UNIVERSITY OF CAPE TOWN

THE VALUE OF FINANCIAL ADVICE:

An analysis of the investment performance of advised and non-advised individual investors

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Faculty of Commerce

1. Abstract

Financial advisors have long been considered a part of the financial market through the advice that they offer investors. Behavioural finance has demonstrated that individual investors do not always behave in a rational manner, unlike financial advisors who seem not be prone to the behavioural biases that individuals experience when investment decisions are made. Furthermore, financial advisors have greater access to information, financial analytical tools, as well as better education in financial markets compared to the average individual. Financial advisors are thus better equipped to assist individual investors and provide them with improved investment results.

This study investigated the value added by financial advisors in the investment performance of advised individual investors as opposed to non-advised individuals. The study wanted to establish whether financially advised individuals showed greater return on investments than non-advised individuals. A sample of individual investors from a large South African investment house were analysed across the investment categories of an advised investor and a non-advised investor for a period of 10 years from 1 January 2005 to 31 December 2014. The data was analysed to draw conclusions on returns, trading behaviour, the risk profile of investors and the reasons for differences identified.

The results indicated that there is no statistical difference between the returns generated between advised investors, non-advised investors and the fund invested over the period. There was a statistical difference between the number of trades entered into by advised and non-advised investors, with advised investors making statistically more trades than non-advised investors. There was no significant difference between the risk profiles of the investors based on qualitative data. The results indicate that there is no significant additional benefit of utilising a financial advisor, after the initial decision of which fund to invest in has been made.

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2. Declaration

I hereby declare that:

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Jahangir Allie

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3. Introduction

The development of the financial world has brought forth an array of complex financial instruments, vast volumes of investment data and advanced data analytic tools. The role of financial advisors within the investment community has therefore become more important over the past few years. They play a crucial role in managing the risk of the investor and identifying appropriate investment solutions specific to the individual. Financial advisors provide guidance to individual investors on the appropriate investment decision to be made.

This study aims to evaluate the effectiveness of the role that financial advisors play. Through an evaluation of the investment return data for advised and non-advised investors, the study will quantify the value created by financial advisors and analyse the trading behaviour of investors. This will determine the influence financial advisors have on value creation for the individual.

This study will analyse data over a 10 year period for advised and non-advised investors invested in a fund of a large South African investment house. The data evaluated has two key focuses; firstly an analysis of the return data generated for advised and non-advised investors, and secondly an analysis of the trading behaviour of advised and non-advised investors and whether the trading behaviour created the differences in return. Another focus of the study is to evaluate the risk profiles of the advised and non-advised investors.

An analysis of the relevant literature in Section 4 will be detailed to provide the context of the study. The literature review will explore the concepts of the individual investor and financial advice. The individual investor analysis is focussed on behavioural biases that the investor is subject to, specifically relating to overconfidence; self-attribution bias; overtrading; and the disposition effect. The literature will evaluate the causes and implications of these biases for the individual investor. The analysis also explores the advantages of financial advice, the different types of value created by financial advisors and provides a contrary view to the advantages of financial advice. There are other influences on the study such as the cost of financial information and financial literacy levels which will be detailed as well.

The research questions evaluated are in line with the focus of the study being return and trading behaviour analysis between advised and non-advised investors. The primary focus is to evaluate whether there are differences in the returns generated by advised and non-advised investors over the period. The differences in the returns are thereafter evaluated in terms of the trading behaviour, to determine whether there is a difference in the trading behaviour and also whether the difference in trading behaviour may have had an effect on the returns of the investors. The final question evaluated is the risk profiles of the advised and non-advised investors and whether there are any differences in the two risk profiles.

The results of the research questions are analysed in line with the expectations generated in the literature review. Inferences are made between the outcomes of the return data, trading behaviour and risk profiles of the investors to determine whether any significant factors contribute to the success of the financial advisor. Particular findings that warrant specific investigation are further evaluated, and appropriate conclusions derived.

Any shortcomings of this study are noted and recommendations for further studies are provided based on anomalies identified.

4. Literature review

The literature review will explore the role and impact financial advisors have on investment returns. The focal question of this study is whether financial advisors create additional investment return for advised investors compared to non-advised investors, which has guided the scope of the literature review.

This question has shaped the literature review broadly into three categories, namely: behavioural biases, the advantages of financial advice, and exploration of the idea of an opposing view. There are other factors; such as the cost of information to enter the investment market and risk profiles of whom utilises financial advisors, mentioned in the review as well which lend itself to the scope of the research of the topic.

These topics were researched to explore the effects of financial advice on returns as well as the possible pitfalls that individuals not utilising financial advice may be subjected to.

4.1 Behavioural biases of individual investors

In the 1960s, the efficient market hypothesis, that has been considered the cornerstone of modern financial theory, was developed by renowned economist Eugene Fama. This concept proclaims that financial markets reflect all relevant information at any given point in time. It assumes that whenever new information surfaces, individual expectations will be updated accordingly and, as a result, so too will the market. The hypothesis therefore expects that individuals will act and make decisions in a way that will allow them to maximise their expected utility (Fama & French, 1992).

However, studies in behavioural finance have shown that individuals tend to deviate from this hypothesis as they do not always act and invest rationally, and therefore do not always maximise their utility (Willows, 2012). These deviations occur as a result of certain errors in the way that individuals think, in comparison to the rational investor. Willows and West (2012) illustrated that these errors include poor self-control, placing too much weight on recent experiences, strong preferences for instant gratification, acting on rules of thumb and preferences. Such errors and differences in thought process in relation to the rational investor are known as behavioural or cognitive biases. These biases offer some insight into the investment decision-making process of individuals, and possible reasons for the pitfalls of certain investment decisions.

Behavioural bias research evaluated biases that were considered to be prevalent to individuals' investment strategies, and those that might display themselves in the returns and trading patterns of non-advised investors. Advised investors are not expected be prone to behavioural biases as the rational third party advice of the financial advisor is expected to overcome these behavioural pitfalls.

These behaviour biases include overconfidence, self-attribution, overtrading and the disposition effect.

4.1.1 Overconfidence and self-attribution bias

In one of the founding studies in behavioural finance, De Bondt and Thaler (1995) found that the fundamental error in judgement of individuals is as a result of overconfidence. Overconfidence can be defined as the tendency of individuals to overestimate their own information, knowledge and skills, and therefore overestimate their chances of success (Cheng, 2007).

This bias was proven in a study by Fischhoff, Slovic and Lichtenstein (1977), in which participants were asked a number of general knowledge questions and were thereafter asked to indicate their degree of certainty in the accuracy of their answers. The results reflected that the participants were consistently overconfident in their responses, so much so that they were even willing to stake money on its accuracy. These results were reconfirmed years later by Barber and Odean (2000) among investors in a discount brokerage house which came to the same conclusions.

Various studies across decades have found that this bias is more prevalent in men than women (Estes & Hosseini, 1988; Powell & Ansic, 1997). Male overconfidence is considered to be an evolutionary trait due to their past positions as hunters and providers, and therefore risk takers, all which required confidence (Subrahmanyam, 2007). However, even in more modern times, men are still found to be significantly more confident than women across high and low knowledge groups (Gysler, Kruse & Schubert, 2002). This has been reconfirmed in a recent study by Willows (2012).

By overestimating the precision of their information, overconfident investors believe in an investment more than they should and, hence, expect gains from trading (Barber & Odean, 2001). According to Grinblatt and Keloharju (2006), "[w]*hen one's private valuation of a stock differs from that of the market, the overconfident investor places more validity on his private valuation and less on the market's valuation."* Thus, in their study using a comprehensive dataset from Finland, Grinblatt and Keloharju found that it is overconfident investors who were most prone to sensation-seeking and therefore traded more frequently. This frequent trading exposes investors to higher levels of risk, increased transaction costs and consequently lower total returns (Chen, Kim, Nofsinger & Rui, 2007).

Moreover, literature on empirical psychology reports that individuals update their confidence in their own ability in a biased manner when observing the outcomes of their actions (Daniel, Hirshleifer & Subrahmanyam, 1998). For example, individuals attribute events that confirm the validity of their actions to high ability, and events that disconfirm their action to external noise or sabotage (Daniel, Hirshleifer & Subrahmanyam, 1998). This pattern of behaviour is referred to as self-attribution bias. According to Hirschleifer and Ying Luo (2001), self-attribution bias is a learning process. Investors do not initially know their

ability. Instead they learn through experience. "*Traders who successfully forecast next period dividends improperly update their beliefs; they overweight the possibility that their success was due to superior ability. In doing so they become overconfident"* (Gervais & Odean, 2001).

4.1.2 Overtrading

When overconfident investors believe in a security more than they should, they subsequently trade more than what is expected of a rational investor (Odean, 1998). The hypothesis that overconfidence leads to high trading volume was tested by Statman, Thorley and Vorkink (2006) using U.S. market level data. They found that trading activity increased after bull markets; and that trading volume is positively related to high past returns. These findings confirmed those of Kim and Nofsinger (2003) who tested a similar hypothesis using Japanese market level data and found higher monthly turnover in securities held by individuals during the bull market.

Odean (1999) reported that the worst financial performers are the ones that trade the most. The return-reducing effect of overtrading due to overconfidence was illustrated in a study by Barber and Odean (2000) in which the accounts of a sample of households at a large U.S. discount brokerage house were investigated from 1991 to 1996. It was found that investors who traded actively earned an annual return of 11.4% which was well below the market return of 17.9% at the time. The study therefore concluded that investors pay a penalty when trading actively. This result was re-confirmed by Barber, Lee, Liu and Odean (2007) who computed an annual performance penalty of 3.8% for Taiwanese individual investors due to their aggressive trading.

Barber and Odean (2000) previous studies indicated that overconfident investors' trade more frequently than they should, and that men were found to be more overconfident than women. This led them to perform a subsequent study with a particular focus to establish whether men traded more than women. Their results indicated that men traded 45% more than women, and that the additional trading reduced male returns by 2.65% compared to a reduction of 1.72% in female returns (Barber & Odean, 2001).

A more recent study of individuals from a South African investment house was carried out by Willows (2012). The study evaluated the trading behaviour, returns and variances in returns earned by men and women. The results were consistent with that of Barber and Odean (2001) which demonstrated that a statistically significant negative correlation exists between trading frequency and investor returns (Willows, 2012).

4.1.3 The disposition effect

The disposition effect is the phenomenon in which investors sell winning investments too early and losing investments too late (Odean, 1998). Chen *et al* (2007) claim that "[p]*eople avoid actions that create regret and seek actions that cause pride"*. Therefore, selling a stock that has increased in value, also referred to as a winner, is a form of validation to an investor for the good decision made in purchasing the stock in the first place. Similarly, to sell a stock that has decreased in value, in other words, a loser, would indicate that the original decision to purchase was poor and therefore causes regret (Chen et al, 2007). Shefrin and Statman (1985) also found that investors tend not to sell losers as they are afraid that the stock may recover, thereby causing further regret. Further findings from behavioural economics suggest that investors are prone to a biased perception of preferences i.e. an individual's judgements are influenced by their actual feelings towards a specific situation (Slovic, Finucane, Peters & MacGregor, 2002). Fischer and Gerhardt (2007) explain that the bias towards certain feelings may overlay logical assessments and therefore cause incorrect evaluations of investment horizons. This may result in incorrect investment decisions being made.

Shefrin and Statman (1985) implied that the disposition effect is an extension of Kahneman and Tversky's (1979) prospect theory. The prospect theory dictates that in times of uncertainty, investors are risk averse in the area of gains and risk seeking in the area of losses. Another element of the disposition effect is the concept of mental accounting, which explains an investors' tendency to segregate different gambles faced into separate mental accounts. The investor therefore tends to keep track of gains and losses of individual stocks rather than on a portfolio level (Shefrin & Statman, 1985; Thaler, 1980). The disposition effect is therefore a combination of principles of the prospect theory and mental accounting, to predict that investors are more willing to sell winners than losers in their portfolios (Chen et al, 2007).

In investigating the disposition effect, Odean (1998) analysed the trading activity of 10,000 households with accounts at a large discount brokerage firm over a period of six years. He found that that investors in his sample who sold shares were more inclined to sell shares that has increased in value rather than ones that had fallen in value. Shapira and Venezia (2001) examined brokerage accounts in Israel to determine whether the disposition effect held for both individual investors and professionals. They found that, on average, individuals held on to poorly performing stocks eight days longer than professional institutional investors. Concluding that the disposition effect exists for both individual investors and professionals, but is significantly weaker for professionals.

4.2 Financial literacy and investment decisions

When making investment decisions, individuals face complexities in deciding how to allocate their endowed financial assets as they need to consider their investment horizons, human capital, taxation and risk preferences (Fischer & Gerhardt, 2007). Barber and Odean (2008) conveyed that choosing where to invest represents a huge problem to the individual as there are thousands of possibilities and it is near impossible for most individuals to evaluate the merits of every available option. The level of financial literacy – the ability to understand the role of money and how to invest/manage it - plays a key role in an individual's ability to make successful investment decisions. Financial advisors can fill this gap in knowledge to assist in making optimal investment decisions.

A study by the Organisation for Economic Co-operation and Development (OECD) in 2010 reviewed financial literacy in 13 countries including the USA, the UK, European countries, Australia and Japan. *The OECD is an international economic organisation of 34 countries created to stimulate economic progress and world trade.* The study concluded that financial literacy levels in those countries were very low for most respondents. The study evaluated the level of financial literacy through responses of the individuals to financial risk questions and the steps taken by the individual to educate themselves on financial matters. The study indicated that the individuals were too afraid to invest in products they could not understand, due to the limit financial literacy levels. As a result financial advisors played a crucial role in the investment decision for these individuals, as 55% of the individuals utilised a financial advisor as the primary source of information in making an investment decision (Atkinson & Messy, 2012).

A later study was commissioned by the Financial Services Board (FSB) in 2011 where the OECD survey was extended to acquire insight into the level of financial literacy in South Africa. *The FSB is the South African government's financial regulatory agency responsible for the non-banking financial services industry in South Africa.* A representative sample of 2,972 randomly selected South Africans participated in the survey, all of whom were 16 years of age or older and living in households, hostels and other structures. The study was organised into four core domains, namely financial control; financial planning; choosing appropriate financial products; and knowledge and understanding (FSB, 2012).

Analysis of each of these domains showed that the overall financial literacy levels of the participants were low, and also identified certain trends across sub-groups such as gender, age, race, place of residence, and education levels. The analysis showed that literacy levels were significantly lower for: women relative to men; younger relative to older respondents; Black Africans relative to all other population groups; low living standard relative to medium/high living standard; rural and informal areas relative to urban formal areas; and low level of education relative to higher levels of education. The study further indicated that financial literacy level scores increased as the level of education increased. This differential gap in financial knowledge allows financial advisors to add value for the individual investor (FSB, 2012).

4.3 The cost of information when investing

Another important consideration for individuals when investing is the costs involved in participating in the investment market. According to Fischer and Gerhardt (2007), these costs include time efforts for acquiring knowledge and gathering information, and fixed entry costs to obtain a securities account. Furthermore there are also psychological effects such as stress or fear relating to losing money (Fischer & Gerhardt, 2007). Vissing-Jorgensen (2003) explains that "*first-time buyers likely incur an initial cost representing the time/money spent understanding basic investment principles as well as acquiring enough information about risks and returns to determine the household's optimal mix between stocks and riskless assets. Add to that the cost of time spent setting up accounts. Subsequently, a per-period stock-market participation cost may be incurred. This cost would include the value of time spent throughout the year determining if trading is optimal.*" Even though the internet provides individuals with easy access to vast amounts of information, Kramer (2009) reports that, it is unlikely that the average individual can digest, analyse and interpret everything appropriately.

Bakos (1997) researched two types of participation costs, namely cost of obtaining price information and cost of obtaining information about product characteristics. The model that he developed explained that if all product offerings available were plotted along a circle, before buyers decide to purchase a product, they are required to pay search costs in order to find its location. *"The distance between the buyer's ideal product and the location of the actual product imposes a 'fit' cost on the buyer, which represents the loss of utility from purchasing a less than ideal product."* Even though the existence of electronic market places lessens this cost (Bakos, 1997), the costliness of information leads to sub-optimal decisions by individuals because the individual lacks better information (Bluethgen, Gintschel, Hackethal, & Muller, 2008). Similarly, Merton (1987) also related the lack of information to the incompleteness of individual portfolios, substantiating the fact that individuals only purchase stocks that they know about. This behaviour was confirmed by Barber and Odean (2008) who argued that investors solve their search problem by considering only those stocks that have caught their attention recently. The Barber and Odean (2008) study concluded that individuals do display attention-driven buying behaviour in terms of knowledge of the stocks and the recentness of the information.

Financial awareness therefore plays a key role in the level of participation in the market. Guiso and Japelli (2005) found that higher financial awareness and higher social interaction may lead to lower participation costs as well as higher levels of investment market participation. However, as stated in 4.2, financial literacy levels (hence financial awareness) differ across demographics such as gender, income and education levels. Guiso and Japelli (2005) argue that there is a strong correlation between awareness, and demographic variables like education, wealth and income, which increases the probability of purchasing stocks. Investors will only benefit from market participation if the expected excess return exceeds the costs incurred. Due to participation costs involved, it is therefore considered

unreasonable for individuals with low wealth to invest. This argument was quantitatively illustrated by Vissing-Jorgensen (2003) as well as Haliassos (2006).

The research thus shows that there are numerous costs associated with participation in the financial market for an individual. The use of financial advisors eliminates certain of these costs of information; such as the cost to research the investment options as the financial advisor will provide this service to the investor and present the available investment options. It is for this service that financial advisors are remunerated, as well as for providing meaningful financial data and guidance to the investor to make an informed investment decision.

4.4 Advantages of financial advice for investors

As the financial environment grows in complexity, so too does the knowledge gap between individual consumers and the financial issues that affect them. Financial advisors therefore play a critical role in bridging this gap. Financial advice can be defined as the provision of information and recommendations with regards to an individual's investment and asset management needs (Dutkiewicz, Levin & Dukhi, 2007). According to Fischer and Gerhardt (2007) financial advisors possess a set of advantages that enable them to create value for their customers. These advantages include a solid financial education and an information lead over individuals as a result of their extensive interaction in financial markets. Financial advisors also have access to required resources, such as information systems, for collecting and analysing of data. Furthermore, together with their investment training and skills, leave individual investors at a disadvantage (Barber, Lee, Liu & Odean, 2007). These advantages which financial advisors possess over individual investors, together with the various cognitive biases suffered by individual investors, could lead to large economic losses for individuals (Barber, Lee, Liu & Odean, 2007).

Bluethgen, Gintschel, Hackethal and Muller (2008) suggest that the three primary motivations for obtaining financial advice are; the cost of obtaining sufficient and appropriate investment information is large, to prevent individuals whom suffer from cognitive biases and errors from making incorrect investment decisions, and to improve portfolio diversity. The results of the study supported the theory that it is more costly, in monetary terms, to utilise a financial advisor than to transact as an individual due to the additional advisory fees for the advice obtained from the financial advisor, and that advised portfolios are more diverse than non-advised portfolios which are too concentrated in a limited number of stocks. Bluethgen *et al*'s (2008) analysis also confirmed that *"older, wealthier, more risk-averse, or female investors are significantly more likely to obtain advice."*

4.4.1 Different types of value created for investors

In their paper examining the value of financial advice, Dutkiewicz, Levin and Dukhi (2007) considered various measures of value. The two key measures that were discussed and evaluated were real and perceived value. Real value is defined as the financial impact on an individual in real monetary terms, either immediately or at some point in the future. More simply put, real value is the increase or decrease in an individual's wealth as a result of the decision taken due to the given advice. Perceived value takes into account real value as well as qualitative aspects such as an individual's perceptions, behaviours and nature of accumulated funds. To demonstrate perceived value, the following example is used – *"in a stokvel*[1] *with 12 people each paying in R100 per month for 12 months, each person will receive R1,200 after 12 months to buy some significant item"*. The perceived value in this example is therefore the value obtained by the individual who otherwise would not have saved.

Through the process of providing financial advice there are various potential psychological benefits that are also provided to an individual. This includes a development of trust between the advisor and individual, or simply the peace of mind created for the individual as a result of someone knowledgeable having looked at their financial affairs. Just like visiting a doctor for an annual check-up and discovering that nothing is wrong, value is derived through the peace of mind created for the individual (Dutkiewicz, Levin & Dukhi, 2007).

Fischer and Gerhardt (2007) also considered the relevance of time savings as a result of individuals not having to search for investment opportunities themselves and improved financial knowledge from continuous advice received. It is important to consider that situations can also occur where perceived value is positive even though real value is negative. From an advisor's perspective, it is therefore important to assist individuals who are in this situation, where real value is negative, and ensure that the right decisions are made so that both perceived and real value are positive (Dutkiewicz, Levin & Dukhi, 2007).

4.4.2 Financial advice and investment decisions

In their evaluation of the mistakes made by individual investors, Fischer and Gerhardt (2007) developed a framework to provide a structure for the further investigation of individual's investment decisions. This investigation of investment decisions was completed by using the framework as a generic investment process for individuals. This framework distinguished six principal phases in the investment decision making process, namely:

[1] A stokvel is a savings or investment society to which members regularly contribute an agreed amount and from which they receive a lump sum payment.

1) Assess personal balance sheet – assessment of an investor's current financial and life cycle situation which includes net assets and liabilities as well as future cash flows.

2) Assess risk aversion and investment horizon – a more subjective assessment of an investor's willingness to bear risk, investment goals and time horizons.

3) Determine optimal allocation to asset classes – allocation to certain asset classes such as bonds, equity, property, etc. given an investor's situation, preferences and goals. Also known as strategic asset allocation.

4) Select securities – specific security selection within the asset classes. Also known as tactical asset allocation.

5) Perform transaction – implementation of the investment strategy through placing of orders to buy or sell securities.

6) Monitor wealth – monitoring of portfolio composition and performance in line with investment goals and risk preferences, and making adjustments where necessary.

Within each of the above phases, existing research and financial theories/principles were compared to empirical evidence of the actual behaviour of individual investors. The results indicated that the actual behaviour exhibited by individuals showed significant deviations from normative financial theories due to various behavioural biases such as overconfidence, risk aversion, mental accounting and inertia. The costs of these deviations were then quantified and showed that considerable welfare losses were suffered by the individuals.

Financial advice was subsequently brought into the various stages of the framework as a mitigating factor for the deviations displayed and its potential value added for the individual was illustrated. There were however certain assumptions which were made in this regard, namely that advisors aim to protect their clients from investment mistakes thereby ignoring potential principal-agent problems; and that advisors are not affected by behavioural anomalies to the same extent as individuals.

Empirical research suggests that individuals are unique in terms of their life cycle needs, financial situation, risk tolerance and investment goals (IFIC Report, 2010). Fischer and Gerhardt (2007) found that *"the phases of the investment process that need to be focused on and the potential added value of financial advice differs between investors"*. Thus it was deduced that "*a major challenge for financial advice is to identify the potential investment mistakes of investors and improve their investment decisions up to the level of normative recommendations from financial literature"* (Fischer & Gerhardt, 2007). As a result it can be hypothesised that the more individuals deviate from financial theories, the more potential there is for financial advice to improve their investments.

Financial advisors provide a wide range of services to assist these needs, and bridge the gap of individual decisions made compared to financial theories and principles. Ideally, advisors would work together with individuals who, based on personal data, objectives and relevant constraints, would help them choose the right asset mix to maximise their utility (Bluethgen, Gintschel, Hackethal & Muller, 2008). The value for individuals is that with advice their

portfolios could be weighted according to their specific needs and time horizons. Advisors could therefore be seen as coaches who potentially enhance the financial literacy of individuals and contribute to improved investment practices and therefore potentially increased value (IFIC Report, 2010).

4.4.3 Financial advice and wealth accumulation

An efficient market theorist would contend that financial advice has very little to no positive real value effects. However, a recent research paper by Montmarquett and Viennot-Briot (2011) demonstrated that financial advice contributes positively and significantly to the accumulation of financial wealth i.e. real value.

In doing this research, Montmarquett and Viennot-Briot made use of econometric modelling together with a robust sample of Canadian households to provide valuable insights into the process of advised wealth accumulation. To determine the economic impact of financial advice, the researchers measured the value added to the initial financial assets of each respondent such as cash, stocks, bonds, deposits and other investment vehicles. Based on the results, the researchers concluded that the recommendations and advice by financial advisors with regards to suitable vehicles for optimisation and tax efficiencies increased the net worth of individuals. That is, the average net worth for advised investors was approximately three to four times greater than that of non-advised investors across all age and income levels in the sample. (Montmarquett & Viennot-Briot, 2011)

The research also found that the impact on financial assets increased directly with the tenure of the advice. The financial assets of households that received advice over various periods of time versus that of non-advised households were assessed, excluding the influence of all other variables. The data showed that advised households that had worked with an advisor for four to six years accumulated 58% more assets than a non-advised household that was identical in all other respects. Similarly, an advised household with an advisor for seven to fourteen years and fifteen years or more accumulated 99% and 173% more assets than non-advised households respectively. (Montmarquett & Viennot-Briot, 2011)

The significant differences can be explained by the greater allocation into non-cash investments and participation in more tax sheltered plans by the advised investors. The differences can also be attributed to a higher household savings rate as a result of improved savings behaviour that is encouraged by financial advisors (Montmarquett & Viennot-Briot, 2011). Due to this behaviour, the research also found that the respondents with financial advisors had increased confidence in their level of retirement readiness. (Montmarquett & Viennot-Briot, 2011)

This is not the only positive value that could be derived from financial advice. Montmarquett and Viennot-Briot also evaluated the respondents' perceptions of their level of trust and confidence in, as well as their satisfaction with, financial advisors. The levels of

trust and confidence in financial advisors were assessed through the use of word associations and specific questions. The results indicated strongly that respondents who have financial advisors are more likely to have a higher level of trust and confidence in the advisors. The level of satisfaction was measured by asking respondents with financial advisors to rate them according to specific dimensions such as value for money; knowledge level; personal attention; accessibility and service offering. The results showed levels of satisfaction to be stable and high. The satisfaction levels ranged from 75% for value for money, up to 86% for knowledge level (Montmarquett and Viennot-Briot, 2011). The overall study therefore exhibits that once an individual is convinced to retain a financial advisor, there is a strong probability that positive real value as well as perceived value will be derived.

4.5 The value of financial advice: a contrary view

It is widely accepted that professional financial advisors are better informed and enjoy wider access to efficient analytical tools than amateur individuals. It can therefore be argued that these advisors are likely to be more rational and therefore less prone to behavioural biases. However, as Shapira and Venezia (2000) considered, some professional advisors reap financial benefits for investment decisions made, as well as for the volume of trades performed on their clients' behalf. The financial reward can serve as motivation for advisors to partake in excess trading activity and therefore be exposed to potential biases (such as the self-interest threat). This principal-agent problem was confirmed by Zhoa (2005) whose study found that, depending on the fee structure and information asymmetries, financial advisors do not always disclose all information to or act in the best interest of their clients. Zhoa's study focussed on flows into mutual funds and found that funds with higher provisions had higher inflows. Given the assumption that financial advisors earn profits from fee provisions, the study inferred that advisors direct their clients' assets into funds with higher provisions.

In determining the degree of bias suffered by advisors relative to the individual investors, Shapira and Venezia (2000) focussed primarily on the disposition effect. The research found that while the disposition effect did exist for financial advisors, it was significantly weaker than for individuals. This was further confirmed by studies performed on professional U.S. futures traders and mutual funds by Coval and Shumway (2005) and Frazzini (2006) respectively. This indicated that behavioural biases may be reduced by professional training and experience but does not eliminate it completely (Shapira and Venezia, 2000). Taking these findings into account, Bolton, Freixas and Shapiro (2004) considered the independence of financial advisors to be an important prerequisite.

Coval et al (2005) believed that individual traders were in a better position to exploit the market given an information advantage, the reason being that, *"Individual traders almost always trade smaller positions than professional traders. As a result, the pressure that their trades impart on prices is likely to be much less. This makes them far better positioned to*

trade using strategies that exploit smaller and short-term deviations from fundamental values" (Coval et al, 2005). Furthermore, De Long, Shleifer, Summers and Waldman (2010) also found that overconfident investors overreact and therefore underestimate risk, trade more aggressively and hold riskier assets, which consequently deliver higher returns.

This is confirmed by Barber and Odean (2000) who found that not all individuals do poorly in their investments. Their study illustrated that the top-performing quartile of individual accounts in their dataset outperformed the market on average by 0.5 percent per month. Hirschleifer and Ying Luo (2001) also found that overconfident investors who exploited valid information would result in higher than expected profits due to their more aggressive approach. Studies therefore suggest that skilled and informed individual investors can perform well and earn abnormal profits. However, the average individual does not necessarily have the appropriate knowledge and skill.

4.6 Conclusion

In conclusion, Coval *et al* (2005) states that individual investors are often regarded as, at best, uninformed and, at worst, fools. This statement is given truth by the vast number of cases in which the overwhelming amounts of information and behavioural biases have led to individuals making incorrect investment choices. These biases have not only caused significant welfare losses for individuals but also enhancements in the field of behavioural finance as a result of the consequent deviations from existing financial theories. Several studies, as mentioned above, have concluded that financial advice is a potential mitigating factor in the individual decision making process. The media often coax individual investors into thinking that they can do better on their own, however, the reality is that common judgement errors can be avoided by working with an objective and trained professional. In doing so both positive real and perceived value is obtained. Timura (2006) explains that financial advisors are more protective of their clients' interests and are therefore more thorough in their decision making than if they were making the decisions for themselves. Therefore it can be concluded that *"there should be an observable advantage to having someone else decide investment issues, not because that someone is smarter or more experienced, but simply because that person is someone else"* (Timura, 2006).

5. Design & methodology

This section of the study will focus on the research questions derived based on the guidance provided by the literature review. The data and methodology utilised to answer the research questions posed is detailed as well.

5.1 Research questions

An analysis of the literature review provides guidance regarding the value of financial advice. The literature indicates that financial advisors do, in most scenarios, provide value for their client compared to the non-advised individual investor.

The primary focus of this study is to determine whether, and if so why, there is real value created by financial advisors for advised investors compared to non-advised individual investors. The focus of the study in answering this question is broadly categorised into three namely; return analysis, trading behaviour analysis and risk profile analysis.

Return analysis:

The return analysis focuses on the primary question of the study whether financial advisors do create value for investors. This analysis compares the returns of the advised investors to non-advised investors over the period. This will provide insight as to whether real value has been created by financial advisors.

The next question to be evaluated is whether the actual return of advised and non-advised investors is greater than the return of the fund over the period. The fund was specifically selected in that its investment mandate is focused on equity investments within the South African market. The fund is openly available for direct public investment (non-advised), and also has advised investors. The reason for the utilisation of this fund is that equity data is more readily available for the individual investor (non-advised) in comparison to money market investments; this will assist non-advised investors to make better investment decisions.

This question will provide insight as to whether active management of the portfolio provides a greater return than passive management by the investors, in relation to the fund. This analysis of the return data provides the following three questions to be evaluated, detailed below:

1. Is there a difference in the returns between advised and non-advised investors; and
2. Is there a difference in the returns between advised investors and the fund over the period; and
3. Is there a difference in the returns between non-advised investors and the fund over the period.

Trading behaviour analysis:

Once the return analysis has been evaluated relating to whether the financial advisors have generated greater returns for advised investors compared to non-advised investor, the question is raised as to what has created this difference. The trading behaviour of the advised and non-advised investors are analysed to determine whether active or passive management of the portfolio created the difference in returns. The trading behaviour analysis is evaluated in relation to the number of trades made and the correlation between trades made and return generated over the period. This analysis of the trading behaviour provides the following two questions to be evaluated, detailed below:

1. Do advised investors trade more than non-advised investors; and
2. Is there a correlation between the number of trades made and the return generated for advised and non-advised investors.

Risk profile analysis:

Further the literature review also eluded to, in certain studies, who uses financial advisors. An important element of the role of a financial advisor is to match the risk profile of an investor to an appropriate investment. The risk profile of the advised and non-advised investors' will be evaluated through an analysis of the qualitative data. The attributes evaluated of the investor profiles are:

1. The gender; and
2. The marital status; and
3. The age of advised and non-advised investors.

This attribute profiling of the investor will allow a high level qualitative comparison of the behavioural biases detailed in the literature review to the risk profile investor derived from the dataset.

5.2 Data

The data was obtained from a large South African investment house which hold records of the individual investor performance and demographic information. The investment house provides collective investment schemes (unit trusts/funds) investment offerings, with each fund having a different risk profile and investment mandate. A request was made to the investment house to provide the following information relating to the individual investors; the return generated, the trades entered over the period, age, gender, and marital status. The data detailed whether the individual investors were advised or non-advised; all corporate investments were excluded. The data covered the period 1 January 2005 to 31 December 2014 of a specific equity fund of the investment house.

Only one fund was selected for evaluation rather than a comparison of investment returns per the individual investor, as each investor has a unique risk profile. For example, comparing the return of an investor in a money market fund is not comparable to an investor in an equity fund as the risk-return profile of the funds are not comparable. The analysis of the single equity fund overcame this issue. The total number of investors in the fund from the original data provided was 20 371.

The investors that were invested in the fund over the 10 year period were identified using the unique field 'client no'. From the 20 371 total investors in the fund 7 767 individuals were invested for the full period of 10 years. The client listing of the 7 767 individuals was then evaluated by the investment house as to whether the investor was advised, non-advised or had a resigned broker. The field 'servicingagentname' was utilised to determine whether the investor was advised, non-advised or resigned, this field detailed the financial advisor providing advice to the investor. The advisor information was provided on a monthly basis. The listing of financial advisors was reviewed for reasonability and compared to the monthly listing of investors.

The investor data was limited to those that were either advised, through a financial advisor, non-advised, or resigned throughout the period. Investors which had an advisor who was no longer active, or changed the status to non-advised over the period or vice-versa were excluded. These investors were excluded as they were not advised or non-advised over the full period, further when an investor is attached to an inactive broker the data is inaccurate as no advice would have been obtained from the inactive broker. From the 7 767 investors over the full period, 2 131 had a resigned broker during the period. Of the remaining 5 636 investors only 4 147 were either advised with an active broker or non-advised for the full period, the other 1 489 were either advised or non-advised but then changed during the period.

These data manipulations provided the initial listing of advised and non-advised investors over the period of 4 147. The sample from the population is 1805 non-advised (direct per the investment house classification) and 2342 advised (intermediated per the investment house classification) investors.

The investment house provided the market value at the beginning and end of the period for all investors as well as all the trade transactions entered into by the investors over the period. This data was utilised to calculate the XIRR for each of the investors over the period.

The XIRR is similar in nature to the traditional internal rate of return (IRR) calculation. The XIRR is utilised when the cash flows are not of equal timing. This is appropriate in this scenario as the investors do not invest nor withdraw at regular set intervals. The XIRR calculation standardises the calculation of the returns across all investors and is comparable to the fund return over the period.

An analysis of all the return data points was performed in order to evaluate for potential outliers. The distribution of all data points was evaluated via a histogram and the returns were sorted from highest to lowest. The underlying data and XIRR return calculations were evaluated as well to determine whether there were issues regarding the returns. The highest and lowest 15 returns were evaluated in further detail when considering the distribution of returns and quantum in relation to the mean. Only the top five highest and lowest XIRR returns are detailed below, from which the exclusions occurred.

Table 5.2.1: Top five highest and lowest XIRR results

Top 5 highest XIRR results:	
CLIENTNO	XIRR
XXXX041	666.85%
XXXX37125	5281.05%
XXXX72701	75.20%
XXXX644	1005.70%
XXXX507	1866982.69%

Top 5 lowest XIRR results:	
CLIENTNO	XIRR
XXXX81855	-16.09%
XXXX08762	-23.51%
XXXX426	-37.12%
XXXX79973	-61.69%
XXXX74813	-13.88%

The four items highlighted in orange from the highest XIRR results have been excluded from the population as the return observations were distant from all other return observations. These data points were removed considering the distribution of returns, distance to the mean return and underlying calculations. The underlying data detailing the cash flows associated with the four exclusions were not in line with the other results – i.e. there was a large final cash outflow at the end despite the withdrawals or limited movement during the period. These outliers were removed from the population in order to exclude any potential affects these items would have on the study. There was one observation with no result which was excluded from the study as well. The remaining observations were left in the study. The sample of investors was adjusted accordingly to 2339 advised investors and 1803 non-advised investors, a total of 4142 investors.

Through the trading data provided by the investment house the total number of trades were calculated and assigned to the relevant investor. The number of trades were calculated from the investments and withdrawals data provided. The investment and withdrawal data was in the form of either lump sums or monthly annuities (withdrawals or

debit order investments). The monthly annuities were denoted with the following field 'MIP'. In determining the number of trades for each investor monthly annuities were accounted for as one transaction, as it only relates to one investment decision made in relation to the investment by the investor.

Further, any distributions of dividends by the fund are automatically re-invested into the fund, as per the investment house's business model. These re-investments were excluded from the trading data, as this was not an active investment made by the individual and will not affect the comparable return between investors.

The investment house also provided the following personal static data; gender, age, and marital status which was utilised to determine the risk profile of the investors. The marital status field included 'other' which was excluded in the analysis. The following marital status categories; single, widowed and divorced were all considered part of the single classification of investors as they would make investment decisions individually.

For each of the investor samples noted the following additional data was calculated and utilised in the study; the XIRR return, the number of trades, age, gender, and marital status.

5.3 Methodology

The methodology to evaluate the research questions is similar in nature to that of Marszalek (2014) and Willows (2012), therefore these studies were utilised as a starting point. This section of the study is broken down in two general sections: firstly, to detail the methodology utilised by Marszalek (2014) and Willows (2012), and thereafter to evaluate the specific research strategy for the research questions posed.

5.3.1 Marszalek (2014) and Willows (2012)

Marszalek (2014) and Willows (2012) evaluated non-advised investors and whether there is a difference in the performance of men and women. The focus of this study, however, is on advised compared to non-advised investors rather than men versus women. The methodology applied to the data in those studies is similar to that utilised in this study.

Willows (2012) utilised data from the South African investment house. The initial data specifications were provided to enable extraction of information relating to gender, age and return. The Investment House's offerings were collective investment schemes (commonly referred to as unit trusts), with each unit trust having different risk profiles to cater for different risk appetites.

Willows (2012) obtained the data on an individual investor basis. This data was utilised to analyse the returns of men versus women over the period of 1 January 2007 to 31 December 2011. The focus of the analysis was on three questions, does trading frequency influence investor return; do men trade more than women; and do men earn lower returns than women.

This study was replicated by Marszalek (2014) in a similar manner utilising information from a South African investment house with data over the period of 1 January 2003 to 31 December 2012.

As can be seen from these studies the questions researched are similar to that which this study focuses on. Therefore the methodology applied to those research questions will be utilised in this study as a starting point. The research questions posed are however focused on non-advised versus advised investments rather than men versus women.

The Marszalek (2014) and Willows (2012) methodology was adapted based on the methodology utilised by Barber & Odean (2001). Barber & Odean's (2001) research focused on the same questions as evaluated by Marszalek (2014) and Willows (2012), however, the data was obtained from a large discount brokerage firm and evaluated the month end returns of households' common stock investments over a 6 year period, ending December 1996. This data was coupled with the demographic data on gender to evaluate the results based on gender.

5.4 Research strategy

An evaluation of the underlying data integrity, as stated in section 5.4.1, identified that the distribution of the data is not normal. As a result, the research approach to answer the questions was adapted in line with this difference.

The approach to each of the research questions is detailed in this section of the study.

5.4.1 Evaluation of data integrity

The Central Limit Theorem states that the sampling distribution of the sample mean will move towards the normal probability distribution and, the larger the number of observations in each sample, the stronger the convergence (Lind, Marchal, & Wathen, 2005). A visual test is performed to evaluate whether the population is normally distributed. The visual diagram in Appendix 1 indicates that the populations of the advised and non-advised investor returns are not normally distributed. Appendix 1 indicates that there is a large degree of kurtosis around the mean.

In order to confirm the data returns were not normally distributed, two tests were performed: the Kolmogarov-Smirnov test and the Shapiro-Wilk test. These two tests evaluate the returns data and whether the returns of both the advised and non-advised investors are normally distributed. The null hypothesis for these tests are:

H_0: The return data of the advised and non-advised returns are normally distributed

The results are detailed below.

Advised returns data:

Table 5.4.1.1: Advised data Kolmogorov-Smirnov normality test

One-sample Kolmogorov-Smirnov Test	
D Statistic	0.5247
One sided p-value	Less than 2.2^{-16}
Two sided p-value	Less than 2.2^{-16}

Table 5.4.1.2: Advised data Shapiro-Wilk normality test

Shapiro-Wilk Normality Test	
W Statistic	0.349
p-value	Less than 2.2^{-16}

Non-advised returns data:

Table 5.4.1.3: Non-advised data Kolmogorov-Smirnov normality test

One-sample Kolmogorov-Smirnov Test	
D Statistic	0.5321
One sided p-value	Less than 2.2^{-16}
Two sided p-value	Less than 2.2^{-16}

Table 5.4.1.4: Non-advised data Shapiro-Wilk normality test

Shapiro-Wilk Normality Test	
W Statistic	0.2119
p-value	Less than 2.2^{-16}

The two tests performed above provide a p-value of approximately zero (the result of less than 2.2^{-16} is the smallest p-value that can be derived utilising the statistics programme) for both the advised and non-advised returns data. Thus the null hypothesis is rejected, and conclude that the data is not normal. The return data was manipulated utilising log and exponential transformations, however, these also resulted in the data not being normally distributed.

A visual test to evaluate whether the population of total trades in relation to the investors is normally distributed is detailed in Appendix 2. This appendix for the number of trades made by advised and non-advised investors over the period demonstrates that the population is not normally distributed as well.

As a result, non-parametric tests are utilised to evaluate the research questions. A (non-parametric) Mann-Whitney U-test will be used to evaluate whether the returns and the number of trades made by an advised investor is statistically significant to that made by a non-advised investor. The Mann-Whitney U-test follows the methodology that the data of both samples is ranked, as if it were one sample, from smallest to largest. The average of the ranks is then compared between the two samples as well as whether the ranks are evenly distributed between the two samples. If these two criteria are met then the null hypothesis is accepted. The null hypothesis assumes there is no difference between the returns and number of trades between advised and non-advised investors.

5.4.2 Value creation by financial advisors for investors

In order to test whether there is a statistically significant difference between the returns of advised and non-advised investments, a Mann-Whitney U-test was performed. The Mann-Whitney U-test is used as the underlying returns data is not normally distributed.

The null hypothesis (H_0) is that there is no difference between the returns of advised and non-advised investors over the period.

5.4.3 Evaluation of the return generated by advised and non-advised investors in relation to the fund over the period

In order to test whether there is a statistically significant difference between the returns of advised and non-advised investments in relation the fund return over the period, a Mann-Whitney U-test was performed. The test is performed separately for advised and non-advised investors in relation to the fund. The Mann-Whitney U-test is used as the underlying returns data is not normally distributed. The fund return over the period was 14.9%, this data was provided by the investment house.

The null hypothesis (H_0) is that there is no difference between the returns of advised investors and the fund over the period.

This is repeated for the non-advised investors return compared to the fund return over the period, in the same manner as for advised investors.

The null hypothesis (H_0) is that there is no difference between the returns of non-advised investors and the fund over the period.

5.4.4 Evaluation of the number of trades made by advised and non-advised investors

To evaluate whether there is a statistically significant difference between the number of trades made by advised investors compared to that made by non-advised investors, a Mann-Whitney U-test is performed. The Mann-Whitney U-test is used as the underlying trade data is not normally distributed.

The null hypothesis (H_0) is that there is no difference between the number of trades made by advised and non-advised investors.

5.4.5 Evaluation of the influence of the number of trades on the return generated

A correlation test was performed to evaluate whether a relationship exists between the number of trades made (independent variable) and the returns generated (the dependant variable) over the period 1 January 2005 to 31 December 2014. The test was performed separately for advised investors and non-advised investors. A Spearman Rho correlation evaluation was performed.

The null hypothesis (H_0) is that there is no correlation between the number of trades made by advised and the return generated.

This is repeated for non-advised investors' number of trades compared to the return generated over the period, in the same manner as for advised investors.

The null hypothesis (H_0) is that there is no correlation between the number of trades made by non-advised and the return generated.

5.4.6 Risk profile analysis of the investors

The attribute data of advised and non-advised investors will be evaluated with regards to age, gender, and marital status. The mean and median age as well as the gender and marital status proportions of the investor for both advised and non-advised populations, was calculated.

This is to determine whether the 'typical' advised/non-advised investor conforms to the attributes detailed by Bluethgen et al (2008) and the study by the FSB in 2011. The data is also used to evaluate the risk profile of the two populations over the period and whether this created any difference in returns.

5.5 Ethics

A confidentiality agreement was signed by parties at both the University of Cape Town and the investment house. This was done in order to ensure that the identity of the investment house and all confidential information obtained would be protected from disclosure.

No ethical clearances were required as the study has no interest in racial differences nor were any human participants used in the research.

6. Results

This section of the study evaluates the results of the research questions in relation to the literature review expectations developed. Findings that warrant specific attention are evaluated further and appropriate conclusions drawn.

6.1 Value creation by financial advisors for investors

The Mann-Whitney U-test performed evaluated the null hypothesis (H_0): there is no difference in the returns of advised and non-advised investors over the period.

Table 6.1.1: Advised and non-advised returns

Mann Whitney U Test	
U Statistic	2157906
p-value	0.1964

The result above indicates that there is no statistical difference between the returns of advised and non-advised investors at the 95% confidence level for the 10 year period ending 31 December 2014.

Advised investors were found to have a marginally lower average annualised return of 14.67% compared to non-advised investors of 14.69%. However the median across both investor groups was found to be the same at 14.65%. This is summarised below.

Table 6.1.2: Investor average and median for the period

	Return analysis	
	Advised	Non-advised
Average XIRR	14.67%	14.69%
Median XIRR	14.65%	14.65%

The above result seems contrary to the analysis of literature review which indicates that financial advisors through their access to greater information and analytical tools are expected to create greater value than non-advised individuals. The non-advised investors were expected to be more prone behavioural biases compared to advised investors and as a result generate lower returns.

This conclusion was not, however, evident from the results above; the non-advised investors created greater annual average returns over the period compared to the advised investors despite the lower access to information and analytical tools.

A major factor which contributes to this result is that the investment is made with an investment house. Within the investment house after the initial investment decision (of

which fund to invest in) is made by either non-advised or advised investors, the subsequent investment decisions within the fund is made by the investment house in accordance with the fund mandate. Therefore the behavioural biases and the lack of information or analytical tools does not play an integral part to the non-advised investor as what it may have played if the investment decisions were all exclusively made by the individual. The major decision to be made by the investor (advised or not) is to time the market and ensure funds are exited at the correct point to optimise return; it is through these timings that the variances in return is calculated, and value of advice evident.

The variance in return between the advised and non-advised through inspection of the histogram data in Appendix 1 is not significantly different. The returns are closely concentrated around the mean; this is supported by the mean and median annual returns over the period detailed above. Despite the slight over performance of non-advised investors (not significantly) the variance of the returns is not viewed as significantly different.

The advised and non-advised investors created similar real values over the period, however the advised investor may have greater perceived value through the trust, confidence and satisfaction developed in the investment decisions made by the financial advisor. Furthermore, the Montmarquett and Veinnot-Briot (2011) study indicated that greater returns were evident from advised investors compared to non-advised investors the longer the tenure of investment, this was again not evident in the results above.

The cost of information as mentioned by Fischer and Gerhardt (2007) in order to participate actively in the investment market is eliminated through the investment house. The investment house obtains a management fee from the fund, in order to manage the assets and generate an optimum return. The elimination of this participation cost to the non-advised individual, through the investment house's access to information and allowing the investment house's expertise to manage the investment decision, has not resulted in sub-optimal investment decisions as detailed by Bluethgen et al (2008). This management fee cost is included in the return calculated for both advised and non-advised investors, as it is embodied in the value of the fund.

There is however potential additional advisory fees (which are not reflected in the return data) relating to the advised investment. The fee would relate to the cost of the advice provided, which the non-advised investors do not incur. This cost however was not able to be obtained by the investment house, as the cost is evidenced with the investor administration services charge, and not through the investment house. This cost would have lowered the real return of the advised investors even further in relation to non-advised investors.

In conclusion, there is no significant difference in the real value created between advised and non-advised investors, a major reason is due to the investment house and the role it plays in eliminating the behavioural biases and greater costs to access the market for the non-advised investor.

6.2 Investor returns in relation to the fund

The evaluation of advised and non-advised returns in relation to the fund were performed through a Mann-Whitney U-test separately for each investor. The null hypothesis (H_0): there is no difference in the returns of the investor and the fund over the period.

Advised investors:

Table 6.2.1: Advised investor returns compared to the fund

Mann Whitney U Test	
U Statistic	2137
P-value	0.1523

The result above indicates that there is no statistical difference between the returns of advised investors and the fund at the 95% confidence level for the 10 year period ending 31 December 2014.

Non-advised investors:

Table 6.2.1: Non-advised investor returns compared to the fund

Mann Whitney U Test	
U Statistic	114
P-value	0.1307

The result above indicates as well that there is no statistical difference between the returns of non-advised investors and the fund at the 95% confidence level for the 10 year period ending 31 December 2014.

This is in line with the expectations considering the fund's annualised return for the period was 14.9% in relation to the average and median annualised returns for advised and non-advised returns as detailed in 6.1.

The result further confirms the discussions above relating to the influence of the investment house on the returns generated. Only market timing of transactions over the period will create a difference in return in relation to the investment house, as the investment house performs the function of making the investment decisions on behalf of the investors. This timing of the market effect was not significant in comparison to the fund, as seen through the close relation of the returns over the period.

The cost of the investment house performing this investment function eliminates numerous costs to access information and behavioural biases as experienced by the non-advised investor. The investment house is therefore viewed as a trusted advisor in order to make some of the investment decisions. As a result the returns of the non-advised and advised investors are in line with the fund where the investment decisions were made.

6.3 Trading behaviour of advised and non-advised investors

The Mann-Whitney U-test performed evaluated the null hypothesis (H_0): there is no difference in the number of trades of advised and non-advised investors over the period.

Table 6.3.1: Advised and non-advised trading behaviour

Mann Whitney U Test	
U Statistic	2381243
p-value	Less than 2.2^{-16}

The small p-value indicates that there is statistically significant difference at the 95% confidence level between the number of trades of advised investors compared to non-advised investors over the 10 year period ending 31 December 2014.

A summary of the number of trades' analysis between advised and non-advised investors is detailed below.

Table 6.3.2: Summary of trade analysis

	Trade analysis	
	Advised	Non-advised
Average no. trades	3.51	0.67
Median no. trades	0.00	0.00
Count total no. trades	8199	1203

The analysis above provides evidence that there is a difference between the number of trades between advised and non-advised investors. The advised investors are being recommended by their financial advisor to enter or exit positions in the fund to a greater extent than non-advised investors. In order to determine whether the variance of the number of trades made by advised investors is statistically different to the variance of the number of trades by non-advised investors, a Brown-Forsythe test is performed.

A Brown-Forsythe test is performed on data which is not normally distributed, with regards to the number of trades made. The test is the equivalent of the F-test which is performed on normally distributed data. The null hypothesis evaluated is (H_0): there is no difference in the variance of the number of trades of advised and non-advised investors over the period.

Table 6.3.3: Advised and non-advised trading variance

Brown-Forsythe (Levene) Test	
Test Statistic	89.9516
p-value	Less than 2.2^{-16}

The small p-value indicates that there is a statistically significant difference at the 95% confidence level between the variance of the number of trades of advised investors

compared to non-advised investors over the 10 year period ending 31 December 2014. When considering the two tables above it can be concluded that advised investors' trade significantly more than non-advised investors, and have a significantly greater variance in the number of trades than non-advised investors.

A potential reason for the significantly larger number of trades by advised investors is that through regular advice and evaluation of the investor's portfolio, the financial advisor is able to recommend to the investor to transact more/adjust investment positions. However, this has not translated into any significant difference between the returns of advised investors compared to the returns of non-advised investors or the fund over the period.

The average return for advised investors was in fact the lowest over the period in comparison to the fund and non-advised investors. The real value generated from the additional trades made by advised investors is not significantly different to the return generated for non-advised investors or the fund. Further, there are additional administration and trading fees for the advised investor to perform these additional transactions which are not accounted for in the return analysis which would further lower the return to the investor.

The number of trades is analysed further per the table below which evaluates the percentage of investors which have made no trades or five or less trades over the period.

Table 6.3.4: Investor number of trades

	Trade analysis	
	Advised	*Non-advised*
Percentage investors who made no trades	67%	78%
Percentage investors with 5 trades or less	90%	98%

The table above illustrates that the majority of investors did not trade within each group and that more than 90% traded 5 or less times over the period. The percentage is higher in the non-advised investors than the advised as they did not have financial advisors providing continuous advice on their investment position. Furthermore, the result illustrates that the higher the percentage of little to no trades (non-advised investors), the closer this investor group was to achieving the average fund return over the period. As advised investors traded more, their average return was less than that of the fund and the non-advised investor group. This indicates the advice being provided regarding the market timing did not create additional value over the fund return.

The question raised then is; why is there a significantly higher number of trades for advised investors without significant reward. This is an anomaly as the investment decision function is made by the investment house and the results indicate that the investment house has performed better over the period. A few factors are evident from the literature review which may be applied to this result.

Behavioural biases as mentioned indicate that overconfident investors believe in their ability/view more than they should and as a result trade more than what is expected of a

rational investor. (Odean, 1998 and Barber and Odean, 2001). These studies were related to non-advised investors however it may be applicable here as well in that the financial advisors believe their view of the market to be more accurate than the investment house and as a result trade more based on their view. The cost of deviations from traditional financial theories has been shown to cause welfare losses (Fischer and Gerhardt, 2007), and these deviations have also resulted in real losses compared to the fund as illustrated above.

An additional behavioural reason may be due to financial advisors being viewed as a trusted business partner, providing valuable insights. The financial advisors may therefore feel obliged to provide recommendations to the advised investors in order to create the impression of understanding the market and adding value, which may not be the case as in this scenario.

A more significant factor as detailed by Shapira & Venezia (2000) indicates that financial advisors may obtain financial rewards for the volume of trades made, which may serve as motivation to partake in excessive trading activities. This poses an additional and more significant behavioural bias – a self-interest threat of the financial advisor. This was confirmed by Zhoa (2005) which indicated that depending on the fee structure financial advisors may not act in the best interest of their clients. These factors detailed are likely to drive the actions of the financial advisor and explain the significant over-trading experienced.

Therefore the additional trades made by advised investors did not create significant value for the investors in relation to non-advised investors and the fund return. Further on a risk-adjusted basis through the results detailed in section 6 thus far it, may be noted that the returns of advised investors would be even lower due to additional advisory, administration and transaction costs which are associated with the financial advisor and additional transactions entered.

6.4 Influence of trading frequency on investor return

The Spearman Rho correlation test that was performed evaluated whether there is a significant relationship between the number of trades entered and the return generated for investors. This was performed separately for advised and non-advised investors.

H_0: There is no correlation between the number of trades made and the return generated by investors

Advised investors:

Table 6.4.1: Advised number of trades and return correlation

Spearman Rho Correlation Test	
Rho correlation	-0.1450289
p-value	1.82^{-12}

The small p-value indicates that there is statistically significant correlation at the 95% confidence level between the number of trades of advised investors and the return generated over the 10 year period ending 31 December 2014.

The negative correlation indicates that as additional trades are made by advised investors the return decreases as a result, a statistically significant observation. In saying that though the correlation is close to zero therefore the relationship is not particularly strong.

Non-advised investors:

Table 6.4.2: Non-advised number of trades and return correlation

Spearman Rho Correlation Test	
Rho correlation	-0.166387
p-value	1.162^{-12}

The small p-value indicates that there is statistically significant correlation at the 95% confidence level between the number of trades of non-advised investors and the return generated over the 10 year period ending 31 December 2014.

The negative correlation indicates that as additional trades are made by non-advised investors, the return decreases as a result – a statistically significant observation. The correlation is close to zero therefore the relationship is not particularly strong.

The correlation is a greater negative for non-advised investors indicating that the more they trade, the lower their return compared to advised investors. Therefore the main reason for non-advised investors outperformance of advised investors is due to not trading and therefore the return tending towards the fund return.

6.5 Risk analysis of investor profile

An analysis was performed on the qualitative data of age, gender and marital status to evaluate whether any of these may have contributed to the difference in results as well as evaluating the risk profile of the two investor groups.

Table 6.5.1: Investor marital status analysis

	Static data analysis		***Relative weighting percent***	
	Advised	*Non-advised*	*Advised*	*Non-advised*
Percentage married	**53.8%**	**48.7%**	**57.2%**	**55.7%**
Total percent single	**40.2%**	**38.7%**	**42.8%**	**44.3%**
Percentage single	*37.6%*	*36.1%*		
Percentage widowed	*2.1%*	*2.4%*		
Percentage divorced	*0.5%*	*0.3%*		
Total	**94.1%**	**87.4%**	**100.0%**	**100.0%**

The analysis of the married versus single data was restricted to the investors whom included data in this qualitative field. The data indicates that as a relative percentage there are more married individuals with financial advisors compared to non-advised married investors. This is expected as married individuals are expected to be more risk averse than single individuals as they have a household to support, therefore they would utilise a financial advisor to minimise the risk.

Table 6.5.2: Investor age analysis

	Static data analysis	
	Advised	*Non-advised*
Average age	56.54	54.94
Median age	57.77	55.32

The age analysis of the investor profile indicates that non-advised investors have a lower median and average age compared to advised investors. This is in line with expectations as younger investors are willing to take on greater risk compared to older individuals and as result not seeking the advice of a financial advisor.

Table 6.5.3: Investor gender analysis

	Static data analysis	
	Advised	*Non-advised*
Percentage women	48.3%	47.8%
Percentage men	51.7%	52.2%
Total	100.0%	100.0%

The gender analysis of the investor profile indicates that a greater percentage of men are non-advised compared to the men percentage that are advised investors. This again is in line with the expectations as men are overconfident and therefore trust their own ability to make investment decisions.

These results are all in line with the expectations as mentioned by Barber and Odean (2001) that men are more overconfident compared to women and thus have a greater percentage in non-advised investors. Further the Bluethgen *et al* (2008) study confirmed that *"older, wealthier, more risk averse, or females are more likely to obtain financial advice"*, this is in line with the result of the advised and non-advised data set detailed above.

As seen from the results, the differences within the advised and non-advised investor group are not significant. Therefore the risk profile of the two groups are similar, however the reward slightly less for advised investors compared to non-advised investors and the fund return. This again emphasises the point that once the investment choice in the fund is made, whether through an advisor or not, it is better to remain in that fund, if the risk profile is appropriate, and be a passive investor.

The minor differences between the risk profiles within the investment groups may also contribute to the fact that the return generated within the two investor groups are not significantly different. However when evaluating the trading behaviour it was noted a significant difference in the number of trades entered between the advised and non-advised investors. The additional trades by the advised investors demonstrates the influence that an advisor has in influencing the trading behaviour. This is especially evident considering the risk profile of the investors is not different and therefore would not expect significantly different trading behaviour in isolation.

It is important to note that the risk profiles of the two investor group are similar as the investment product is the same and should therefore match the risks of the individual i.e. the risk reward profile is to match. This is an important concept in financial advice to tailor product offerings to match the investor risk profile. (IFIC Report, 2010).

7. Conclusion and Recommendations

7.1 Summary of results

This study about the value of financial advice showed that there was no statistical difference at the 95% confidence level between the returns generated by advised investors compared to non-advised investors. The average annual return of non-advised investors was greater than that of non-advised investors. The reason for there being no statistical difference in returns is due to the decisions made by the investment house. The decisions of the investment house eliminated the behavioural biases and costs to obtain information associated with an individual investor.

The fund return was marginally superior to the return generated by both advised and non-advised investors. This return was however not statistically significant at the 95% confidence level and echoes the finding relating to the role played by the investment house decisions. Since the investment decisions were made with the necessary expertise, the optimal result over the 10 year period ending 31 December 2014 was provided by the fund.

Furthermore, advised investors traded significantly more than non-advised investors at the 95% confidence level. The variance in the trades was also statistically significant at the 95% confidence level indicating that the variance in the advised number of trades was greater than the variance of the non-advised number of trades. The additional trades entered into by advised investors was due to the active management and guidance provided by the financial advisors throughout the period. This finding, however, did not result in a significant difference in the annual return compared to non-advised investors or the fund. In fact, the average annual return by advised investors over the period was the lowest when compared to the fund and non-advised investors.

The additional number of trades were attributed to the possible causes of firstly overconfidence of the financial advisors in their ability compared to that of the investment house, secondly the incentive of the financial advisor to maintain the impression of being a trusted advisor and therefore regularly offering advice/insight to the financial market, and lastly but more significantly through the financial advisor's self-interest threat. The self-interest threat manifests in the fee and remuneration structure of the financial advisor who may be rewarded based on the number/value of trades made.

Furthermore as a result of the additional trades made by advised investors not creating additional value, thus on a risk-adjusted basis it may be noted that the returns of advised investors would be even lower due to additional advisory fees associated with the advice provided by the financial advisor and the administration costs associated with additional trades entered.

A statistically significant negative correlation was found to exist between the number of trades made and the return generated by both advised and non-advised investors. The negative relation was however not strong between the number of trades and return generated.

The risk profile of the investors between the advised and non-advised investors was similar, which was expected in order to match the risk reward profile of the fund. The advised investors had a more risk-averse profile with a lower average and median age, and included a larger percentage of women and married investors. This was due to these investors relying on the advice of the financial advisor in order to manage their risk preferences.

7.2 Recommendation and areas for future research

An important element of investing is to match the risk return profile of the investor. In this study a high level analysis was performed to determine the risk profiles of the investor groups and whether the investment was appropriate for the investors. Scope exists to perform a detailed investor level analysis to evaluate whether the risk return profile of the investors are appropriate. This analysis should be performed on an investor level as well as considering all other investments held. The analysis should go further to evaluate whether financial advisors adequately match the investor's risk appetite over time and whether the investments change over time as the risk of the investor does as well.

The data used in this study was limited in that it was only from one fund of one investment house. The results evaluated therefore do not account for other investments held by the investor in other funds or investment houses. This study therefore does not account for the complete investment horizon of the individual and the investment evaluated in this fund may not be indicative of the investors' overall investment strategy or guidance provided by the financial advisor. An analysis should be performed to evaluate the complete investment horizon of the investor to determine overall investment return of the advised investor compared to the non-advised investor.

An anomaly in the study was the significant high number of transactions entered into by advised investors considering the investment house had made the major investment decisions. An analysis can be performed on the incentives that drive financial advisors and whether these incentives are what promote the advice provided or whether the interest of the investor is maintained at all times.

The analysis of this study should be extended further to evaluate the return of the advised investors after accounting for the additional advisory fees incurred through the investment administration services company. This adjusted return should be evaluated to determine whether real value is created by financial advisors.

7.3 Conclusion

The analyses in this study showed that the initial decision of where and which fund to invest in, was the most significant. After that decision had been made there was no significant benefit of financial advisors compared to the individual investor or fund.

The fund would act in accordance with its mandate and manage the investment decision thereafter. The results indicate that it is better to invest and maintain the position in the fund rather than trade numerous positions as the fund return was greater average return of advised and non-advised investors. The trading activity of investors did not generate additional returns and had a slight negative correlation with performance.

The financial advisor has a role to play in order to match the risk profile of the investor to the appropriate fund. Thereafter there is no real value created by the financial advisor. The advised investor may obtain perceived value through the comfort of knowing a financial advisor is managing the investment and the confidence in the advisor.

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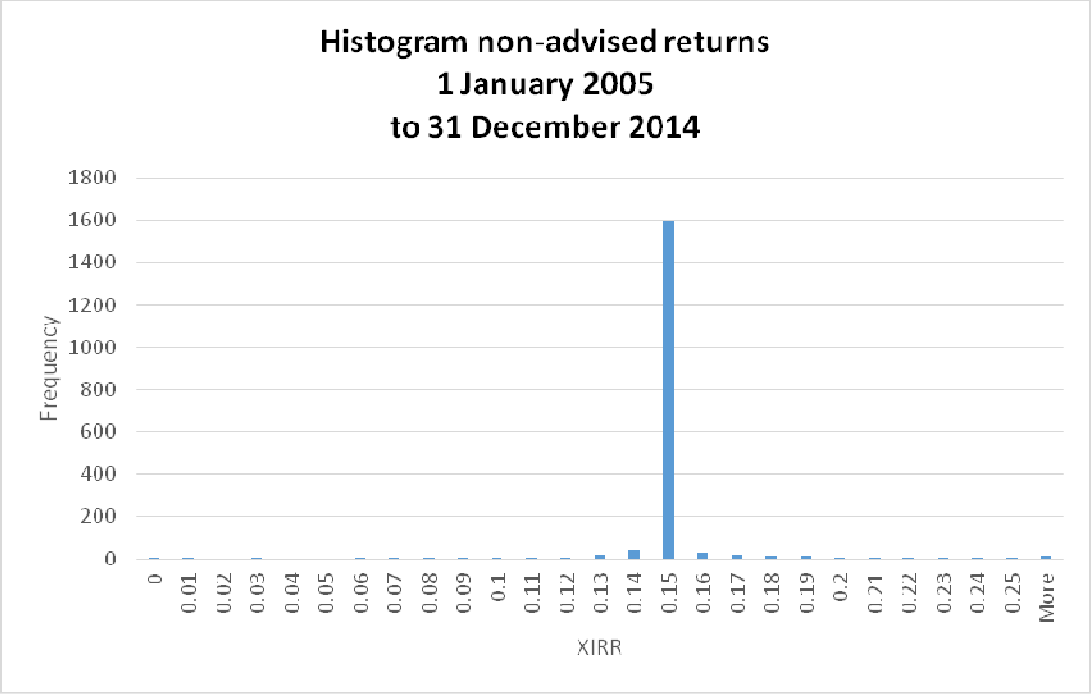
9. Appendices

Appendix 1: Return data visual inspection for normal distribution



Appendix 2: Number of trades data visual inspection for normal distribution