding the constant changing of strategy.'

Figure 2. Overview of the most relevant questions and the responses, classified by sections.

Most relevant questions per section	*Most common responses among the 8 participants*
Section 1	
Concepts arising from thinking of 'portfolio management'	Risk profile, return, volatility, time, emotional intelligence, price, objectives
Important characteristics for a good portfolio manager	Emotional intelligence, understanding of objectives, patience, determination, consistency, prudence
Determining factors of Asset Allocation (one's own portfolio)	Risk appetite, time horizon, economic cycle, sector performance, graph, objectives
Difference between strategic and tactical Asset Allocation	Long term versus short term, strategic - depends on horizon and objectives; tactical - depends on current market situation
Section 2	
How do you perceive the information available in the market? In terms of reliability and utility, give a score from 1 to 5 (5 - most reliable or useful)	Range from 3/5 to 5/5
Is the information easy to filter or classify?	Majority said it was complex but with experience, they have learnt to identify the useful information separating it from the useless and unreliable information.
What process do you normally follow before investing? Preliminary research process.	Wide range of responses - most had a clear step-by-step methodology, while others changed their process and adapt it to the different nature of investments (will be discussed further in the Findings section).
What do you consider are the main consequences of the existing excess of information to which practically everyone has access?	Overconfidence, time consuming activity - longer process, may lead to biases
Section 3	
What are the methods or techniques that you use the least before investing and why?	The vast majority of the interviewees (6/8) did not use technical analysis much. Fundamental analysis was considered to be key as well as gaining knowledge about the phase of the economic cycles.
What aspects do you look for? i.e.: ratios, financials, etc.	The PE ratio, and dividend pay out were mentioned by most interviewees. Also, the projected cash flows were calculated by some participants or else they looked for them, in the same way as the ratios.
Section 4	
Would you say that your financial knowledge (theoretical, academic, etc.) improves your investment results?	The vast majority of the participants responded that they relied less on theory and more on experience and empirical evidence - except for the youngest interviewees who had between 1 and 3 years of investing experience and still relied greatly on theory.
To what extent do you rely on what you already know from experience and to what extent do you prefer focusing on others' experience? i.e.: there is a high chance that a strategy which was successful for an investor, will be successful for me…	Similarly, the most mature and experienced investors relied on their own perspectives and experience from the past, whereas the youngest based their decisions on what others' had done or even consider their success to be a matter of luck. However, this question was hugely determined by each individual's personality.
Would you consider your behaviour to be overconfident or biased as an investor?	Most participants admitted to having been overconfident during the beginning of their investment activity, especially when they were younger, and over time, they claim that their investor behaviour has become much more prudent and risk averse. Applicable biases included the anchoring bias, and others which will be detailed later.

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