EXPLORING THE NOTIONS OF INVESTMENT EXPERTISE AND STRATEGIES

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Abstract

This study explores the differences in expertise and investment philosophies among private and professional investors (mainly in Switzerland) in the management of their *personal* investment portfolios. It uses the valuable five-step adult skill acquisition model developed by Hubert L. Dreyfus (2004) to characterize the investment 'experts' and establishes key findings and suggestions from their investment behaviour, criteria and strategies for the 'ordinary' investor. The notion of what constitutes 'expertise' in general but especially in the area of financial investment (stock market) was found to be under-researched.

A comprehensive review of the existing literature was conducted to form the theoretical basis for the research and to establish an initial hypothesis. This conceptual framework defines the organization of the study and identifies its challenges, concepts and ideas. A research design framework could then be developed to identify strategies for inquiry (research methodology) and data generation methods. These formed the basis for an extensive online questionnaire, which was answered by 550 participants. In regard to the three research questions developed, this survey was followed by diverse analyses and discussions that delivered key findings and answers for my research.

One of the main foci and accomplished result of this research was to develop a method to identify and characterize the experts amongst the asset managers, institutional investors and private investors and to formulate their expert recommendations into a feasible investment process for the benefit of the ordinary investor. A key finding was that education, financial qualification and experience contribute significantly to informed investment decisions, i.e. diversification of assets, rebalancing of portfolios or passive investing. As hypothesized, the professional investors exhibit superior investment behaviour. However, every fourth private investor also demonstrated characteristics of an expert.

A descriptive and statistical analysis of the expert group characterized them as highly educated, experienced, and diversified. They invest for more than 7 years in passive managed funds rather than single shares, with an expected average return of around 7%. Their preferred asset classes are shares, corporate bonds and commodities and they view the knowledge and size of a company as well as the industry as the most important

investment criteria. In addition, they favour asset allocation, value investing and fundamental analysis as imperative investment strategies/applications.

The main practical contribution of this study is the recommendations for general investors drawn from the experts' knowledge and experience. These include: 'educating oneself' to become an informed investor or expert; qualification or re-qualification of financial advisers; knowing who you are by developing your risk-profile; investing for the long-term if disposable funds are not needed for short or mid-term purchases within a well-diversified portfolio; being wary of the cost, and thus reducing the total expense ratio as much as possible; not stock picking or timing the market; investing in passive funds within superior asset classes; controlling emotions when investing; rebalancing ones portfolio when required (keeping the asset class ratios in control) and continually investing additional disposable funds according to the concept of value averaging (increasing the value of your portfolio periodically). The limitations of these findings are also discussed and the possible directions for future research is outlined.

Acknowledgements

I owe a great debt of gratitude for the execution of this research and writing up of the thesis to a number of people. Firstly, I would like to thank my Mum and Dad whose love, support and sacrifice provided me with the opportunities I have enjoyed. My only regret is that my father passed away before my research was completed; his spirit and inspiration, however, live on.

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Lastly, but most importantly, my thanks and appreciation go to my partner, Carly, who not only kept challenging my ideas but most of all understood and supported the time I invested throughout the years conducting and completing this thesis.

Declaration

I herewith declare that the work in this thesis was carried out in accordance with the regulations of the University of Gloucestershire and is original unless indicated by specific reference in the text. No part of the thesis has been submitted as part of any other academic award. The thesis has not been presented to any other education institution in the United Kingdom or overseas.

Any views expressed in the thesis are those of the author and do not represent those of the University.

Signature   Date: August 25, 2017

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List of abbreviations

AM	Asset manager
ATA	Accredited Tax Adviser
ATP	Accredited Tax Preparer
BPS	Basis point
CAS	Certified Annuity Specialist
CDS	Credit default swaps
CDO	Credit default obligations
CEP	Chartered Estate Planner
CFA	Chartered Financial Analyst
CFP	Certified Financial Planner
CFS	Certified Fund Specialist
ChFC	Chartered Financial Consultants
CIC	Chartered Investment Controller
CIMA	Certified Investment Management Analyst
CLU	Chartered Life Underwriter
CMFC	Chartered Mutual Fund Consultants
CPA	Certified Public Accountant
CPWA	Certified Private Wealth Adviser
CRC	Certified Retirement Counselor
CRFA	Certified Retirement Financial Adviser
CRP	Certified Retirement Planner
CRPC	Chartered Retirement Planning Counselor
CWC	Certified Wealth Consultant
CWM	Chartered Wealth Managers
EA	Enrolled Agent
EMH	Efficient Market Hypothesis
ETF	Exchange traded funds
EXP	Expert
II	Institutional investor
IMF	International Monetary Fund
IMCA	Investment management consultants' association
INI	Informed investor
IPO	Initial public offering

JD	Juris Doctor
LTCM	Long-Term Capital Management
MBS	Mortgage-backed securities
MPT	Modern portfolio theory
OTC	Over the counter
P/B ratio	Price to book ratio
P/E ratio	Price to earnings ratio
PFS	Personal Financial Specialists
PI	Private investor
PRPS	Personal Retirement Planning Specialist
ROA	Return on assets
ROE	Return on equity
SEC	Security Exchange Commission
SRI	Socially responsible investing
SNB	Swiss National Bank
TER	Total expense ratio
UNI	Uninformed investor
UHNWI	Ultra High Net Worth Individual

1. Introduction

1.1. Chapter Overview

This thesis focuses on the differences in knowledge, experience and expertise between individual private and professional investors (primarily in Switzerland) in relation to investing in capital markets. This chapter illustrates my motivation for the research and presents the Dreyfus model of adult skill acquisition from novice to expertise. It also gives general background information about investing and the investor groups under discussion. It considers potential gaps in the literature, presents the aims of this thesis and outlines the resulting research questions. Key terms are also defined and the structure of the thesis outlined.

1.2. Motivation for my research

Stock or fund selection can be an overwhelming challenge for general investors. Choosing securities from the global marketplace and then analysing, evaluating and purchasing investment products for a well-diversified portfolio with a view to tracking and rebalancing those securities, is not something most non-professional investors are capable of or willing to do for themselves. A recent EU report concluded: 'First, and perhaps most fundamentally, the sheer complexity of, and uncertainty associated with, investment products immediately poses the consumer substantial challenges. The difficulty is exacerbated further by the fact that many consumers are not confident with basic financial concepts and terminology. Second, most consumers will make major investment purchases only infrequently, such as signing up to a savings and investment plan, life insurance policy or a company pension scheme. Third, insofar as feedback is ever available about whether the consumer has made a good or poor choice, it is likely to be delayed and confounded with exogenous factors such as market conditions. Fourth, retail investment products are primarily sold and not bought. This is a market in which there is little independent 'shopping around' by consumers, and advice is ubiquitous' (Charter, Huck, & Inderst, 2010).

As a result, many private individuals deposit their (hard-earned) money either with a retail bank, a private bank or with an asset management company, trusting that these organizations know better and will work solely in the client's interest.

While there are undoubtedly financial institutions that act for the benefit of their customers, the vast majority do not (Green, 2008; Schwanfelder, 2012; Hechler, 2013). In addition, there is a great variation in the levels of service and quality provided by all professional asset managers (banks, independent asset managers, insurances companies). This is for numerous reasons, such as a lack of professionalism, flawed customer and risk profiling, general erroneous decisions regarding investment strategies, or investment biases towards the bank's own products or third-party products to generate kickbacks and retrocessions. These practices unfortunately often lead to underperforming portfolios and losses over time for the private individual who placed their trust in a professional's support.

Similarly, private investors who either want to invest themselves or who are not eligible for the services of private banks will also often lose money in the long term (Lowenstein, 2000; Zweig, 2006; Browne 2015). This is, as I assume, a result of numerous factors such as lack of investment knowledge, overestimation of own talents, not knowing 'who they are' (risk tolerance/ability), following the herd or the desire to achieve 'unrealistic returns'. The EU report quoted earlier, from the review of available data, concludes that:

(1) A growing body of evidence shows that the 'standard' model of a rational self-interested economic agent does not adequately describe human decision-making.

(2) Features of the retail investment market may make consumer decisions particularly prone to biases and errors.

(3) Consumers' reliance on advice makes issues of trust and persuasion of key importance in the retail investment market.

(4) In addition to the extensive review, the same team conducted an on-line survey involving 6,000 consumers. As a result of this activity, they further concluded:

- Consumers are often confused about the true nature of their investment.

- Although investments are usually triggered by a change of life circumstances and not marketing, information search is very limited.

- Advice is ubiquitous in the retail investment market.

- Trust in advisers is high, but consumers are often unaware of potential conflicts of interest.

However, for the many change of life circumstances such as financing a house, supporting a family, preparing for retirement or attempting to combat inflation, investing wisely is paramount for anybody who retains disposable income. While investing without taking risks is impossible, the key to minimizing these is to prevent these downsides as far as possible by educating yourself, learning from experts or by engaging a professional asset manager who offers reliable and sustainable support (authors comment).

After having traded on the stock market myself for almost two decades and with relevant post-graduate studies in this area, I co-founded Sincera Asset Management in Switzerland in 2010. My business partner and I sought to establish a company that serves private clients who retain disposable income but would not qualify for the services of a retail or private bank. Banks ins Switzerland commonly demand a minimum investment of CHF 250,000 to CHF 500,000 (£190,000 – £380,000, FX rate 2016); or would not receive individual, personalized investment consulting due to the banks' overall cost structure and strategy.

Our goal was to deliver the same or better quality professional service than the private or retail banks propose, but at lesser cost. We achieve this by being expert passive investment managers with a buy-and-hold strategy with periodical rebalancing, focusing on low cost investment products such as index certificates or exchange traded funds (ETFs) managed through low cost online-banks.

Part of our core business is to analyse existing investment portfolios of potential customers in order to identify if these clients have invested sensibly and efficiently. When conducting such portfolio analysis, we mainly focus on diversification, total expenses (cost), asset classes and asset class allocation, risk profile, and the selected investment instruments (products).

Each of these focus areas receives a grading from low to medium to high, with respect to its optimization potential, and is crucial for investors who want to invest residual income, be it money saved or inherited, for the sustainable long-term.

Almost all the client portfolios we analysed displayed medium or major flaws. The most common issues were mediocre asset class allocation, under-diversified portfolios, being unreasonably invested in banks' own products, high portfolio turnover, too expensive (high management fees and transactions costs leading to a high Total Expense Ratio (TER), and inappropriate investments for an investor's given risk profile. I highlight and describe the most vital shortcomings below.

1.2.1. Common investment deficiencies

Mediocre asset allocation

Generally, investors were diversified to some degree having allocated to different asset classes, usually cash, equities (shares), government bonds, corporate and high yield bonds, structured products, real estate, commodities and hedge funds.

Many portfolios also contained quite exotic and complex products such as cat bonds, convertible bonds, or costly asset classes such as high-yield bonds or fund of hedge funds. Repeatedly, these positions accounted for less than 3% of the portfolio worth, therefore offering no real positive impact but resulting in high costs while not delivering real diversification benefits. Although such products / asset classes can indeed deliver high returns, one needs to be aware of the potential down-side risk as higher premiums always come at a higher cost and significant losses are probable, especially in turbulent market environments with high volatility.

On many occasions we observed that portfolios also contained direct investments in high-profile companies such as Google, Amazon, Netflix or Uber or in highly promoted industries such generic pharma, agriculture, renewable energy (i.e. windmills, water, solar), where one needs to ask whether these are viable and sustainable investments.

Another common issue was that portfolios were restricted to a single emerging market, i.e. Argentina, Brazil, Russia or South Africa, instead of investing into different funds

that allocate assets to multiple emerging market countries. Also common were allocations to money market funds (currency funds) whose yields (profits) are regularly lower than the management fees and expenses (TER) they accumulate, while posing substantial volatility risk inherent in currencies, therefore increasing portfolio risk unnecessarily.

Under-diversified

Most investors' portfolios were diversified to some degree, nevertheless around half of all portfolios were lacking in 'number' of positions and/or contained various similar products; for example, shares in both Credit Suisse and UBS, or funds that held those same companies that the investor held directly.

According to one's risk-profile, a stable and 'weatherproof' portfolio should (in terms of investment theory) comprise equities from both developed and emerging markets, from small/medium and large capitalized companies, government bonds with different durations, commodities, real-estate, cash, and a gold position for further diversification reasons and as a hedge against inflation. Furthermore, a diversified portfolio should not contain as many instruments as possible but an ideal combination of them, so that they complement each other in various market environments.

Unreasonably Invested in banks' own products

Almost all customer portfolios contained mutual funds either from the bank managing the clients' money (repeatedly up to 60% of all products within their portfolios) or from a third-party fund provider. Given that the banks' main goal should be to provide clients with the absolute ideal combination of products to suit their investment requirements and since there are thousands of different funds available, it was astonishing that the banks primarily selected their own products. Certainly, while it is possible that a bank may manage funds that are truly superior to all others available, the more likely conclusion is that the banks increase their revenues by selling their own products. Similarly, selling the products of amicable partner banks or fund issuers also generates additional revenue via the receipt of retrocessions and other forms of kick-backs, as opposed to simply selling low cost exchange traded funds.

High portfolio turnover

In many cases, especially with portfolios containing single share investments, the positions were turned over too frequently (constantly buying and selling positions),

therefore generating unnecessary transactions costs and commissions, ultimately carried by the client. Perhaps a simple buy-and-hold strategy with periodical rebalancing would be more beneficial.

Too expensive – high total expense ratio (TER)

Almost all portfolios exhibited high optimization potential with respect to the cost of constructing and managing the investment portfolio. While it is feasible that banks and asset managers require a fee for providing their investment advice and services, the differences in these charges were at times rather large. Furthermore, in most cases, portfolios would contain high cost products such as actively managed funds, structured products, hedge funds or funds of hedge funds. To illustrate this effect, an actively managed fund for instance costs 1.5 to 2.5% management fee per annum, plus often, particularly in the case of hedge funds, a 20% performance fee, and in addition, a 5% front-load fee when purchasing the fund and typically a 3% back-end load fee when selling the fund. To cover these excessive costs, the fund must generate a positive return that is at least 2 to 3% higher than the market average. For hedge funds and fund of hedge funds, the costs can even be higher.

Inappropriate investments for a given risk profile

Another common occurrence was the portfolio not reflecting the client's risk profile. There was hardly a case where the portfolio was invested in a less risky manner when the profile would have allowed, but often riskier than required and contractually agreed. In other words, a client would be happy with a small annual profit of 1 to 2% but the portfolio would contain high-yield bonds or structured products that are very volatile and could quickly lose substantial value. For example, in one case, a very risk-averse customer was invested exclusively in a single currency fund. Similarly, if a risk-averse client would only hold a few single shares and if one of these companies would fold (e.g. Enron, Arthur Anderson, Swissair, American Airlines, WorldCom, Blockbuster, General Motors, etc.), the portfolio would incur a substantial loss due to the high concentration risk it assumed in a given name.

In conclusion, we found that many portfolios did not seem to follow a clear asset allocation strategy, as products were mixed together unstrategically and were often 'exotic'. Some had a strong home-market bias, others contained hardly any Swiss Franc denominated products, and most contained actively managed funds that were either

issued by the same custodial bank holding the portfolio, or by an amicable third party financial institution from whom the custodial bank would receive commissions.

The more portfolio checks we conducted, the more alarmed we became about their make-up. We started to examine the rationale for private investors not questioning their banks' actions or holding them more accountable for their performance and services delivered. That these clients are no investment experts is understandable, but that the professional investment advisers are not acting like experts and seemingly neglecting their obligation of professional duty to act in the best interests of their clients was bewildering.

Of course, private banks, retail banks and asset managers alike need to generate profit in order to invest and grow. However, this should never be done at the cost of compromising a client's portfolio (e.g. 'Act in the best interests of your clients in seeking to extend and secure their financial wellbeing' – AFA Code of Conduct). One would assume that by investing solely in the client's best interest, the bank or asset manager would experience a high client retention rate and would increase their opportunities to conduct further business (for example, by selling the client loans, mortgages, brokerage services, etc.).

In other fields, we fully depend on the expert's knowledge and know-how. Curiously, within the field of financial investing, the variation in level of knowledge, expertise and advisory competencies seems to be particularly high. This prompted me to question what truly constitutes an expert financial investor. I came to realize that there is not much research-based or academic information available that actually provides a 'description of experts' or expert knowledge, as O'Leary, Fisher, Choy, Mengersen & Caley stated in 2011. In 1993, Weinstein discussed the same dilemma and subsequently attempted to construct a useful description of an expert (generally speaking, not in terms of one in the field of financial investing). He distinguished between two kinds of experts; those whose expertise is a function of what they know (epistemic expertise) and those whose expertise is derived by what they do (performative expertise). He concluded that epistemic expertise is the capacity to provide strong justification for a range of propositions in a certain domain, while performative expertise is the capacity to perform a skill according to the rules and virtues of practice.

1.3.   The Dreyfus adult skill acquisition model – from 'novice' to 'expertise'

The most valuable insights into the definition of a general expert are provided by Hubert L. Dreyfus (1993) who developed a five-stage model of adult skill acquisition describing the stages one must master in order to gain expert knowledge. His brother, Stuart E. Dreyfus (2004) built on this model. Stuart Dreyfus (2004) used two examples to illustrate the knowledge adoption/ acquisition process: a student learning how to drive a car and a person striving to become an expert chess player. In this thesis, the example is of skill in investing in capital markets, and the same five stages are applied.

1.3.1.   Stage 1 - 'novice'

This describes the instruction process that begins with the tutor decomposing the task environment into context free elements that the novice can identify without required skills. The beginner then is given rules to put information into action. Dreyfus states that merely following rules will produce inferior outcomes in the real world, hence the learner does not only require the facts but also an understanding of the context in which the information makes sense.

1.3.2.   Stage 2 - 'advanced beginner'

This illustrates that the novice, who is now coping with real situations, starts to develop an understanding of the relevant context and/or an instructor or lecturer points out perspicuous examples and important aspects about the situation at hand. After accomplishing an increasing number of comparable situations, the student starts to recognize these new aspects, based on his/her experiences. Dreyfus (2004) calls this stage a 'maxim', which differs from a rule, as it requires some understanding of the domain to which the maxim applies. Still, learning takes place in a detached analytical manner as the advanced beginner follow rules and is given examples.

1.3.3.   Stage 3 - 'competence'

With more experience, the number of potentially relevant elements and procedures that the learner is able to distinguish and follow becomes overwhelming. Consequently, satisfying performance becomes problematic and exhausting at this point, as a sense of

what is important in a particular situation is missing. To manage this overload and to achieve competence, people learn through education or experience to develop a plan how to determine between the elements that are important and the ones that can be neglected; thus, understanding and decision-making becomes easier.

The challenge is to master all subtle differences in a multitude of situations; hence the student must now figure out a plan of action and decisions him/herself, based on rules, examples, experiences and intuition. Dreyfus (2004) states that given this continuing uncertainty, copying becomes rather frightening, rather than merely exhausting, and the students become more and more emotionally involved to an extent that it would be difficult for them to just follow the detached-maxim approach of the advanced beginner. He determines that in this phase an emotional involvement is the key to advancing beyond competence, and that one who is seeking a safety net or rules will not improve and never become an expert. He concludes that the more the beginner is emotionally committed to learning the better, but that conversely, an expert should be coldly detached and rational in his/her practice.

1.3.4. Stage 4 - 'proficiency'

The continuous positive and negative experiences will reinforce successful perceptions and inhibit unsuccessful ones, and the learners existing practice stemming from rules and principles, will gradually be replaced by situational discrimination. With each entered situation, certain aspects stand out as important and plans evolve, without the learner standing back and choosing plans or deciding to adopt a particular perspective. The goal becomes simply obvious and there is less doubt that the respective actions and decisions are appropriate. However, at this stage, the particular actions are still hard to evaluate, as the proficient performer simply has not yet had sufficient experiences with the effects of the wide variety of probable responses to each of the situations. Hence, while seeing the topic and the important aspects spontaneously, s/he must still decide on what to do.

1.3.5. Stage 5 - 'expertise'

The skilful expert, immersed in the world of outcome and goal-oriented activity, sees what needs to be done but decides intuitively on how to achieve it, selecting from an immense collection of situational discriminations.

This is what distinguishes the expert from the proficient performer. The brain of the expert progressively decomposes classes of situations into subclasses, with each demanding an altered reaction. This permits for an instant intuitive situational response that is characteristic of expertise. S/he does not solve a challenge, s/he does not even think. S/he just does what usually works and, of course, it typically works.

In conclusion, if the described Dreyfus model holds true, one could reasonably conclude that private investors need the support of professional advisers as most private investors would be 'novice investors' or 'advanced beginners.' They would have not progressed to, or beyond, the competence stage, as this would require learning from numerous different investment situations, hence having adequate experiences, and becoming emotionally attached to learning about investment. On the other hand, the question of whether all professional investors and asset managers are indeed emotionally involved and imbued with sufficient knowledge and experience to be able to intuitively make the right decisions in any given situation (proficiency, that is, to display expertise), becomes legitimate.

1.4.   Investing in capital markets

One of the challenges facing anyone seeking expertise in investment is the availability of many different types of assets that might be selected. The focus here is on capital markets, rather than, say, art or antiquities. Investing in capital markets (shares, bonds, funds, etc.) belongs to the classical form of money investments. Such investments are important for everyone who wishes to build a healthy financial future. In Switzerland, it is essential for any person in paid employment, as almost the entire workforce is required to invest in pension plans, either directly if self-employed or indirectly through their employer.

Pension plans have at their core investments on stock markets. Shares are the most widely held of the common types of capital investments and are sometimes referred to as 'stocks' or 'equities'. They are commonly issued and traded either over-the-counter (OTC) or through stock exchanges such as the SIX Swiss Exchange, the New York Stock Exchange (NYSE) or the London Stock Exchange (LSE). The stock market is also known as the equity market and is one of the most vibrant areas of the market economy (Hare & Davis, 1997).

Equities provide investors the opportunity of ownership in a company as well as a platform for corporations to raise capital. Investors have the potential to make a profit if the share price rises and through dividend income. The main function of these investments is to make money, to provide a return on capital. There are many ways to achieve the goal of making money, of securing a return using capital markets.

These different means have given rise to complexity in markets, in products, in choices and in advisory services. These complexities have led some to question the functioning overall of the market for investments, particularly for retail investors (those investing their personal wealth): 'In particular, the 2010 EU Scoreboard showed that the market for 'investments, pensions and securities' ranks worst out of fifty consumer markets for overall market performance; worst for ease of comparing products and services sold by different suppliers; worst in trust that suppliers will respect consumer protection rules; fourth worst in experiencing problems; and worst for overall satisfaction' (European Commission, 2010).

By 2016, the situation had improved but still: 'The market for 'investment products, private pensions and securities' is the third worst assessed services market in terms of overall MPI [Market Performance Indicator, a composite ranking index for 42 EU markets]. The developments in this market are similar to those described for the mortgages market, resulting in a 4 four-point increase in MPI since 2013' (European Commission, 2016). A similar situation was evidenced in Switzerland by the research organization, gfs.bern. They established that out of sixteen dominant institutions and media vehicles, only the 'Internet' and 'political parties' enjoyed a lesser amount of trust than 'banks' (gfs.bern, 2016).

The poor functioning of these markets (also mirrored in jurisdictions other than the EU and Switzerland) has led to various forms of sub-optimal retail investor behaviour. For example, some people keep cash in ordinary bank accounts, making little or no interest, but believing their money to be held securely. The reality is that most of them do not consider that when the time value for money and therefore inflation is taken into consideration, they are actually losing money every day (Ellis, 2002). Certainly, since the subprime and financial crisis at the end of the last decade, inflation in Switzerland (and many other developed economies) has been very low, yet it was still around 0.23% per

annum throughout the last 10 years (2005 to 2015), while the long-term average inflation between 1998 and 2007 was around 1.8% (Inflation.eu, 2016).

To illustrate this effect, a cash position of CHF 100,000, at an average inflation of 2%, will diminish to CHF 55,000 over a period of 30 years.

In contrast, using excess cash and investing it sensibly in the stock market (e.g. in some sort of accord with rational investment choice models) can generate, depending on the risk you are able and willing to take, up to 6 to 7% per year (long term average performance of equities). Of course, these investments carry various risks but the risks can be managed and largely mitigated if they are understood. Investors therefore need to learn about the concept of unsystematic risk (overall market risk, recession, bear market, etc.), which is inherent when investing in the stock market and cannot be diversified away, and systematic risk (title risk) that can be diversified away by investing in different markets and products. To do this requires both investor knowledge and (reasonably) effective market functioning.

Other forms of 'indirect' investing in the stock market might be through private pension plans, insurance solutions or by working for a corporation that partly remunerates its employees through allocation of shares or stock options. Further investments can be conducted through the stock markets in vehicles such as active managed funds, exchange traded funds (ETFs), government bonds, corporate bonds or high yield bonds, call or put options, futures, structured products, hedge funds, credit default swaps (CDS), mortgage-backed securities (MBS), etc. Choosing the most appropriate product is complex for any given investor, retail or otherwise.

As the economic picture remains bleak, investing wisely in the stock market is one of only a few methods to ensure a successful, secure future. Without investing, accomplishing a comfortable life and retirement is difficult. In response to the rise of complex equity and associated markets, economics has developed to offer a number of methods of rational evaluation to support investors. Modern Portfolio Theory is a major contribution to this area.

1.5. Modern portfolio theory

In addition to diversifying the title risk through markets and products, we can achieve further differentiation by investing in the various asset classes, such as fixed income (bonds), shares, real estate, commodities etc. (Swensen, 2005). This can reduce the overall portfolio risk as the different asset classes advance at different rates. For example, in a bull (rising) market, share values will usually increase at a higher rate than that of governments bonds or gold, whereas in times of general market decline (bear market), the opposite will occur, as investors prioritize safety and stability.

These differences are measured by the correlation coefficient describing how two asset classes or products move in relation to each other, by the measures, -1 (perfect negative correlation - outstanding) and +1 (perfect positive correlation - poor), in those situations where a balance of risk is being sought. For example, shares of a company producing sunglasses will positively correlate (near +1) with a company that produces sun cream. Conversely, the share price of a firm producing rain umbrellas will negatively correlate (near -1) with the previous ones. The chance of their share prices developing at the same rate is very low and therefore demonstrates an almost perfect (theoretical) diversification.

Investors, who have put all their funds into the companies that sell either sunglasses or sun cream, would perform strongly when the sun is out and poorly when it rains. The reverse would occur if the investor were fully invested in a company producing umbrellas. In an ideal world, the investor would have shares in both the sunglasses / sun cream and the umbrella company. In reality, perfectly correlated (negative and positive) equities are infrequent; nonetheless investors will find various shares and asset classes with some degree of correlation.

The described phenomenon is part of the modern portfolio theory (MPT), developed by Nobel Prize winner, Harry Markowitz in 1952. He concluded that it is possible for investors to construct an efficient frontier of an optimal portfolio that offers the maximum expected return for a given level of risk. He proposed that it is not sufficient to look at the expected risks and return of one particular stock. It is also about choosing the right combination of stocks (Markowitz H. M., 1952).

Before and particularly since Markowitz, many studies such as Graham, 1949; Fama, 1970; Brinson, Hood & Beebower, 1986; Black & Litterman, 1991; Edleson, 1991; Sharp, 1994; Dreman, 1998; Ibbotson & Kaplan, 2000; Ellis, 2002; Glassmann, 2002; Schiller, 2003; Swensen, 2005; Ferri, 2006; Zweig, 2006; Goldie & Murray, 2010; Melton & Mackey, 2010; Woods & Urwin, 2010; Marston, 2011; Siegel 2013; Stammers, 2015 have provided more in-depth knowledge and understanding about investing in the stock market. However, the controversy regarding the ideal and most profitable strategies is ongoing and will most likely continue. Alongside the variety of potential strategies, a further complication is variation in the nature of investors themselves and their requirements.

1.6.   Different investor types

There are various types of investors, partly defined by their *investment styles* and their focus, e.g. technical analysis, fundamental analysis, value or growth investing, dividend investing or active or passive investing. They can be distinguished further by their *investment nature,* whether they invest for themselves (private investors) or professionally for clients; i.e. asset managers working for banks, independent asset managers, investment bankers focusing on merger and acquisitions, companies going public (IPO) or institutional investors concentrating on pension funds, single and multi-family offices, foundations or international organizations.

For the purpose of this thesis I first focus on groups differentiated by their investment nature, not investment style. Groups that invest professionally are mainly distinguished as asset managers (AM) or institutional investors (II), with private investors (PI) being the third group.

1.7.   Literature gaps

Since Markowitz in 1952, most research in economics related to investment has focused on either confirming, disproving or further developing the Modern Portfolio Theory (MPT), for example, the Capital Asset Market Pricing model (CAPM), developed by William F. Sharp (1964) that describes the relationship between systematic risk (that cannot be diversified away) and expected return on assets, in particular shares.

Another extensive body of research has been dedicated to testing whether active fund managers are exceptionally skilled in achieving performance (portfolio return) that is essentially greater after cost than what the market itself delivers (e.g. exchange traded funds, index certificates) or whether their success is more reliant on luck (i.e. Sharpe, 1991; Ellis, 2002; Hechler, 2013; Siegel, 2014).

Other research has focused on the effectiveness of different investment strategies such as value investing, growth investing, dividend investing, technical or quantitative analysis (i.e. Lynch, 1993; Hunt, 2005; Faith, 2007; Gwilym, Clare, Seaton and Thomas, 2009; O'Neil, 2009; Schwager, 2014).

Correspondingly, there are many ongoing deliberations, for example, as to which of technical analysis or fundamental analysis, as the two key types of approach, is a better investment approach. Different studies by both researchers and practitioners have yielded conflicting results. The majority of analysts and asset managers however tend to believe that the notion of fundamental investing enjoys more merit than technical analysis.

Fundamental investing rests on consideration of the underlying nature of an asset and its relation to other assets that may be held within any given investment portfolio, as there is acceptance of the notion of spreading risk as a key determinant of portfolio performance. Many researchers and professional investors, i.e. Brinson, Singer and Beebower (1986), Stevens, Surz, and Wimer (1999), Ibbotson & Kaplan (2000) or Ferri (2006), show that the notion of both strategic and/or tactical asset allocation, of spreading the risk amongst various groups of investments, plays a significant role within sustainable investing. There is a widely spread consensus that efficient portfolios require diversification and should contain products from different asset and sub-asset classes such as shares, bonds, funds, real estate, commodities, gold, etc. which behave differently to one another in diverse market situations. Different asset classes in such portfolios therefore display little to medium intercorrelation.

Unlike the above-mentioned subjects which focus on types of investments, the complement of types of investors has received little attention. The notion of differences in knowledge, experience, and investment approaches between private and professional investors as two major types has received scant attention.

In particular, with regard to Swiss investors, there have been only a few relevant studies, for example one by Birchler, Volkart, Ettlin & Hegglin (2010).

Moreover, there are no studies (even more widely) that focus on exploring the actual investment expertise amongst both private and professional investors to characterize them as to their ability to support the decision-making process of the retail investor. The studies that are available focus on knowledge of investment strategies classified in various ways. One major concept available from the theoretical literature that is generally lacking from the knowledge base found in these studies is 'value averaging'. It appears not to be really understood by many academics and investment practitioners, especially compared with other investment strategies and tactics identified in the various studies.

Lastly, besides the Dreyfus model, there is little literature that elaborates on the notion of expertise or on the constitution of an expert. However, methods are known (apprenticeship, investment related courses, experience) that assist individuals to become a professional, or an academic to be perceived as an expert in the field of investment.

1.8.   Aim of this research

The aim of this research is to test if there are differences between investors characterized as experts and those characterized as less informed (or uninformed) investors. This classification can then be used to examine investment practices for the (private) general investor, enabling them to invest more knowledgably and effectively, according to research and experience from expert investors.

My overarching hypothesis is that professional investors, such as asset managers and institutional investors, possess superior investment knowledge and expertise compared to private investors. They should therefore be better informed and act more cautiously. They can be perceived as 'experts' and a paragon for private or general investors. I also believe that within the group of professional investors, the institutional investors will exhibit greater investment knowledge and expertise (given that their portfolios are likely to be of greater value) than the asset managers.

1.9. Research questions

I intend to achieve the aim of this thesis by concentrating on the following research questions:

1.9.1. Research question 1 (RQ1)

How do private and professional investors differ (if at all) in terms of their knowledge, experience, and investment approaches (examining the first Dreyfus related categories)?

1.9.2. Research question 2 (RQ2)

Is it possible to determine probable differences in the investment approaches discernible between those now characterized as investment experts and those characterized as informed or uninformed investors (examining the second Dreyfus related categories)?

1.9.3. Research question 3 (RQ3)

How to characterize the investment experts and their investment behaviours, criteria and strategies in an attempt to examine the Dreyfus model category concerning expertise?

1.10. Definition of key terms

There are a number of key terms of importance in relation to the field of investment. Some terms have considerable legal importance and are therefore subject to extensive definition, which does vary by jurisdiction. The appendix offers definitions of these major key terms, such as investment products and investment strategies, or further relevant terms that are used throughout this study. The definitions used here were drawn from the CFA Institute, the U.S. Securities and Exchange Commission (SEC) or from Investopedia. Two examples of the types of term to be found given in the appendix are offered here to demonstrate the level of definition provided:

Active management

Active management describes the notion of managers using analytical research, forecasts, their own judgement and experience to make decisions about which securities (shares, bonds, funds, etc.) to buy, hold or sell. The opposite of active management is passive management, also known as indexing. Active managers try to achieve higher portfolio return than the market would deliver.

Asset allocation

Asset allocation is an investment strategy that aims to balance risk and reward by dividing investments among different asset classes, i.e. shares, bonds, cash. The idea is to spread the portfolio risk among various groups of investments, which inherit different correlation co-efficients (move inversely to each other).

The extensive list of all relevant key terms and their definitions is presented in the appendix.

1.11. Structure of thesis

The diagram below displays the organization of this thesis including motivation for this research, the aims and research questions, the conceptual framework and research method selected, respective analysis and discussion, conclusion and recommendations, contribution to knowledge and areas for further research.

01 Introduction containing background information about investing in the stock market, my motivation for this research, the Dreyfus model, literature gaps, the aim and objectives, the definition of key terms and the structure of this thesis.

02 Thorough narrative literature review in relation to the aim and research objectives; initial hypothesis.

03 Conceptual framework to organize the study, relevant theories, concepts and ideas.

04 Research methodology and analysis, my philosophical worldview, definition of the method to successively conduct primary research, statistical analysis.

05/06 RQ1 – hypothesis, analysis and discussion of the information provided by the three investor groups – asset managers, institutional investors, private investors.

07 Profiling investors to categorize them into 'uninformed investors', 'informed investors' and 'experts'

RQ2 – hypothesis, analysis and discussion of the information provided by the three newly established investor groups.

08 RQ3 – hypothesis, analysis and discussion of the information focusing on the experts

09 Conclusion and recommendations for the general investor, contribution to knowledge and suggestions for further research.

Figure 1 – Structure of thesis

1.12. Summary of this chapter

This chapter presents a detailed description of my motivation for this research and introduces Dreyfus' 5-stage adult skill acquisition model, from novice, to advanced beginner, to competent, to proficiency, to expertise, which will define the characteristics of the various investor groups and guide the subsequent analysis and discussions. It further offers an overview of the notion of investing in general and describes the history of investing, including a brief synopsis regarding the modern portfolio theory and the different investor types pertinent to this thesis. It illustrates the aim of this thesis and the three respective research questions. Lastly, literature gaps were established, the main key terms explained and the structure of the thesis outlined.

2.   Literature review

2.1.   Chapter overview

The extended literature review develops understanding of the theoretical and practical challenges in the field of finance, particularly in investment management. Identifying past and recent theories as well as possible shortfalls enables me to contribute to original academic theory and provide practical applications. The focus is partly on presenting a range of perspectives, for what is striking is the lack of an integrative, overarching perspective in the studies in general. This might be expected in relation to those practitioners whose purpose is as much advocacy as critique but is also prevalent in the academic literature. The starting point is consideration of the emergence of investment theory as a topic, and then its development by a number of individuals each offering a particular 'style' of investment 'theory'.

My review focuses foremost on the history of investing and the early works of various scholars and experts such as Louis Bachelier, Irving Fisher, John Burr Williams, David Dodd, Benjamin Graham, Harry Markowitz, Philipp Fisher, Franco Modigliani and Merton Miller, Myron Scholes and Fischer Black, James Tobin, William Sharp, John Lintner or Eugene Fama. Their insights and the theories that were built upon their work form my conceptual framework and the foundation of my research questionnaire, as well as guiding the discussion and exploration of my research questions.

Alongside the works of these individuals, important lessons are also derived from major financial and investment related developments, such as the catastrophic crash of Long Term Capital Management (LTCM) that brought the notions and mechanics of hedge funds under scrutiny, and the bursting of the Internet bubble. I also consider more recent developments both theoretical and practical, such as the concept of behavioural finance and quantitative trading approaches. This is supported by reference to potential advances.

Derived from this literature, I then explore the most common investment strategies employed today and the relevant investment criteria, concluding with their different means of application by both professional investment experts and private investors.

The review also considers what might be the characteristics of investment experts (knowledge, proficiency, behaviour) and develops a picture of a paragon of expertise, through investment related qualifications and the adult skill accusation model. From this, I then make inferences for the accomplishment of this thesis. First, I present contextual literature that helps set the scene for investment activities.

2.2. Context information

The context of money investment relevant to both private and professional investors is a very broad field including theories, practical applications and implications of investments in stocks, mutual funds, passive managed funds, pension funds and other investment products. I also discuss historic stock market returns as this delivers valuable information for my research questionnaire and the subsequent analysis and discussions.

Sharpe (1991) believes there are not many investors that are skilled and capable enough to persisently perform better than the market, e.g. investors are better off buying the index when buying large company stocks such as the ones that comprise the Standard & Poors 500. However, when investing in smaller companies, 'you're probably better off with an active manager than buying the market' as the case for passive management rests only on complex and unrealistic theories of equilibrium in capital markets. Any graduate of the Business School should be able to beat the index fund over the course of a market cycle' (Sharpe, 1991, p. 7-9).

He concludes that such alarming messages can only be justified by assuming that the laws of arithmetic have been suspended for the convenience of those who choose to follow a career as active managers. 'If active and passive management styles are defined in sensible ways, it must be the case that 1) before cost, the return on the average actively managed dollar will equal the return on the average passively managed dollar and 2) after cost, the return on the average actively managed dollar will be less than the retun on the average passively managed dollar. These assertions will hold for any time period.' Hence, his projection that, when properly measured, the aggregation of all investors in the market must equal the performance of the market. However, when taking all the costs of an investment into consideration, the average investor must be underperforming the market on a cost-adjusted basis.

Sharpe showed conclusively that active management, stock picking and market timing are inferior methods of investment management. Nevertheless, there are those who continue to argue for 'active' investment styles (or trading concepts, to use the somewhat grandiose label used by some writers). This study therefore focuses (i.a.) on the active vs. passive fund management dispute and analyses whether direct investment (stock picking) is a suitable investment strategy.

Brooks, Chow and Ward (2001) analyse whether it is possible to derive profitable trading strategies from investment best sellers such as 'What Works on Wall Street' by James P. O'Shaughnessy. They test whether his strategy in the UK context would have produced as spectacular a performance as it did in the US. As part of their investigation, they highlight a general methodology for determining whether the observed outperformance of a trading concept can be attributed in part or in entirety to data mining. They conclude that overall the O'Shaughnessy rule was successful and out-performed the FT All-Share index over the past 30 years, but compared with the results in the US, the O'Shaughnessy strategy was not nearly as successful.

Brooks et al. also look at other investment novels and categorize them into 'Structure of books reviewed'. Here they distinguish between 'academic' writers like Burton G. Malkiel and Jeremy Siegel and 'professionals' like James P. O'Shaughnessy and David Dreman. They further classify the professionals into those who applied statistical thinking and those exceptional practitioners such as Warren Buffett, Peter Lynch or William J. O'Neil who as Brooks et al. (2010) state, did 'no research' at all. Brooks et al. offer little in the way of analysis beyond their admittedly useful descriptive categorizations.

In a similar vein, Schelauske (2001) provides a guide to explain the types and mechanics of investment funds and how to choose the most promising one from the universe of products by applying a three-step approach. He researches the current investment advice from a number of fund managers, elaborates on the chances and risks of such investment funds, how investors can determine their individual risk profile, the full range of fund types and lastly on the selection criterion. However, his work is directed more on the beginner investor (novice) than on seasoned well-informed stock market participants. Again, the perspective is largely descriptive, and there is a major omission from his considerations - he does not discuss the significant notion of cost to a satisfying extent.

Like most authors, he notes that one of the biggest advantages of funds is diversification, hence the risk can be reduced by investing in a fund that holds several titles than by holding one title only. Likewise, the investment duration is also vital to minimize risk and maximize return. Another central characteristic of funds is that investors can cover whole markets, countries or even the entire world by holding only few funds. He makes an interesting point that the timing of when to buy a fund is crucial but should take place in an upward market. Though these points are supported logically, he offers little empirical support. [Other advisers, (Ellis, 2002, Swensen, 2005) disagree with Schelauske's point on timing, as timing the market (they suggest) is very difficult – but again, without coherent empirical support.] Schlelauske concludes by observing that banks are often not the best advisers in terms of choosing the right funds as they are biased, trying to market those products that produce high commissions vs. offering the best possible fund, that reflects an investor's risk profile.

One issue in defining the timing of purchase of investments relates to the notion of not investing all fund money at once but splitting it in various phases over a certain period to average the purchasing price. Again, this is a nostrum often advised for logical reasons, but lacks coherent theoretical and empirical justification. A further issue in studies of this subject is clearly the inability of researchers to command the sums that actual empirical testing would require. Research often utilizes the retrospective application of theoretical approaches using notional investment to known investment data sets, such as historical stock prices and market indices.

Based on this type of descriptive evidence and theoretical musing, this thesis considers not only the important notions of diversification and the investors risk profile, but also elaborates on bias of banks or fund managers, the cost of purchase and the cost of managing funds. These topics have been introduced across a range of studies and have been shown to be capable of, or of actually influencing, investment outcomes. There is no comprehensive, coherent framework extant within which they have all been incorporated. Much of the extant work is retrospective, considering the known events and approaches that wider public opinion considers influential.

Bernstein (2005) traces the origins of modern Wall Street, from the pioneering work of Markowitz referred to earlier, to Friedman and Tobin, to Modigliani and Miller, who became the originators of arbitrage in determining the value of securities, to Black and

Scholes, and Robert Merton, who laid the foundation of financial derivatives and Sharp whom, Bernstein suggests, was the single most influential authority in investment history. Bernstein states that Sharp's achievement in combining theoretical innovations with practical applications have made him a hero in the world of investment professionals, particularly with his breakthrough in 1964, when he developed the capital asset pricing model (CAPM).

Bernstein also points out that the 'Brownian motion' evident in market prices came to be called the 'random walk' in the literature of finance. In financial theory, stock market prices progress according to a random walk and therefore cannot be predicted (Malkiel, 1973), which is consistent with the efficient market hypothesis (Fama, 1970).

Bernstein suggests that the stock market as a whole (particularly New York's), is a vital and productive model for the rest of the world, including former socialist countries seeking the path to prosperity and freedom. He quotes John Maynard Keynes who remarked that the stock market is little more than a beauty contest and a curse to capitalism. Bernstein demurs and claims that 'Wall Street shapes Main Street'. He argues that it transforms factories, department stores, banking assets, film producers, machinery, soft-drink bottlers, and power lines into something that can be easily convertible into money and into vehicles for diversifying risk. It converts such entities into assets that we can trade with anonymous buyers or sellers. It also makes hard assets liquid and it puts a price on those assets that promise that they will be put to their most productive users.

Bernstein (2005) and his analysis offer both the history of money markets and advice for any investor and provides valuable information for my research questionnaire, analysis and discussion. Bernstein's work however also displays those currents of advocacy that shape and bias works in particular directions. He again is largely descriptive and offers little to rebut the view of those whom he rejects, such as Keynes. The language is engaging, the narrative compelling, and in general the argument seems convincing – but it rests on a piecemeal approach to evidence gathering and evident selectivity in what he chooses to foreground.

More context information is presented in the appendix.

2.3.   Specific types of investment strategies and applications

This section focuses on identifying the investment criteria, strategies and the investment processes that deliver key information for structuring my survey and the analysis and discussion derived from it. It draws on those themes that are recurrent in the literature, or frequently feature in prescriptions for 'successful investing'. Again, even in this area, there is a reliance on utilizing the work or record of individuals who are perceived (often justifiably) as successful investors as exemplars of the stances and approaches used. Major questions are often ignored or side-stepped in the literature, or their intractable nature not recognized, as is the case in this first example, value investing.

2.3.1.   Value investing

Greenwal, et. al (2001) define value investing as an investment strategy that describes the core of numerous renowned investors' approaches. It is easier to understand than other investment strategies as it does not require extensive financial or investment experience or the knowledge and techniques required for analysing and interpreting charts and data. The goal is to identify investments that are undervalued and can therefore be bought at a bargain price. Buying shares at a price lower than their intrinsic value increases the investor's chance of earning profits when they are sold and it makes them less likely to lose money (or a substantial amount of value) if they do not perform as anticipated – though what determines initial 'intrinsic value' remains a moot point.

Greenwal, et al. (2001) base their work on the approach of Benjamin Graham, the 'father' of value investing and on the methods, techniques and success of Warren Buffett. In contrast to modern investment theory (MPT – Modern Portfolio Theory), they believe that markets are *not* efficient and that many possible investments that actually beat the market can be uncovered. They trust in value investing and stress that security prices move almost randomly and that current value of assets and earnings should be in focus. They determine that the value of a company is the discounted sum of all its future cash flows and that no individual knows the future, as expert as he or she may seem. Yet, value investors use indicators of fundamental value as investment guidelines and when the price falls below the fundamental value, the investment should be profitable. Hence, the past underperformers are the future's rising stars and yesterday's stars are tomorrow's dogs (to borrow from the BCG matrix terminology).

Once more, as is common in this literature, we are offered a mirror to the past and a selective use of some data to support a position that remains firmly based on a supposition - the notion that the current value of a company can realistically be calculated.

However, most investors may be speculators, paying more for a stock than its calculated (realistic) value, hoping that it can soon be sold for an even-higher price. This may be a common behavioural predisposition, related to the way people may often gamble. Another common pitfall is that we tend to remember the recent past better than the distant past, and then generalize about the few cases we remember, rather than taking the full body of available information into consideration.

Greenwal et al. conclude that identifying undervalued companies is not sufficient. An investor needs to create a portfolio of stocks with sensible attention to risk and with a strategy of diversification. Modern portfolio theory holds that investors will not be compensated for risk if they only invest in one or a few, even closely related stocks. Value investors generally reject much of the MPT and its approach to diversification, yet they also do not put all their eggs in one basket.

Town's (2007) number one rule is simple: do not lose money. He claims that 15 minutes of time investment a week results in the possibility of earning 15% profit annually and quotes investors like Benjamin Graham and Warren Buffett who have beaten the market successfully over many decades. He does however refer to Malkiel, who in 1972 showed that even Warren Buffett did not achieve a higher return on his investments than a monkey would have done by throwing darts at a board with a selection of companies (investment opportunities). There is again however little consistent use of empirical data to support Town's overall argument, rather a reliance on the achievements of a limited number of exceptional cases.

His analogy to buy goods that are worth one dollar for 50 cents may seem too simple, but it is the underlying principle for value investors, who only buy a stock at a bargain price. His margin of safety (Graham, 1949) is at least 50%; hence, Town would not purchase a stock if it does not trade at minimum half of its real market value. Again, the issue of what constitutes 'real market value' is left under-supported.

He elaborates on the 10-10 rule, which holds that he would not want to own shares in a company for 10 minutes if he would not want to hold them for 10 years. This may simply be a restatement of the familiar 'buy quality, hold for the long term' approach favoured elsewhere. He further stipulates that any investment should inherit the four Ms: meaning (superior products, market position), most difficult to copy, (competitive advantage), management, and margin of safety (undervalued). Key performance indicators such as return on equity (ROE) or growth of free cash flow (FCF) help to determine the potential value of an investment and are easy to identify (financial reports, stock market websites) and to calculate. He too believes that the notion of technical analysis is a superior strategy to identify the perfect timing to buy a security.

Marks (2011) is a lifetime value investor who offers 'seasoned investment wisdom' looking for different ways forward in today's financial markets. He creates the notion of the 'second-level' investor, who is a stock market participant who is dissatisfied with buying an index but wants to beat the market. For Marks, investing is more an art than a science, as it requires intuitive and flexible approaches which produce outcomes and successes that can hardly be 'routinized'. If one wants to beat the market averages, one must nurture superior insight (fundamental analysis) or what Benjamin Graham calls a 'trace of wisdom'. Hence a truthful estimation of intrinsic value is the indispensable starting point for successful investing. However, Marks suggests that most investors can be summed up as 'trend followers'. Again, the troublesome notion of 'value' at the base of his arguments leaves a great deal unsaid; perhaps the recognition of value hinges on superior insight, but that again is an idea that requires fuller exploration.

He further holds that investment success does not come from buying good stocks, but from buying the stocks well, i.e. to buy more shares when markets are falling. He quotes John Maynard Keynes who points out that 'the market can remain irrational longer than you can remain solvent'. Marks (2011) suggests that the 'risk-is-gone' myth is one of the most dangerous sources of risk and a major contributor to any bubble. Investors often feel over-confident and run with the herd instead of constantly analysing the markets and their portfolios and take appropriate unemotional actions when fundamentals change (though, of course some fundamentals are the product of the very market investors may be trying to out-perform).

He makes an interesting observation that worry and its relatives, distrust, skepticism and risk aversion, are essential and normal ingredients in a safe financial system. Hence, investing is never a safe and riskless bet but can be controlled and managed in a scientific and risk reducing manner. Furthermore, ignoring cycles and extrapolating trends are some of the most dangerous things investors can do. He believes risks come in two different forms: the risk of losing money, and the risk of missing opportunity. The desire to behave 'scientifically' in an arena where he himself places worry, distrust and skepticism is a contradiction that is not fully explored.

Sander (2012) suggests that successful investing requires a thoughtful investment process that should become habit-forming. He believes that people who make investing a habit, become consistent and comfortable with it, engaging in a familiar activity with a positive outcome. These habits are superior for long-term investing and produce cash, above-average appreciation, and risk-averse growth, in alignment with the school of value investing, following the principles advanced by Benjamin Graham. Developing sound financial investment habits increases the chances of making profitable decisions. How such sound habits are to be identified, using what criteria, remains under-explored in his work – he presents a pre-selected list of plausible behaviour's that may qualify as sensible.

Sanders (2012) offers a list for the guidance for beginner investors who need a framework to navigate in today's complex investment environment. He supports investors to decide which (of the predetermined) value-investing habits can help them to invest wisely, how to develop their own investment style and how to select individual stocks. Companies that market leading products that generate surplus cash, such as drug makers and Amazon, are (in Sanders' view) typically a good bet – if they are using their cash wisely. Sanders' further advices are:

- To look at buying a stock like buying the entire company; think like their customer.
- To fully understand the business you are buying, including examining a range of factors such as the management, brand awareness, financials, logistics - strong brands, market share, customer loyalty, R&D, he holds drive company profitability.

- To sell a stock when you find a superior substitute including liquidating and holding cash.

- To determine and analyse the intangibles as these are primary indicators of a company's future success as well as its current competitive edge.

- To consider a stock's P/E ratio to establish a target buying and selling price.

- To continue doing the research into the companies within your portfolio in order to find out when to sell or to buy more shares.

2.3.2. Growth investing

Growth investors focus on investing in companies with a higher than market average potential for growth. Compared to value investors, growth investors would still buy shares of a company, even if they appear expensive in terms of measures such as the P/E or P/B ratio (price to book ratio). What determines the 'market average potential for growth' remains largely underspecified.

Natale (2000) for example believes that successful investing is made possible by constructing a portfolio that consists of both companies that are just newly listed and stocks from small companies. He is very enthusiastic about 'small caps' (companies with lower market capitalization) as they offer the fastest possibility to create wealth. However, he acknowledges that these are risky investments that are vulnerable to distressing downturns and wealth-sapping manipulation. So, the core of his argument is a recognition that small companies, in general, have greater potential for higher rates of growth than existing large companies – which may be a truism, but only as it relates to potential.

Natale (2000) elaborates on the importance of the investment duration and states that holding shares in small companies over a period of five years is not much riskier than owning stocks in general. He also has a controversial view about government bonds and treasury bills. He does not advocate holding these asset classes as they will 'never make you rich'. He is also convinced that value beats growth over the long-term because investors systematically overestimate the growth of well-positioned companies in fast expanding industries. He trusts that the key to beating the market is making small sector bets and picking the right stocks within each industry; and to avoid betting on the big

losers. Stock picking in this way may be guided by some analysis, but the whole position relies more on an expression of faith than empirical analysis – which is problematic for those small companies with little history where there may well be a paucity of data.

Hunt (2005) evaluates the feasibility of high growth investment strategies for 'growth optimal portfolios' (GOPs) applied to 30 stocks comprising the (US) Dow Jones Industrial Average. He uses a stochastic model with a Wiener process (equivalent to Brownian motion), coupled with ridge regression, in order to select Dow Jones stocks that would accomplish impressive growth rates. He researched over a 25-year period from 1972 to 2002 and concluded that 'regardless of their (GOPs) other properties and potential drawbacks, the portfolios designed for maximal growth did in fact produce quite remarkable rates of growth' (p. 157).

Interestingly, Hunt quotes Hakansson (1971) who proposed that GOPs dominate all other portfolios in the long run, but also Merton and Samuelson (1974) who discuss the misconception in this argument. He concludes that statistical investigation of the data provides no initial reason to be optimistic about the successful application of the growth techniques, as the underlying postulations of normality and stability were violated by the nature of the US data: 'Returns on the 30 stocks were found to be skewed and leptokurtic and to have time-varying variances and covariances. The growth optimal techniques performed well, however, despite the assumptions' not being met' (p. 156).

The growth optimal techniques delivered results up-to twice the growth rate of the benchmark, despite the assumptions not being met. He further illustrates that the secret of success lies in selecting a very small number of shares, which Ellis (2002) and Swensen (2005) conversely describe as market timing and stock picking, arguing that as techniques they prove to be unsuccessful over the long run. Hunt (2005) also states that even though the growth investment technique worked with this particular data set, it may be different or disadvantageous in markets over different time periods. It may well be that the first explanation for its over-performance was pure chance alone, but: 'The second explanation is that the assumptions of normality and stability are not necessary to the success of the technique. While the model used in this paper assumes normality of the Itô process, it may be that growth investment strategy is equally efficacious under alternative stochastic processes that allow kurtosis.' (p. 156). So, the possibility remains that the results obtained are no more than chance, rather than a robust underlying GOP procedure.

2.3.3. Growth at reasonable price (GARP) investing

GARP-investors seek to identify companies that are (fairly) undervalued but provide robust sustainable potential for growth. Their stock selection must be based on very specific characteristics that need to be met. The forecasted growth rates need to be 'reasonable', i.e. if they are too ambitious, then they are not suitable as they carry too much risk. Other criteria focus on the return on equity (ROE) indicator, positive cash-flows or (at times) positive earnings.

Lynch (1993) elaborates on his own investment strategies and offers advice to become an expert in assembling a successful portfolio by picking both winning stocks and mutual funds. One imperative in investing, he says, is never to forget that stocks are not lottery tickets. There is a company behind every stock and a reason companies, and consequently their stocks, perform the way they do. Lynch (1993) explains his step-by-step approach for picking stocks and describes how general investors can improve their investment performance. However, Lynch exhibits those same tendencies with which readers in this field become familiar: the presentation of a narrow range of selective examples, the prescription of what seem to be plausible 'common-sense' rules, and a recognition that past performance is no guarantee of continued achievement.

2.3.4. Dividend investing

Gwilym, Clare, Seaton and Thomas (2009) studied consistent dividend growth strategies, believing that dividend income and its reinvestment results in strong equity return and therefore increased wealth. They demonstrate that recent years have brought the emergence of exchange-traded funds (ETFs) in the United States consisting solely of equities with a history of consistent dividend growth. Such ETFs include the S&P Dividend Aristocrats requiring 25 years of consistent dividend increase for inclusion and the Merger Dividend Achievers that stipulate 10 years of constant growth. They report that not only have these ETFs outperformed contrasting benchmarks such as the S&P 500, but they have also achieved this with lower volatility.

Gwilym et al. (2009) recognize however, that in the US, the number of companies paying dividends decreased during the last quarter of the last century from 2/3^{rds} in 1978 to just 1/5th in 2000.

At first sight, this decline seems drastic, but DeAngelo, DeAngelo and Skinner (2004) illustrate that dividend payments in real terms increased during the period of their study while many smaller firms, that formerly paid dividends, had been acquired or dropped out of the sample for other reasons.

Gwilym et al.'s (2009) article investigates the effectiveness of investment strategies based on holding portfolios of U.K. stocks with a history of consistent dividend growth. They conclude that consistent dividend payers have outperformed the broader market on an equally weighted basis from 1986 to 2006, particularly when the minimum requirement is set at 10 years of permanent growth. In addition, these shares have a lower variance of returns and have suffered smaller drawbacks in difficult times. They present a case (based on selective data) that suggests, contrary to many prescriptions in this field, that consistent past performance may offer a guide to the medium-term future, at least in respect of dividend pay-outs.

2.3.5. Technical analysis

Lo and Hasanhodzic (2010) focus on the notion of technical analysis, which seeks to identify patterns like cycles or waves in the past market information in order to predict price movements. This method originated in Japan in the late 16th and early 17th centuries when the country's rice exchanges emerged. In the late 19th century, Lo & Hasanhodzic say that in America, the stock ticker, the telegraph and the telephone transformed business on Wall Street. Charles Dow, the father of modern technical analysis, began publishing the Dow Jones Industrial Average. At its origin, this was the average prices of the 11 most active stocks on the New York Stock Exchange. Dow and his successors introduced more 'scientific' methods to data gathering, formal hypothesis testing and mathematical rigour to technical analysis (Rhea, 1994). However, the public did not trust these largely statistical methods.

Dow's theories try to explain how human thinking affected market behaviour (prices, trends). He describes his concept of the 'trend' as patterns in 'successive highs and lows.' He defines the notion of 'relative strength' as an assessment of how equities perform in comparison with stocks of other companies in the same industry. Also, that a 'market cycle' lasts for about 10 years, with five to six years of boom followed by a burst or down-turn of about the same duration.

In addition, Dow suggests that the stock market follows a cyclical pattern, the 'wave principle', each cycle consisting in eight waves, five in one direction, trailed by three waves in the reverse direction.

Yet, while fundamental analysis focuses on the real characteristics (industries, businesses, management, products/services, R&D, potential to innovate, financials, etc.) of a company to evaluate what they are worth at present and in the future, technical analysis is concerned with the motions in the market and tries to anticipate the directions of securities' price movements by analysing statistics, such as past prices, trading volumes, buying and selling behaviours, trends and so forth. Technical analysts use charts, and numerous other tools, to detect patterns that should (according to adherents) reveal future directions of securities' price movements.

Bensignor (2000) is an advocate of technical analysis and illustrates the various trading models available to what he terms 'astute investors'. He focuses on the notion of swing trading and therefore how these traders are able to pick more winners than losers and on the various other 'technical' methods such as the use of moving averages, candle charts or bar charts.

He illustrates the two main movements in the investment environment, the fundamental method (of those such as Benjamin Graham, Warren Buffet) and the technical method (Curtis Faith). He states that technical analysis is not just the use of timing tools that help determining the price movements of securities, but it is also a method to regulate when the odds do not support trading at all.

He quotes various technical analysis experts, including Linda Bradford Raschke, and explains that the more time a trader spends in the market, the more risk exposure there is, thus the main objective of swing trading is to try to capture the maximum gain in the minimum amount of time. He says that short-swing trading seeks to capitalize on the short and intermediate waves or price fluctuations that occur inside the longer major trends; it involves more work in exchange for more control and less risk.

The Way of the Turtle (Faith, 2007) offers an investment concept (strategy), which in the 1990s was taught to even inexperienced investors, who became commonly known as the 'turtles'. Faith became a 'turtle' after he started an investment program when he was 19.

In this later book, he elaborates on the rules, timing, risks, rewards, and secrets to his largest trades that enabled him to generate 100% annual return and how the general investor can apply 'the turtle way' to his/her own trades. The turtles' strategy was considered a technical analysis and centered around position sizing (how much to buy or sell), entries (when to buy/sell), stops (when to get out of a losing position), exits (when to get out of a winning position) and tactics (how to buy or sell). Again, the evidence base is selective and the prescribed requirements a list of plausible rules.

The key to execute the strategy successfully is consistency and discipline. 'Almost anybody can make up a list of rules that are 80% as good as what we taught our people. What they couldn't do is give them the confidence of stick to those rules even when things are going bad' (p. 245).

Faith stated that one of the main issues that caused many people to fail was that the turtle rules are very difficult to follow, as they depend on capturing relatively infrequent large trends. Hence, many months can pass between winning periods, at times even a year or two, and so it becomes easy to come up with reasons to doubt the system and to stop following the rules.

Critics belittle technical analysis as it is based on intuitive pattern recognition, not statistical analytics. In addition, advocates of the efficient market theory do not trust that is possible to find exploitable patterns in historical market prices, and therefore dismiss the foundation of technical analysis all together. However, despite this, Lo & Hasanhodzic (2010) believe that investment strategies such as 'the way of the turtle' are more in tune with behavioural finance, which is about 'social, cognitive and emotional factors to explain and predict market activity'. They claim that recent studies have provided new theoretical underpinnings and empirical validation for technical analysis.

2.3.6. CANSLIM

O'Neil (2009), is a respected stock picker whose research and analysis span decades. He tailored his strategy to choose single stock investments successfully. He studied data concerning the investment environment, the markets, the companies and their performances from 1880 to 2009.

He now teaches an alternative approach to value investing, based on his findings. His investment philosophy is one of a growth investor and a combination between fundamental and technical analysis.

He developed a 7-step process, that he named CANSLIM, for minimizing risk (reducing potential losses) and maximizing profits. Following his lead, anyone would have the possibility to learn to invest wisely and effectively, even if they have never invested before. He offers techniques for finding the winning stocks (reading the daily financial pages, picking the top industry groups available, reading charts to improve stock selection and market timing) before their prices start to rise and guidance of picking the most promising mutual funds and ETFs as well as many charts that support investors to spot the most lucrative trends.

O'Neal's (2009) CANSLIM describes the following:

- C – Current quarterly earnings. Earnings per share must have increased by at least 25% from the same quarter's earnings during the prior period.

- A – Annual profits increased. Profits must have increased by a compound rate of more than 25% per annum over the last five years.

- N – New management. The company is led by a new administration, and markets new products and achieves new price highs (the usual key indicators for fast growing companies).

- S – Supply and demand. He favours small to midsize companies as these have less stock available in the market and therefore their prices move faster.

- L – Leaders vs. laggards. He chooses the market leaders, the companies that consistently outperform the market, over the laggards, the underperformers.

- I – Institutional ownership. O'Neil selects companies who are only partly owned by institutional asset managers as 'underowned' companies tend to be more attractive and offer greater potential for growth and success, until an increasing number of money managers discover these companies and buy-up shares.

- M – Market direction. He trusts that market timing within periods of rising markets is the key to making investing more profitable.

Molvar (2014) critiques O'Neil (2009). Molvar argues that when he cross-examined O'Neill's statements, statistics and calculations, he concluded that O'Neill's claims of success of the CANSLIM system do not make any sense. Thus, Molvar contradicts the assertion that O'Neil's system works. Molvar points out that, with a stated average return of 25% per annum for O'Neil, since O'Neil bought a seat on the New York Stock exchange in 1963, (which would have required an investment of at least $100,000), O'Neil should now be worth over $10 billion, but he is not visible on the Forbes list of billionaires.

Using his CANSLIM strategy, O'Neil set-up another fund in 1992 (after the collapse of his original fund in 1975) which he co-managed with David Ryan. According to his own writing, Ryan had averaged profits of over 100% per year over a three-year period prior to co-managing O'Neil's fund. Yet, the Los Angeles Times recognized that this fund only lasted for five years and underperformed the S&P 500 with a 66.8% total return vs. 71.4% return of the S&P 500. Despite their claims, these two managers together could only achieve 10.7% return per annum; their claims of high growth simply do not make sense. Swensen (2005), Ellis (2002), Zweig (2006), and many others would also disagree with O'Neil's strategies.

Molvar (2014) himself advises how to become financially independent by addressing how to build wealth over time with techniques for saving money and investing in stocks using fundamental stock investing strategies. He trusts that over the long run, stocks offer the biggest value and chance of success and lists the personal traits one has to inherit to stay successful. So, the approach once again rests on untestable propositions, but ones that are both plausible in respect of individuals and markets. Molvar (2014), like O'Neil and Lynch (1993) however believes that stock picking is superior to investments in funds.

2.3.7. Hedge fund investing

Amenc, Martellini and Vaissie (2003) in their paper, describe the benefits of hedge funds. This is in light of the fact that these alternative funds actually present real diversification benefits through exposure to risks other than market risks. They argue that a thorough understanding of hedge fund risk extends far beyond a straightforward measure of linear exposure to market risk.

It also requires a detailed analysis of how modern portfolio theory allows accounting for the existence of these additional sources of non-market risk when considering the performance of hedge fund managers.

Ineichern (2007) predicts the future of the asset management industry and claims that the investment business has undergone a paradigm shift away from the traditional buy-and-hold notion towards absolute return investing. He advocates high-risk, high-leverage hedge fund investing and refers to the equity market bubble of 1995 to 2000 as the most recent instance of large-scale market inefficiency. He explains in detail what absolute-return investing is, why hedge funds and the search for asymmetric returns may represent the future of the asset management industry and how to think about risk in the context of this financial-industry revolution. (His view may now of course differ, after the financial collapse of 2008 and the various crises since). This illustrates, yet again, that the prescriptions initially offered rest on assumptions readily overturned by not uncommon events.

Ineichern makes an interesting, yet debatable observation in that he believes that hedge fund risk management is more subjective and less transparent than risk control in traditional investing, and that therefore, investors need to balance their desire for transparency against the fund manager's need for freedom of action. He further clarifies that the efficient market hypothesis and modern portfolio theory are just weak assumptions and that particularly skilled investment managers can discover and produce 'alpha', or high-level returns. He ascertains that active managers use a broad set of skills to discover opportunities and manage risk but admits that these managers are rare. The skills come only with experience, therefore such managers and their funds are expensive. In identifying these characteristics, he of course moves little away from the flaws he identifies as the 'weak assumptions' that underpin alternative views. If his position were tenable, the hedge funds represent some sort of investment haven.

On the other hand, examples of investments in hedge funds that turned sour are innumerable. One more recent case is described by the online service of the Economist (2015). The article details some of the consequences that arose for investors engaged in highly risky ventures, when the Swiss national bank (SNB) abandoned its peg against the euro on January 15, 2015. Within seven minutes of the announcement by the SNB, the Swiss franc rose 34 percent against the dollar.

The market movements were so intense that market stop-orders went unfilled. Some investors with only $10,000 exposed, but highly leveraged, lost about $345,000 (Browne, 2015). Financial institutions with millions invested, such as Everest Capital's $850 million Global Hedge Fund, had to file for bankruptcy (Reuters and Business Insider, 2015). This demonstrates that establishing an accurate risk profile and acting accordingly is extremely important for any investor who wants to manage and increase wealth by the means of investing.

Schwager (2014) discusses the many both sensible and senseless rules that relate to stock market investing, e.g. that an optimal portfolio should consist of around 10 products. He focuses too on the most typical investment mistakes that can quickly become very costly and explains why one should not trust company or fund ratings, nor the many risk parameters. Contrary to many other researchers, Schwager is convinced that the efficient market theory remains only a theory; it does not work in practice and a skilled investor can indeed 'beat the market'. His reasoning is that stock market prices are based on both fundamental values but also on emotions. Once you do your research profoundly, avoid the typical investment mistakes and are able to master your investment biases, you achieve higher returns than the regular investor does. He too states that the past stock market happenings are no indicator for future directions of shares, bonds, funds, hedge funds, or other investment vehicles. Once again, though, his positions rests on a series of logically connected arguments and observation, but little in the way of empirical support.

Schwager advocates hedge funds as an investment strategy and suggests that even investors with minimal funds should invest in these products. He blames their bad reputation as mainly a consequence of the collapse of Long-Term Capital Management (LTCM) in 1998. Then, that hedge fund, with previously an annualized return of almost 40%, was leveraged 250 to 1, and it took on the 'wrong bets', loosing $1.9 billion in less than a month. Interestingly, in the board of directors at this time were famous investment researchers and Nobel prize winners Myron S. Scholes and Robert Carhart Merton.

Despite this disaster, Schwager claims that hedge funds are indeed conservative investments with a lower volatility than shares. While this may be occasionally true, he neglects the excessive cost that hedge funds inherit and that thus the notion that any hedge fund manager must be able to beat the market by 3-5%, repeatedly. This alone shows that such investments are not a good fit for the general investor, as they are not only highly

risky, but also too expensive. Arguments again lack evidence in Schwager's position, and reliance is placed on assertion and selective evidence gathering is present.

2.3.8. Value averaging

By applying a value averaging investment strategy, investors define a certain periodical growth target, thereafter, sporadically purchasing different quantities of additional shares, depending on the performance of the portfolio. The main goal thereby is to buy more shares, bonds, funds, etc. when prices are falling and fewer when they are rising. This will result in averaging the purchasing price and therefore more closely mirroring market movements.

For example, you would start with a portfolio worth CHF 50,000 and define a growth target of CHF 500 per month. If the portfolio after one month were worth CHF 50,250, you would buy additional shares worth CHF 250 (CHF 50,500 – 50,250). Conversely, if the portfolio is worth CHF 49,600, you would buy shares for CHF 900 (CHF 50,500 – 46,600).

As with every investment strategy, investors have to consider that it can become quite costly in highly volatile markets and that the fees for constantly buying smaller number will add up, therefore decreasing the overall profit. Value averaging was developed and described as an investment approach by Edelson (1991) and later Marschall (2000). Their claims for its superiority over other methods of selecting investment amounts and timing was rejected, however, by Hayley (2013), who critiqued the earlier use of IRR (internal rate of return) as the investment yardstick.

2.3.9. Quantitative investing

Loistl and Zellner (2008) explain their 'relative value strategy' as a quantitative trading strategy aiming to take advantage of short-term market inefficiencies. When pairs of assets show a stationary pattern over a period of time but deviation occurs, the asset manager should take a long-term view of the undervalued asset and a short-term view of the overvalued one. They explain that a sample of the largest stocks included in the DJ Stoxx 600 needs to be pre-selected and suitable similar pairs of assets to be determined.

A trade should then take place when a price ratio is starting to deviate from its 'normal behaviour'. The idea here is that a price ratio follows a mean-reversion process. In conclusion, the authors trust that in real markets, many arbitrage opportunities exist and integrated active management generates returns by exploiting these occasions. Yet again, the authors offer a logical proposition, but one that requires major assumptions by the investor as its basis concerning the fundamental characteristics of companies, and detailed knowledge of prior pricing history.

Rishi (2013) explains the notions and mechanics of both quantitative trading and high-frequency trading. He claims to expose many of the myths that surround quantitative trading, what many call 'a black box' and illustrates how 'quants' can add value to an investor's portfolio. He believes that one of the main reasons why many researchers, academics and practitioners are opposed to quantitative strategies lies in the 'generation' – the younger and aspiring people are much more accepting than the traditional investors are. He holds that quantitative trading strategies are far easier to comprehend than the caprice inherent to most human decision making.

He explains that 'if both the questions of what positions to own and how much of each to own are usually answered systematically, that's a quant. If either one is answered by a human, that is not a quant' (p. 16). 'Quant' strategies are solely a systematic implementation of the kinds of things that human traders and investor have always done. Further, Rishi states that quantitative approaches to risk management is to put the power into the hands of the portfolio manager to make rational and deliberate decisions. 'The work that a quant does is, in most ways, identical to the work that any portfolio manager, and CEO or any other allocator of resources must perform' (p. 218).

He concludes that most arguments against high-frequency trading are made by people who are ignorant of the facts or motivated by self-interest. However, 'during 2012, I know billions of dollars allocated to quant funds specifically by pensions and large, traditional fund-of-funds who historically would have said, 'we don't invest in quants' (p. 305). Again, there is assertion, selective reporting of cases and a desire to 'hide' in the technical aspects of particular algorithms evident in this type of literature. On the other hand, Marshall, Cahan and Cahan reported in 2007: 'we do conclusively show that none of these rules beat the market any more than expected given random data variation' (Marshall, Cahan, & Cahan, 2007).

Lewis reveals and critiques the mechanics and notion of the high frequency trading in particular (2014). He focuses on Brad Katsuyama, a former Royal Bank of Canada executive, who embarked on a resolute mission to 'fight' high-frequency trading. He presents and analyses an interview with Katsuyama and states how HFT affects stock markets, how the Royal Bank of Canada executive sought to prevent high frequency trading and opened an alternative exchange.

After the 1987 market crash, financial institutions and their programmers started to develop software and algorithms that would manage more and more stock market functions, to an extent that now software intelligence is used to arbitrage trades within trades. In a nutshell, high frequency traders gain an information advantage through speed and optimize their cabling and switches to achieve tight time margins. Whenever possible, they place their supercomputers in stock exchange buildings to enable faster transmission.

The principle is simple. Typical stock market trades can usually not be handled by a single stock exchange, which is why the whole order is split and placed amongst various stock exchanges. Thus, once the brokers have identified the required exchanges, they send their trades simultaneously to multiple stock exchanges. Despite this, the trades do not all arrive at the same time, but with tiny delays to some.

High frequency traders, who have access to real time information and own highly optimized data infrastructure, play with these tiny time margins. Within milliseconds they realize that orders are split in different packages and send similar orders that arrive at the relevant stock exchanges before the original trades does. This notion changes the equity prices on the stock exchanges, so that the high frequency trader who sent off the trades with a delay can meet the obligations of the initial trade. The original trader cannot see what is going on in between and once the trades are completed the high frequency trader settles his positions (to zero). This results in a microscopic margin between the different buying/selling prices. Doing this thousands of times a day, over weeks and months, can generate substantial amounts. Goldman Sachs became the first financial institution to send the majority of its orders to the IEX (Investor Exchange).

The book further illustrates that HFT is problematic as too many investors benefit from it and because regulations to eliminate unfair market behaviour often reveal exploitable loopholes.

Likewise, such software is dangerous as it can fail, just as it did in 2012, when Knight Capital lost $440m in 45 minutes, due to a software issue. Some critics of the book say that only looking through the Katsuyama lenses is too black and white, and not objective enough; others question parts of Lewis' interpretation. Budish, Cramton and Shim (2015) reflect on the 'arms race' for millisecond advantage in HFT and conclude that 'The high-frequency trading arms race is a symptom of flawed market design' (p.1547). Their analysis demonstrates that 'competition has not affected the size or frequency of the arbitrage opportunities, it has only raised the bar for how fast one has to be to capture them' (p.1547). To obviate this difficulty and the economic benefit conferred by asymmetric information or asymmetric serial processing they advocate a discrete time batch-auction approach for stock and other exchanges, removing HFT advantages completely. If trading advantage can be minimized in HFT, then attention turns to asset classes.

2.3.10. Asset allocation

Brinson, Hood and Beebower (1986) discuss the notion of asset classes and argue that asset allocation is highly important to achieve positive portfolio return. Within their research, they analyse the asset allocation, which is the implementation of an investment strategy, of 91 large pension funds and measure their performance for a 10-year period from 1974 to 1983. They substitute the pension organizations' equity, bond and cash selection with respective market indices and found that the indexed three-monthly returns were greater than the pension funds real returns. Their study showed that using a combination of different asset classes achieves more profit than the active choices by the experts of and for the pension funds. One concern with the Brinson et al. study was that the cost factors were not fully discussed; the management fees were not entirely taken into consideration.

A subsequent study by the same researchers in 1991 revealed a variance of 91.5%, thus the performance of a portfolio depends almost entirely on a clever mix of the asset classes. In fact, several later researchers and practitioners have confirmed that the asset class allocation drives 90% of the portfolio return (Brinson, Singer, & Beebower, 1991). Hence, an understanding of the different asset classes, i.e. cash, fixed income, equity, real estate, commodities, etc. and its appropriate mix (allocation) is imperative for any investor.

Ideally, the asset classes themselves should not correlate positively with each other. Shares will commonly behave differently to government bonds, and these two asset classes perform differently again to either gold or real estate.

Surz, Stevens and Wimer (1999) provide an analysis on quarterly returns of 53 pension funds over the five-year period 1993 to 1998 and of 94 balanced mutual funds compositions and results over a 10-year period, ending 1998.

The researchers address the impact the investment policy has on the total return of investment portfolios. They therefore measure the effect of the asset class allocation; the percentage of return is explained by calculating the ratio of the policy return to the total return. The policy return is the return generated if target policy applications are consistently followed and index funds are used for each asset class. Rebalancing for mutual funds was done monthly, and for pension funds three-monthly.

Surz et al. (1999) found that the investment policy explains, on average (almost) 100% of the total return. However, if a portfolio manager succeeds in adding value, the percentage of return explained by the asset class mix drops to 85% when risk is not incorporated and to 75% on a risk-adjusted basis. If the asset manager fails to add value, the investment policy explains 135% and risk-adjusted 165% of total return. They further found that portfolio managers who solely time the market or solely select securities, succeed more frequently than those who do both - time the market *and* select securities. The overarching finding was that, on average, balanced mutual fund managers do not add value above their investment policies. Thus, the positive returns were purely the results of the asset class mix and had nothing to do with selecting the right funds.

Ibbotson and Kaplan (2000) build on the study of Brinson, Hood and Beebower (1986). They determine that asset allocation is the ultimate key to investment success. Ibbotson and Kaplan address the general debate about asset allocation policy and conclude that the lack of conclusiveness stems from asking and answering different questions. For their research they use balanced mutual funds and pension fund data consisting of the total return for each fund in each time (a month or a quarter).

They use 10 years of monthly returns for 94 US balanced funds. This represents all of the balanced funds of the Morningstar portfolio having at least 10 years of information

(ending March 31, 1998). In addition, policy weights for each fund were approximated by executing return-based style analysis over the entire 120-month period. The asset classes used were Large-cap US stocks, Small-cap US stocks, Non-US stocks, US bonds and Cash.

They found, that 90% variability of returns in a typical fund across time is explained by asset allocation, but that this only explains around 40% of the variation of returns among funds. The most interesting conclusion, however, is that on average, pension funds and balanced mutual funds do not add value above the benchmark because of a mixture of market timing, security selection, management fees, and expenses.

Darst (2008) presents a comprehensive guide to the principles of asset allocation and investment strategies that are suitable for any kind of markets. For decades, researchers, scholars and investment practitioners have analysed, studied and written about efficient market theory and the notion of diversification, i.e. 'not putting all one's eggs in one basket'. Yet few of them have actually suggested methods for how to apply diversification when constructing a widespread portfolio. This is because in Darst's view, asset allocation is a science and its underlying principles are not immediately apparent.

He illustrates that many investors have a tendency to overrate their investment knowledge and the accuracy of their forecasts, hence the probable values of investment outcomes. Thus, investors should be interested in developing a good understanding of the importance of asset allocation, the process of identifying portfolios of assets that are set to generate the highest possible returns for a certain level of risk. Also, they ought to understand the rates of return that the various asset classes yield and seek to identify assets with value or growth potential and acceptable prices. 'In general, the soundness and attractiveness of an investment depend vitally on the overall health of a country's society comprised of interdependent financial, economic, political and social factors, among other features' (Darst, 2003, p. 310).

Darst agrees with many other researchers, scholars and practitioners that according to contemporary portfolio theory, one of the most important goals of asset allocation is to minimize risk that is not compensated for through diversification. As with other commentators reviewed, Darst believes that the asset allocation process should always reflect the investors' own profiles, i.e. their mentality, hopes, fears and financial position,

leading to a sound risk/return profile. He further lists some significant investment mistakes, i.e. time horizon blindness, failure to consider real value, incorrectly estimating risk tolerance, failure to consider total return, ignoring expenses (TER), and failure to diversify. Darst points out that an ETF based on the S&P500 diversifies only *within* this index, hence the same kind of companies – large capitalization stocks are always purchased. Thus, to truly diversify, investors have to construct a portfolio that also includes other asset classes, hence many different indices.

2.4.   Active vs. passive portfolio management

Ellis (2002) endorses indexing, an investment implementation strategy whereby investors purchase index funds that replicate certain markets, i.e. the S&P 500, Dow Jones, FTSE 100, DAX, SMI, as opposed to direct investments in shares or managed funds. Ellis (2002) states that 90% of all public trades at the New York Stock Exchange (NYSE) are completed by investment professionals and that 75% of all trades are executed by the 100 largest institutions. It follows that almost every time an individual buys a share (stock picking), they are betting against the market of the 'best and the brightest' who are disciplined, rational and supplied with astonishing information by thousands of highly motivated, hard-working and very competitive analysts.

Furthermore, Ellis (2002) evidences that total returns on shares in the past 75 years were accumulated in the best 60 months (i.e. in less than 7% of those 800 months). Therefore, lack of investment within a buy and hold strategy often leads to missing out on the best trading days.

He states that performance investing has enjoyed a remarkably long-life cycle, but the costs of active investments are so high and the incremental returns so low that the money 'game' is no longer a game worth playing for clients. He arrives at this conclusion by comparing the performance differences between active managed funds and low-fee indexing; the latter consistently delivers the market return at no more than the market level of risk and at low cost. To evidence this, he calculates the incremental fee for active management as a percentage of the incremental return after adjusting for risk. This results in a true charge of 75% of incremental return, before fees.

Because a majority of active managers now underperform the market, their incremental fees are over 100% of long-term incremental, risk-adjusted returns.

However, Ellis (2002) states that for individuals one of the biggest challenges is not picking the right stock or trying to find the best fund manager or timing the market but is inflation. The corrosive power of inflation diminishes money if not properly invested. At 3% inflation, the purchasing power of one's money is cut in half over 24 years. At 5% inflation, it takes less than 15 years. It seems that money solely resting with a normal deposit account just wears away over time.

Price, cited in Ellis (2002), confirms that a simple buy and hold strategy has positive returns; staying invested is superior than trying to time the market. He evidenced that $1 invested in the S&P 500 that missed the 90 best trading days in the 10 years from June 30, 1989, to June 30, 1999, would have lost 22 cents and would have made only 30 cents if it missed the worst 60 days. However, it would have made $5.59 by staying fully invested. Conversely, sidestepping the 90 worst trading days would have yielded $42.78. The authors assume that the fluctuation of these calculations depends on when a 'sample cycle' starts, in which market you measure and on the duration of that investment.

Green (2008) is a research analyst and investment adviser who draws on portfolio management methods used by the world's largest institutional investors. He uses leading figures in investing and portfolio management, such as Merton Miller, William Sharpe, and Harry Markowitz, whose wisdom he followed to build and illustrate the mechanics of his 'gone fishing portfolio strategy'.

He stresses that while no one knows the exact and ideal combination of asset classes in advance, everybody who can, should be smart, invest and not take chances with their own money. Save, and do not rely on the government, or anyone else, to manage assets. The current social security systems may help you to retire, but we probably cannot afford to live on the public pensions it will pay. Stockbrokers will not necessarily work in your favour as their goal is to earn commissions on the back of your investments; financial planners are also trying to earn fees.

He emphasizes the basics, such as exhibiting financial discipline, saving awareness and costs.

He recommends an ideal portfolio as consisting entirely of low-cost vanguard mutual funds, mainly index products (ETFs). He suggests keeping 70% of the total portfolio worth in stocks and explains that while such a high equity loading may seem to be risky, historical and financial research demonstrates that, over time, stocks have been the most profitable asset class, even during detrimental periods like the great depression. He quotes the research of Ibbotson & Kaplan (2000) who evidenced that asset allocation explains 90% of the total portfolio return. Green is however an advocate: he believes in a particular investment approach, and marshals' evidence to support that approach.

John C. Bogle, the originator of the Vanguard Group, is a respected index fund investor and the driving force leading the charge against their counterparts, the active managed funds. Bogle (2010) takes a critical look at the mutual fund industry and argues energetically for a low-cost investment approach. He supports investors in navigating through the overwhelming selection of investment alternatives available. He reasons that many people waste their time and money trying to beat the market and examines the fundamentals of mutual fund investing to offer advice in building a sustainable investment portfolio.

Even though investing seems a daunting and complicated task, he is convinced (and indeed illustrates) that anybody with disposable income can easily let his or her money work for them by using common sense, understanding their personal tolerance for risk, investing in low cost, low complexity index funds within a broadly diversified portfolio. In doing so, even novice investors can outperform the majority of Wall Street professionals over the long-term, he avers. Bogle's position is essentially conservative and has a longer-term perspective. There may be evidence to support it, but once again it is partial and biased, and lacks a thorough-going empirical basis. As with any recommendation for an investment strategy, the time period, selection of asset classes and location of the exercise profoundly influence outcomes. There is no available comprehensive study that is relatively broad in scope and extended in period.

Sincera Asset Management (2011) advocates passive investing mostly through ETFs, focusing on asset allocation and a buy and hold strategy with periodical rebalancing. Similar to Price - cited in Ellis (2002) - Sincera Asset Management (2011) conducted a comparison and found that CHF 100,000 invested in 1996, within a buy and hold strategy,

resulted in CHF 254,000 by 2010. The same amount invested, but missing the 10 most lucrative trading days, resulted in only CHF 130,000.

Conversely, missing the 10 worse trading days would have achieved CHF 470,000. The 10 best and 10 worse trading days omitted would have resulted more or less at the same level as with the normal buy and hold strategy.

Hechler (2013) also advocates that any investor is able to invest like a professional investment expert by the use of exchange traded funds (ETFs). While ETFs originally were rather designed for institutional investors, they more and more become the standard within the general investment community, even earlier 'opponents' are increasingly changing sides. Hence, ETFs are today generally seen as highly sensible investment vehicles, as they enable stock market participants to diversify their portfolio amongst various markets and sectors, are very low cost, especially in the light of active managed funds. Like many other researchers and writes, Hechler concludes that managers of mutual funds have no reliable way of beating the market year after year, but since they would make much less money for themselves with ETFs, they are opposed to them, and do not recommend these investment products. He therefore suggests basing one's investment strategy and the constitution of a balanced portfolio based on the science of Markowitz' efficient market theory (1952).

Hechler advocates further benefits of ETFs, for example, investors are protected against possible default as money invested in ETFs (in Germany and Switzerland) is classified as 'separate assets' or 'special property'. With mutual funds, investors could potentially lose everything. He also discusses other variations of index products, such as synthetic ETFs, which are based on swaps and more complex to comprehend. Even though ETFs are very cost effective already, Hechler (2013) suggests verifying their trading cost with both traditional banks and online brokers. The latter tend to be cheaper.

Siegel (2014) draws on extensive research covering the past two hundred years and argues that that returns on equities outshine all other asset classes and that stock returns are safer and more foreseeable also within inflationary market environments. Siegel, like many others researchers and practitioners reviewed, is convinced that trying to beat the market leads to disastrous results, that we take far too many unnecessary risks, that our transaction costs are too high and that we often find ourselves falling into emotions of the

moment - pessimism when the market is down and optimism when the market is high. Our actions lead to considerably lower returns than can be achieved by just staying invested.

He explains that positive long-term stock market returns are simple and available to all who seek gain through investing, if investors are following a number of his selected principles.

2.5.   Learning and expertise

This part of the literature review lists the most common investment mistakes and focuses on the notions of both behavioural finance and expertise. The principles identify what constitutes an expert or a learner (or student) more generally. This synthesis is useful to support my research, in particular the construction of the questionnaires, as well as the analysis and discussion; and will enable me to compare expert knowledge and characteristics known (i.e. Dreyfus-model, education and qualification, credentials) with those of the experts identified within this research.

2.5.1.   Stuart E. and Hubert L. Dreyfus – adult skill acquisition model

A powerful model with which to consider adult skill acquisition was provided by Stuart E. Dreyfus and Hubert L. Dreyfus (1980) who presented a framework of how to obtain and master knowledge in order to become an expert.

There work further developed to be applied in various situations, e.g. in the area of the computer (Mind Over machine: The Power of human Intuition and Expertise in the Era of the Computer, 1986) or elaborating on mastery in beyond expertise (2008). Their model consists of the following five stages:

Stage 1 - 'novice'. The beginner is given rules to put information with almost no knowledge into action resulting in inferior outcomes in the real world.

Stage 2 - 'advanced beginner'. This illustrates that the novice is now coping with real situations, starts to develop an understanding of the relevant context and starts to

recognize new aspects based on his/her experiences. However, learning takes place in a detached analytical manner as the advanced beginner continues to follow rules and is given examples.

Stage 3 - 'competence'. Due to an increasing number of situations encountered, potentially relevant elements and procedures, the learner can now recognize, to achieve additional learning becomes overwhelming, and reaching satisfactory outcomes becomes challenging. This overload needs to be managed by further education and learning in order to develop a plan to distinguish between the elements that are important and the ones that can be neglected; hence the student must now figure out a plan of action and decisions him/herself, based on rules, examples, experiences and intuition. Dreyfus concluded that in this phase, an emotional involvement is the key to advance beyond competence: 'Only at the level of competence is there an emotional investment in the *choice of action'.*

Stage 4 - 'proficiency'. The learner's existing practice stemming from rules and principles will progressively be replaced by situational discrimination. The goal becomes simply obvious and there is less doubt that the individual actions and decisions are appropriate. However, the particular actions are still hard to evaluate, s/he must still decide on what to do.

Stage 5 - 'expertise'. The learner acts in a purely goal oriented way and sees what needs to be done and decides habitually, intuitively. This is what distinguishes the expert from the proficient performer. S/he does not solve a challenge, s/he does not even think. He or she just does what usually works and of course, it typically does.

In reaching this conclusion, Dreyfus was working towards what he termed a phenomenology of skill acquisition as the basis for a Merleau-Pontian non-representationalist Cognitive Science. Dreyfus' project was driven by his engagement with artificial intelligence and the nature of thinking machines, and, especially, what computers cannot do (1972). Other researchers, i.e. Gobet (2015), focus more on the actual attainment of knowledge and expertise; while Eriksen (2010) or Montero (2010) believe that intuition does not facilitate skilled performance. They argue that Dreyfus should have more accounted for how conscious and mindful activity can shape embodied routines through training and on-line performance.

2.5.2. Finance and investment education

Clearly, one element significant in moving through the Dreyfus' stages is the acquisition of increased knowledge, alongside experience. Investment knowledge, as with other professional fields, can be attested through qualification. Investors therefore might seek qualified professional advice. Jaffe (2010) describes the difficulty in finding the right (qualified, professional) financial adviser. He suggests you are likely to be better off *with* professional advice. This might mean that you choose to seek an expert who has appropriate credentials: someone who is a certified annuity specialist (CAS), chartered estate planner (CEP), chartered financial analyst (CFA), certified financial planner (CFP), chartered investment controller (CIC), certified public accountant (CPA) or an enrolled agent (EA).

If such credentials are important to an investor, then the task of identifying a well-educated, experienced, and sincere adviser becomes really daunting. There are more than 100 professional designations to choose from. Of course, such credentials have to be earned, some of them by years of study time alongside a substantial financial investment. However, these credentials are also the way advisers market themselves. The more letters they attach to their name, the more they can impress potential customers and the more diverse services they can offer (especially in jurisdictions where these types of activity are controlled and regulated).

Jaffe (2010) explains that an ordinary financial planner with a customer base consisting mostly of people of the investor's same age, assets and concerns, could most likely do the job without having a single advanced credential. As Jaffe suggests, people tend to short-sell experience and put too much weight on the qualifications described above. However, Jaffe helpfully lists some of the most common designations (most internationally known) that might be useful when searching for financial advice, alongside their principal characteristics. These credentials are shown in the table below. 7

Certified financial planners (CFP)	A CFP must meet experience and education requirements and pass a ten-hour exam administered by the certified financial planner board of standards. To maintain the qualification they must take a minimum of 30 hours continuing education classes every two years.
Certified fund specialist (CFS)	To become a CFS you are only required to have a bachelor's degree or one year of experience in financial services. You can then take the self-study course and pass an examination overseen by the institute of business & finance.
Chartered financial consultant (CFC)	A CFC is typically an insurance agent with several years of experience, who has conducted courses in financial planning from the American college. It is a prerequisite for an insurance agent who wants to branch into other types of financial planning; often agents achieve this in conjunction with the CLU credential.
Accredited estate planner (AEP)	The AEP designation requires the participants to have five years of estate planning experience. They must be an attorney or financial planner with appropriate credentials in that area. To maintain the credentials given by the national association of estate planners & councils, requires just two graduate level courses followed by 30 hours of coursework every two years.
Chartered financial analysts (CFA)	The CFA passes a demanding, three-level test on investment analysis, economics, portfolio theory, accounting, corporate finance, etc., administered by the CFA Institute (formerly the association for investment management and research). CFA holders must demonstrate expertise in a specialized area of investments.
Chartered life underwriter (CLU)	The CLU is commonly considered the highest professional designation for life insurance consultants, who must meet extensive experience and education requirements, with the courses conducted by the American college.
The investment management consultants association (IMCA)	The IMCA, a trade group for advisers who concentrate on high net-worth clients and institutional investors, awards the certified investment management analyst credential to experienced consultants who complete a five-month study program at the University of Pennsylvania, the University of Chicago, or the University of California-Berkeley.
Chartered mutual fund consultants (CMFC)	CMFC have accomplished a 72-hour self-study course on mutual funds. The course is administered by the college for financial planning and overseen by the investment company institute, which is the trade association for the mutual fund industry.
Certified public accountants (CPA)	CPAs are tax experts who must have a college degree, pass a stringent exam, and keep on top on modifications in tax law.
Personal financial specialists (PFS)	PFSs are CPAs who have met education and experience requirements and passed a comprehensive exam on financial planning. Because this credential is always linked to the CPA, holders usually list it as CPA/PFS. The holder is qualified to help a client with investment and tax issues.
Chartered wealth managers (CWM)	CWM possess a minimum of three years' experience and usually an advanced degree. They complete coursework with the American academy of financial management. You can achieve similar competing credentials by becoming a certified wealth consultant (CWC).

Table 1 – Investment management related credentials (Jaffe, 2010)

To conclude, the chartered financial analyst (CFA) is assuredly the most respected but also the most difficult credential to attain in the investment world, followed by the accreditation by the Investment Management Consultants Association (IMCA). Investment advisers who have become either chartered wealth managers, personal financial specialists, certified financial planners or chartered financial consultant are surely knowledgeable professionals too. In Switzerland, a finance and investment related qualification from the AZEK, the Swiss Training Centre for Investment Professionals is regarded as reputable but difficult to accomplish (AZEK, 2016).

2.5.3. Behavioural finance

Pompian (2006) writes a guide that he claims supports both private investors and professional advisers in identifying and controlling irrational emotions, in order to increase one's position of wealth, and to build an optimal investment portfolio. He delivers a brief history of behavioural finance, and a detailed collection of noteworthy investor biases, including advice on how to manage them. He gives an indication of the possible direction of future research in the field. He states, 'Investor irrationality has existed as long as the markets themselves' (Pompian, 2006, p. 20). He also claims that 'There is a large body of evidence documenting that investors consistently overestimate the prospects of growth companies' (Pompian, 2006, p. 12).

As with other authors mentioned above, Pompian elaborates on the current research that is challenging the efficient market hypothesis. This long-held theory holds that well-informed investors determine market changes by making rational choices and decisions. Hence, in an efficient market, securities prices allegedly reflect all relevant information so rapidly that no investor can expect to beat the majority of all other investors, who constitute the market. Even advocates of the efficient market hypothesis EMH, for example Swensen (2005), Bogle (2010) or Siegel (2014), recognize that stock market participants often react non-rationally, since various biases could influence the behaviour of investors.

During the past two decades, research into psychological and emotional aspects of investing has shaped behavioural finance. Major studies include Kahnemann & Tversky (1979) Jinga, Haoa & Xiana (2013) or Shiv, Loewenstein & Bechara (2005). The research in general shows that investors are continuously subject to well-defined and often

predictable biases that lead them to make irrational decisions that damage their 'financial health'. Asset managers and investment advisers alike may apply these insights by gathering complete information and bringing rationality to bear. Many assume that this could have a positive influence on how they serve their investing clientele and may help to prevent from making emotional choices.

As Pompian (2006) writes, one of the major challenges is that stock market participants are often blinded by old views and habits and refuse to adapt to new information and circumstances. Likewise, for many investors, controlling their desire to spend money instead of saving is problematic. Pompian concludes that neuroeconomics, the study of brain anatomy and chemistry, could open new frontiers in the understanding of investment decisions.

Pompian suggests, based on his extensive review of the literature, that the most serious biases discovered by researchers are:

- **Overconfidence:** investors have too much faith in their ability to forecast events.

- **Representativeness:** investors cling to long-held perceptions and habits and neglect those that genuinely reveal current true trends and not mere anomalies.

- **Anchoring and adjustment:** some investors are arbitrarily fixed on certain numbers so that their buy-or-sell decision may be irrational because they have this particular number in mind.

- **Cognitive dissonance**: investors avoid uncomfortable information and rationalize irrational decisions as they find colliding perceptions exceptionally unsettling.

- **Availability:** people think shark attacks are likelier than pieces of airplanes falling from the sky. The contrary is accurate, but the availability of public information through the media gives the shark attacks more attention.

- **Self-attribution:** this bias describes investors who generally take credit for their investment success. They show the tendency to blame others or external factors for market failure.

- **Illusion of control:** this predisposition holds that investors trust that they can apply power over uncontrollable forces; the same way as craps shooters irrationally throw the dice harder thinking that they roll high numbers.

- **Conservatism:** people stick to old opinions and forecasts although the conditions and circumstances that have changed (unwarranted optimism or pessimism).

- **Optimism:** investors are generally too positive, may overweigh their portfolios with particular companies' stocks, overrate the relative value of their investments, pay too much attention to rosy looking business situations, and put too much confidence in their investing acumen.

- **Ambiguity aversion:** some investors only want to buy/own what they are acquainted with; thus, they prefer certainty and clear risks over the unfamiliar.

- **Endowment:** these investors would ask for a higher price for something they own than they would pay for the same stock if they would not own it; they overvalue what they have.

- **Mental accounting:** this bias comes into play for investors who disregard total returns, total expense ratios, or correlations. As their wealth increases, they may take higher and unwarranted risks they cannot afford or cling on to investments that performed well in the past but recently ran sour so that rationality would suggest letting them go.

- **Confirmation:** these investors pay attention merely to information that confirm their beliefs; they contempt opposing data.

- **Hindsight:** investors trust that past events and trends were foreseeable; many state that they saw the burst of the Internet bubble coming at the change of the Millennium, yet their investment actions and behaviour suggested the opposite.

- **Loss aversion:** people who are determined to make money with every single investment suffer from this bias.

- **Recency:** this suggests that investors overrate recent and memorable events while lacking historical perspective.

- **Regret aversion:** this prejudice discourages critical behaviour and investors avoid decision making in an attempt to sidestep the consequences.

- **Framing:** investors with a framing bias lean towards focusing on gain, on the elimination of risk.

- **Status quo:** this bias leads investors to hold on to assets that are not appropriate for their situation or period of life.

The list assumes that rationality is superior, in all respects, to the presence of bias – but bias would not persist if it served no purpose (rationally speaking).

2.5.4. Common investment mistakes

The CFA Institute (2008) is a global association of investment professionals that sets standards for professional conduct. It offers examinations and then provides credentials for successful candidates, who are known as 'charter holders'. It conducted a survey in which it asked charter holders about the most common investment mistakes, hazards or missteps. Amid other outcomes, the responses led to the recognition that simply avoiding these common hazards is often the most important part of creating a successful investment strategy and portfolio. This outcome affirms the view that investing is not to be confused with gambling or speculation and should therefore not be treated as a set of hit-or-miss activities. The survey suggests that individual investors often prove to be their own worst enemies, as simple missteps can result in apparently dramatic impacts on overall portfolio return over time.

The CFA Institute research shows that the most common hazards are:

- No investment strategy.
- Investing in individual stocks instead of a diversified portfolio of securities.
- Investing in stocks instead of investing in companies.
- Buying high and selling low.
- Churning your investments (too much trading).
- Acting on tips and soundbites.

- Paying too much in fees and commissions.

- Decision making by tax-avoidance.

- Unrealistic expectations.

- Neglect (people fail to start investing because of lack of knowledge).

- Not knowing your tolerance of risk.

Stammers (2015), the CFA Institute director of investor education, builds on the CFA (2008) study and provides guidance to help avoid the top 20 common investment mistakes uncovered by the survey. He points out, for instance, that it is important not to expect too much, not to apply someone else's predictions and that past performance is no indicator for future performance. Even if you invest for the long run with a well-diversified portfolio according to your risk profile, you cannot predict or control the returns the markets will finally yield. There are of course the long-term averages for asset classes, such as equities, government bonds, or cash as illustrated by Pictet (2015), but investors ought to be cautious when making predictions. Likewise, outsiders who have no understanding of an individual's investment goals or asset allocation can never provide a justified reasonable rate of return because of their lack of knowledge of the investor.

In Stammers' experience, many investors themselves are also not clear about their investment goals or have none defined. The saying, 'if you don't know where you are going you will most likely end up somewhere else' is almost certainly true for investing. Stammers suggests any investor's portfolio should ultimately be a reflection of their risk profile and investment objectives and should not focus on recovering prior investment losses or short-term investment return.

Stammers states that the only way to create a portfolio that delivers appropriate levels of risk and return in various market scenarios, is through adequate diversification. He illustrates that often investors want to maximize returns by taking large investment exposure in one security or sector but when the markets move against such a concentrated position, it can be catastrophic. On the other hand, if an investor over-diversifies, Stammers says this too can also negatively affect performance. He further illustrates the point that many investors focus on the wrong type of performance. Long-term investors, in particular, should not speculate on short-term performance as this could make them re-

think their strategy and motivate short-term portfolio modification. They should rather pay attention to the factors that drive long-term performance. Similarly, contrary to the fundamental principles of investing, investors are often buying high and selling low. Investors may let fear and greed steer their behaviour and try to maximize short-term returns instead of focusing on long-term investment success. Concentrating on near-term returns leads to faulty investment decisions i.e. aiming at what is popular or has performed well in the near past.

Stammers also identifies and confirms other common mistakes in trading too much and too often and paying too high fees and commissions. Trading a portfolio is expensive and diminishes returns and can also result in unanticipated and uncompensated risks. Sustainable investing requires patience, as it can take time to harness the benefits of investments and the asset allocation strategy. Investors, Stammers suggests, should always monitor their portfolio, reconfigure when necessary, and not push to trade.

In addition, the kind of products an investor chooses is a highly complex task as the majority of investors are paying too much for high-cost funds, trading, advisory fees, etc. Even at first glance, insignificant fees negatively affect real portfolio return. As Ellis (2002) states, investors should be aware of all potential costs during every investment decision and look out for funds that charge sensible fees and investment advisers that deliver exceptional value for the fees paid. Equally, investors should not concentrate too much on taxes. They need to be 'smart' but make investments based on their merits and investment goals, rather than on potential tax consequences.

Once a well-diversified portfolio is carefully planned and set-up, the general advice on investing is that holders need to monitor it on a regular basis, since individual stocks, shares, bonds, equities and other investment vehicles will fluctuate in price. In this way, it is suggested, investors can ensure that they do not 'get too far off track'. Stammers says that this notion is regularly neglected and advises investors to monitor their portfolio at least once a year to check that the investments still make sense for the investor's situation and that the portfolio does not need rebalancing. This adjustment of the ratios for the various investment products or asset classes (rebalancing) should always be in-line with the investor's risk profile. Stammer suggests that unfortunately many investors do not know 'who they are' and take on too much risk in exchange for potential returns, while others are too careful when selecting securities or drafting a portfolio.

Investors consequently forego possible returns or do not achieve long-term investment goals. Therefore, they need to identify their financial and emotional ability to take risks and recognize the inherent investment hazards.

Also, many people are not 'on top of their investments' (Stammers 2015, p. 2) and therefore do not know how their securities or portfolios have performed. They may know the headline result or how a few of their stocks have performed, but they rarely know it in the context of their overall portfolio. Investors need to understand their respective results and relate them to the investment goals originally defined. They can then verify whether they are on track after adjusting for costs and inflation. Likewise, reacting to the media and using the extensive information available on investment related news channels is a common mistake made by investors. By the time such information has become public, it has already been factored into the market pricing. 'Seasoned' investors understand how to derive valuable information from various independent sources and how to validate them to identify investment possibilities.

Stammers (2015) continues that investors all too often chase unrealistic returns, as they are distracted by promising high yields. The truth is simple: past performance is no indication for future performance and the highest yields convey the highest risks. Investors need to focus on the whole picture and should not get distracted while ignoring the management of risks.

Trying to be a 'market timing genius' is another common fault (Stammers, 2015, p. 2), While timing the market is extraordinary challenging for well-educated and experienced professional investors, it can be disastrous for untrained investors. Stammers (2015), similarly to Sincera (2001), illustrates that an investor who had missed the best 10 trading days for the S&P 500 from 1993 to 2013 would have yielded a 5.4% annualized return instead of 9.2% by staying fully invested. This disparity suggests that investors benefit much more from constantly contributing to their investment portfolio instead of attempting to time the market by trading in and out.

In addition, investors often neglect the imperative due diligence process to verify the qualities and services of their investment adviser. By contacting relevant databases and asking for references, investors should check whether corresponding managers have the appropriate training, experience, and ethical standards.

The worst that can happen is that 'you trade an afternoon of effort for a good night's sleep' and in so doing avoid getting caught in the next Madoff scheme (Stammers, 2015, p. 2). Ideally, the respective financial service provider not only has the ability to solve your challenges but also shares a similar philosophy about investing and even life in general.

Two other major pitfalls are inflation and investors being steered by emotions. Investors should develop a discipline of focusing on what is really important and sound portfolio needs to be crafted, executed, and managed without letting emotions influence decisions. Stammers concludes that this may prove difficult when considering the vast amount of questions and feelings that surround any individual investor, but it is important to deal with those emotions as rationally as possible.

The last common mistakes Stammers (2015) identifies is that investors often neglect or simply continue their investment program but forget to control of what they can. He explains that investors frequently fail to start an investment program because they lack a basic knowledge of where and how to begin. Similarly, periods of inactivity are often a result of lethargy or disappointment about previous losses on the stock market. For Stammers (2015), profitable investing is not difficult, but does demand continuous effort and analysis in order to be successful. Overall, Stammers provides what may be thought of as a reasoned summary of what is currently believed to be best advice for private investors.

Since we cannot control what the markets will do, we can save more money by continuously investing capital over time, which is as Stammers suggests, the surest way to reach your financial goals. This contributes as much to the accumulation of wealth as it does to the return on investment.

The remaining literature is presented in the appendix.

2.6.   Summary of this chapter

This chapter sought to establish and examine the available literature regarding the theoretical and practical challenges in the field of a particular notion of finance, investment management and stock market investing. It presents past and recent theories, as well as their possible shortcomings. This provides a grounding for the aim of this thesis, the approach taken and hopefully the contribution to both theory and practice to be made.

Ground-breaking concepts were established by Dodd and Graham (1934) and later by Graham (1949), with the origination of value investing. Graham also differentiates between investors and speculators; most investors today are to be found within the latter group. One of the most significant and successful investors, Warren Buffet, first worked with Graham and later built his own theories and rests almost his entire business (Berkshire Hathaway) on this insight.

Modern portfolio theory established by Markowitz in 1952, is possibly one of the more important investment theories developed. Since then, many researchers and pragmatists have built on that model either to advance (or contest) the theory or to practically establish asset management companies and other financial institutions that would design and market products on its merits.

Certainly, there are numerous critics (i.e. Greenwal, 2001; Schwager, 2014) who proclaim that markets are indeed inefficient and that therefore Markowitz' theory does not hold true. Yet the majority of the investment community understands that if there is such a thing as an ideal and sustainable portfolio, it would be based on the merits of modern portfolio theory. Thus, the notion and mechanics of the MPT as well as the opposing arguments serve to underscore the level of knowledge and expertise amongst investors. What is clear throughout much of the literature, though, is a strong streak of advocacy and the selective use of mainly historical evidence.

Further valuable information originates from Pompian (2006) who studied the various investment biases and emotions (behavioural finance), which when controlled, can lead to an increase of wealth. Likewise, the CFA institute (2008) and Stammers (2015) elaborate on the most common investor mistakes that hinder investors from setting up a

sustainable and weatherproof investment portfolio – if, and only if, rationality is a worthwhile principle.

This chapter examines these most common investment strategies and investment applications. It reveals a literature replete with studies of 'hero' investors (value adherents such as Buffet, Town, Marks, Sander or Grantham; value proponents Natale or Hunt; to GARP investors like Lynch or technical analysts such as Faith, Schwartz or Simons) with sometimes (ofttimes) dubious use of selective data and logical but empirically unsupported assertions. The passage of time has shown some of these heroes to have feet of clay.

Investment strategies, such as those of the hedge fund, the use of quantitative techniques or high intensity trading, are much more technical than the types of strategies above (but their results are similarly debateable). As such, they are much less accessible strategies to general investors. Increasing use of computing platforms has eased the difficulties for private investors, but the 'arms race' for more powerful algorithms, or reduced time-cycles for HIT, still disadvantage the individual investor.

What is lacking, in both the professional and academic literature, is a single, comprehensive, empirically-supported set of theoretical propositions concerning the best way to invest for increased wealth. The literature reveals a wide range of different investment strategies and a plethora of investment criteria. Nonetheless, there is no coherent view of which investment strategy is the most effective for a private or professional investor. It is challenging for any investor to derive an investment strategy that suits his or her risk profile best and that then supports those investors in generating wealth sustainably.

In the light of the challenges described, valuable information for my research (and for any investor) is provided by Brinson, Hood and Beebower (1986), Ibbotson and Kaplan (2000) and Darst (2003), who are convinced that asset allocation, the division of investments among different asset classes, is the ultimate key to investment success, as it drives (their selective evidence suggests) 90% of portfolio return. Thus, picking the right stock or mutual fund, or timing the market, on the basis of any investment strategy becomes something to be ignored.

Another ongoing debate concerns how investment portfolios are actually implemented and managed. There are essentially two clusters, the one trusting in 'active portfolio management', mostly 'stock pickers', asset managers and mutual fund managers, and the ones who firmly believes in 'passive portfolio management'. As one might come to expect in this field, there is no consensus, and the evidence adduced by each cluster tends to flatly contradict the other.

Finally, the literature does reveal themes that play vital roles for investing in general; these themes will therefore guide my research. Amongst them are the concept of diversification, the importance of the investors risk profile, the investment duration or time horizon, the significant notion of rebalancing the investments and the reasons why investors change their bank or asset manager. Additional topics are asset classes, such as commodities or corporate bonds and the various investment vehicles such as shares, options, futures or structured products and their relevant fee structures.

With such a wide and divergent set of principles on offer to be followed, many private investors might well seek professional advice. Key in selecting any professional adviser (lawyer, accountant or tennis coach) for many people is the notion of both credentials and experience. The Dreyfus brothers jointly initiate a strand of thinking that illuminates this topic. They consider both knowledge and experience. In contrast to the 'super-rational' position of many investment commentators, they began by asking, in general, what it is that computers cannot do that humans can. They studied what they identified as the 'under-researched' notion of expertise and then developed the 'adult skill acquisition model' that describes the stages one has to master in order to become an expert; from novice, to advanced beginner, to competence, to proficiency to expertise.

In looking at expertise, Jaffe (2010) describes the most important finance and investment related qualifications (which perhaps signify knowledge and expertise). Of these, the chartered financial analyst (CFA) designation seems to be the most respected, but also the most difficult to attain credential in the investment world, followed by the accreditation of the Investment Management Consultants Association (IMCA).

The above literature analysis and discussion (and the literature gaps) provides for the formalization of my initial hypothesis (chapter 5): the more knowledgeable and

experienced an investor is, the more carefully s/he will invest and the superior their level of portfolio diversification, investment criteria and strategies.

Based on the literature, this is what one would expect the investor's increase in knowledge to lead to, as investors become better informed. This study concentrates on exploring *how* differences in knowledge and experience affect investment behaviour amongst private and professional investors. The literature review, across a range of 'investment theories', forms the skeleton and substructure of the conceptual framework (discussed in the next chapter).

3. Conceptual framework

3.1. Chapter overview

This chapter presents the conceptual framework that organizes and guides empirical research, connecting the research aim and objectives with the current literature. It directs the generation and analysis of empirical data in the same way.

3.2. Development approach

The previous chapter analysed and discussed the relevant literature - available theories (such as they are) and insightful thinking in the related fields of finance and investment management. The level of knowledge and expertise of investors can be derived from either normative theories, such as the Dreyfus' adult skill acquisitions model, or from positive theories, such as the syllabus content of the various examination bodies offering education/qualification, or the many existing occupational requirements. Taken together, these areas represent the current state of knowledge with respect to investment choices, methods and tools.

Key among the authors that guide my research are: Graham & Dodd (1934), Graham (1949), Markowitz (1952), Fama (1970), Brinson, Hood & Beebower (1986), Black & Litterman (1991), Sharp (1991), Dreyfus (2004), Swensen (2005), Stammers (2015).

These key authors (with others) provide the initial conceptual framework displayed in this chapter. This lends a context within which to understand how knowledge and wealth shape private and professional investors' investment behaviour (criteria, strategies, applications).

Investors themselves are presumed to differ, according to whether they are private or professional investors, based on perspectives in much of the literature which presents 'professional' knowledge for the benefit of 'amateur' investors. The often-implicit assumption is that the professional is more 'expert' than the amateur, private investor. This assumption is driven by two strands related to 'more': more knowledge, certainly, but also more wealth.

Professionals are assumed to manage greater wealth more expertly than private investors. For this reason, the professional investors themselves are further sub-divided here into asset managers and institutional investors - occupational titles that commonly reflect the amount of wealth under management.

In order to contextualize the focus of the research: 'to examine investment practices for the general investor to enable them to invest more knowledgably and effectively', six key themes within the existing body of literature were identified. They derive from the reviewed literature and are categorized as 'related structures' (RS 1 to 6). These structures are:

1. Investors – their type

2. Qualifications and knowledge – derived from study and familiarity with the literature

3. Experience and expertise – arising from occupation, time in the field, and amounts under management

4. Investment criteria – the bases for investment choice

5. Investment strategies – the school or style of investment approach adopted

6. Experts – those demonstrating long-term mastery in the field.

Each related structure provides a corner-point for the conceptual framework below. These related structures are all closely interlinked, being both potentially dependent and independent variables. They exhibit reciprocal conceptual relationships between and across each structure, as displayed in the figure.

The framework shows the investors (RS1); both private and professional) as the main dependent variables, to which the key independent variables like experience and expertise (RS1), qualification and knowledge (RS3), investment criteria (RS4) and investment strategies (RS5) relate. The experts (RS6) represent the conclusion of each combination, the supposed apogee of investment insight, a kind of authority, from whom relevant recommendations can be drawn for the benefit of the private investor. This type of understanding permeates much of the literature.
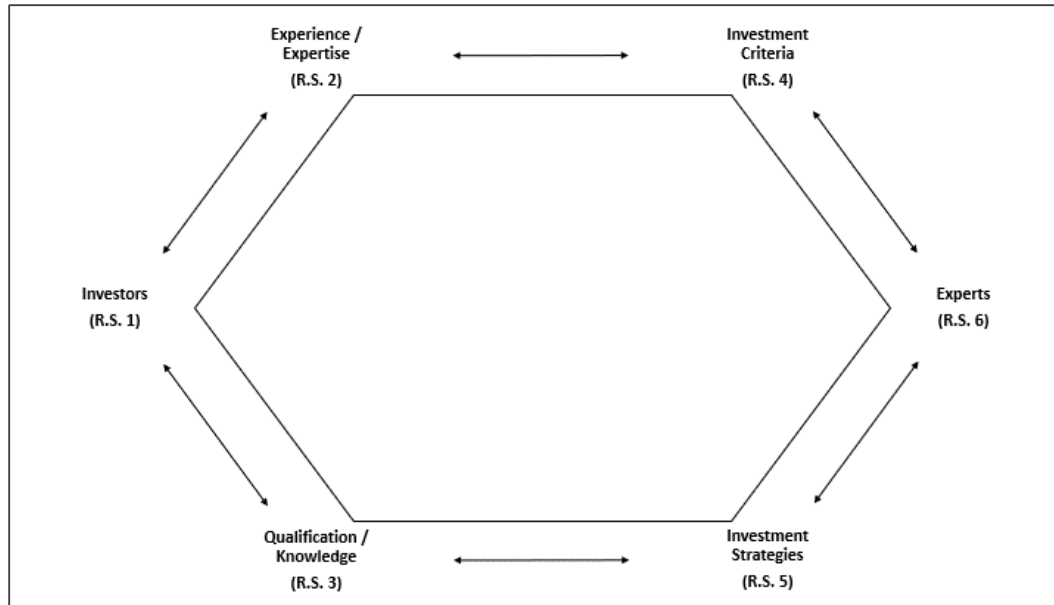
Figure 2 – First stage conceptual framework

Some questions for inquiry evolve logically from the review of the literature:

- What education, qualification and level of knowledge do the investors exhibit?

- How experienced and expert are the investors?

- Which investment criteria are selected to establish an investment portfolio?

- Which investment strategies and applications are applied?

- Who are the experts within the investment community (the investors)?

- What characteristics in regard to investment acumen and behaviour do the experts exhibit?

These related structures (RS), combined with data about individual investors, were used to see if different categories of investors could be adequately identified, using what the literature suggests were the necessary explanatory variables. Within this thesis, following the literature, the assumption was that the professional investors (asset managers and institutional investors) possess superior investment knowledge and expertise compared to private investors; they are the more expert. Within the group of professional investors, the institutional investors will exhibit greater investment knowledge and expertise (given that their portfolios are likely to be of greater value) than the asset managers.

However, categorization using this type of data alone proved impossible. Hence, it is not probable to read the theoretical structure into the actual knowledge and expertise displayed by the three investor types – private investors, professional asset managers and professional institutional investors. The requirement for a second version of the framework became apparent after the analysis of initial data failed to yield adequate differentiation between Dreyfus-model levels of expertise and related investor types, based on occupational category, professional qualifications and experience alone. In an attempt to better comprehend how the issues around knowledge, experience and insight impact on one another and how they are further related to the key topics and expressions from the literature, a second layer was added to the conceptual framework.

The illustration below shows this additional layer. It explicitly adds the three initial investor types (private investors, asset managers and institutional investors) as well as the five distinct levels of the Dreyfus model of skill acquisition (novice, advanced beginners, competent, proficient, expert). The illustration also shows the presumed relationship between these two categorizations, derived from the two different sources.

A key difference from the first version of the framework is that, here, the skill level of an investor is no longer *assumed* to derive solely from his or her occupational status, but result from explicit testing and profiling (though it remains true that the categories are *expected* to be in the relation suggested by the literature). The approach to profiling utilizes insight generated from a review of the literature and specific items present in the curricula of professional bodies.

The profiling of respondents as uniformed investors (UIs), informed investors (IIs) or experts (EXPs), hinges on an individual's response to a series of questions drawn from this knowledge-base, explicated in the literature and curricula. This version of the framework therefore incorporates a two-fold perspective, based not only on the presumed amount of wealth under management but also an investor's actual knowledge.
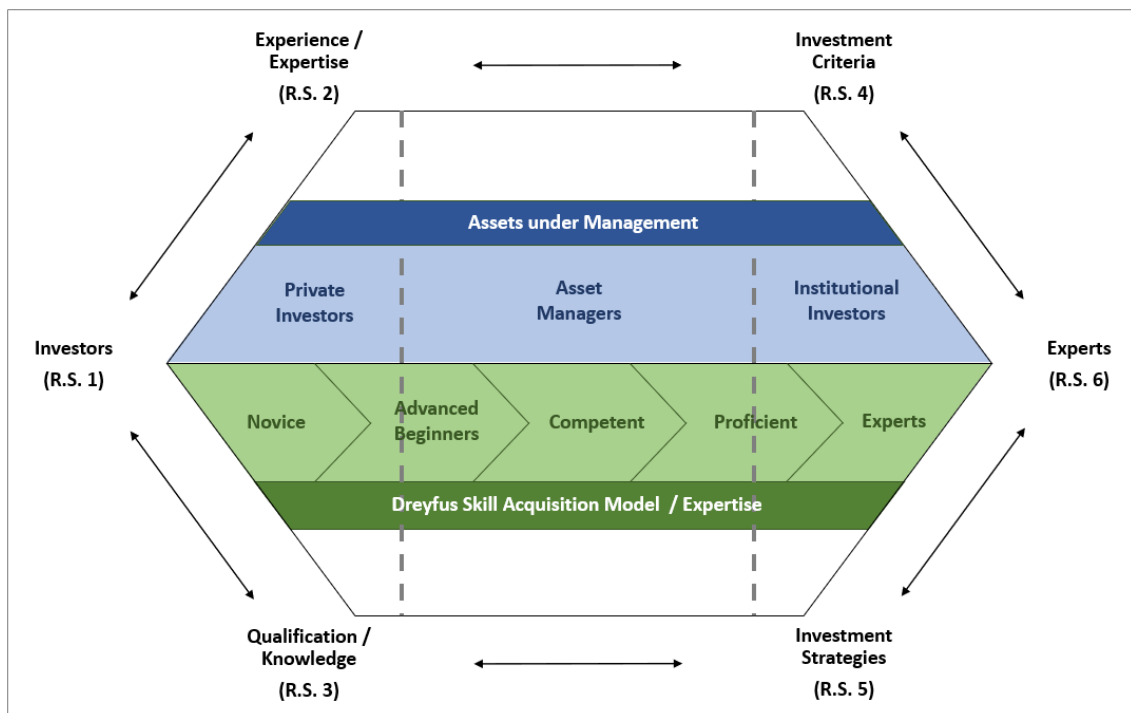
Figure 3 – Second stage conceptual framework

The two-layer illustration of the conceptual framework mirrors these expectations; it shows progression from left to right, as illustrated within the different strata; one concerning investment under management, the other expertise. Yet the lines indicating categories are not solid, but dashed instead; this indicates the possibility that there may not be a straightforward isomorphic mapping of one set of categories onto the other, or regularity of progression from one category in a stratum to the next (a result strongly suggested by the initial analysis, which failed to resolve the expected categories of investor).

In addition, the framework shows, in relation to the Dreyfus model, that private investors are normatively either 'novice' or potentially 'advanced beginners', that most asset managers are to be found in the range of 'advanced beginners', 'competent' and 'proficient', and the institutional investors within 'proficient' and 'expert'.

Following from the above, the initial null hypothesis (H_0) became that the more knowledgeable and experienced an investor is, the more cautiously s/he will invest, and their level of portfolio diversification, choice of investment criteria and implementation of strategies will be superior to those with less knowledge. Based on the literature, this would be the expectation as to what possession of increased knowledge would lead to, as investors became less novice (more expert).
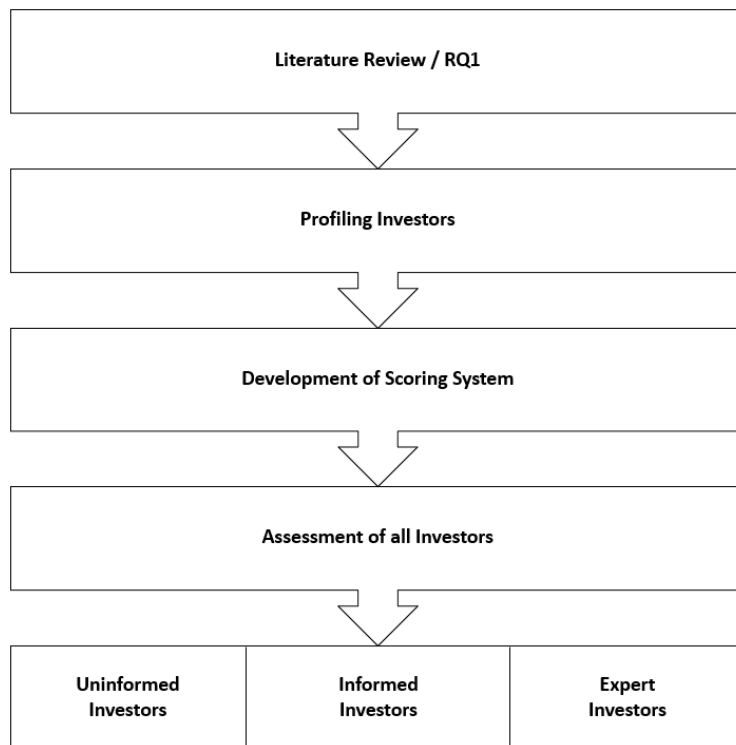
Figure 4 – Profiling investors

To develop the profiles, firstly, relevant questions stemming from the analysis and results of research question 1 were selected. Secondly, a scoring system to allocate 0 - 5 scores to each of the answers for every profiling questions was developed, with a method to account for missing answers/values. Thirdly, a maximum score to identify the upper limit of the 'uniformed investors' (UI) category and a minimum score to identify the lower bound for 'experts' (EXP) were applied (the reminder scoring between these parameters constituting the 'informed investors' (II)). Lastly, the profiling question responses for an individual were run against the scoring system, in order to allocate each participant to one of the three newly created investor types.

Consequently, the ultimate conceptual framework displays the shift from the initial, literature-based investor groups to the three empirically-determined investor types: UNI, INI, EXP. Its creation led to a re-analysis and discussion of the primary hypothesis. For research question one, I assumed that expert investors would show a preference for passive investing, apply a buy-and-hold strategy, use periodical rebalancing, be appropriately diversified, seek cost-effectiveness and have a long-term perspective.

In relation to the Dreyfus-model, I hypothesized that the uninformed investors (UNIs) are either 'novice' or potentially 'advanced beginner', that most informed investors (INIs)

are to be found in the area of 'advanced beginner', 'competent' and 'proficient', and the experts (EXPs) within 'proficient' and 'expert'.
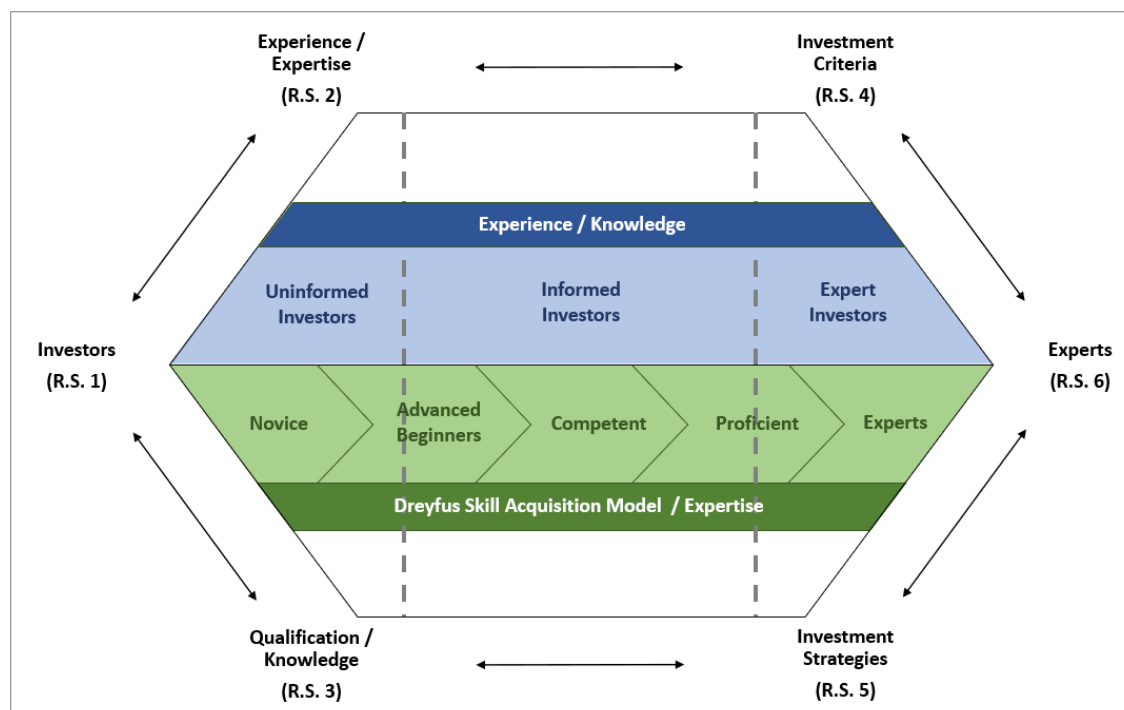
Figure 5 – Third stage conceptual framework

3.3. Sub-level related topics

To round out the conceptual framework, a number of topics that resurfaced with some regularity within the literature were considered. The topics relate to four broad themes: style of investment; portfolio perspectives; individual traits, preferences and behaviours; environmental factors. These topics concern styles of investing, the allocation of resources between different classes of assets and the often-expressed desirability of a diversified portfolio. Portfolio thinking appears often in the views and comments of a number of authors. This is presumably because the basis for thought is that of an individual with 'substantial' wealth to invest, which can be 'spread' across different classes of assets.

- Style of investing

  o Active vs. passive investment management.

  o Long-term average returns

  o Risk vs. return (MPT).

- Portfolio Aspects

  o Asset allocation.

  o Asset classes.

  o Diversification.

  o Rebalancing.

  o Total expense ratio (TER).

  o Single stock investments vs. funds.

- Individual Traits, Behaviours, Preferences

  o Behavioural finance / investor bias'.

  o Expected returns (profit) vs. tolerance for loss.

  o Finance and investment education.

  o Investment mistakes.

  o Skill vs. luck.

- Environmental Factors

  o Lack of transparency / regulations.

  o Inflation.

  o Trust in financial institutions (banks, asset managers).

Most of these items appear explicitly in 'structured' contributions to the literature, and in academic research papers. More frequently, they appear as desiderata or 'things to consider' in the normative literature that informs private investors of how they *should* proceed. Whatever their source, their presence in the background is so strong as not to be denied, and each therefore receives consideration here.

3.4. Summary of this chapter

This chapter illustrated the development and description of the conceptual framework, that serves as the skeleton and guideline for my entire research.

It connected the research aim and objectives with the relevant literature and served as a starting point to formalize my hypotheses. In considering these factors, it is pertinent to remind ourselves that the focus in this area is almost always on those with wealth and / or with high disposable income. Much less often explicitly considered is if and how this topic has relevance for those in society with less capital, and how, if at all, they might generate the capital to benefit personally from investment.

4. Research methodology and data analysis

4.1. Chapter overview

This chapter draws on the literature review and the subsequent conceptual framework. It describes my overall research design framework, my philosophical worldview, my role as the researcher and gives a brief overview of the traits of investment experts. It also illustrates the methodology and instrument chosen for data collection, the research approach and the piloting, sampling and distribution process and finally methods and tools chosen for the analysis of the data.

4.2. Research design framework

The framework below is a holistic portrayal of my worldview - the lens through which I look at this research. It depicts the background, situation and challenges of expertise and money investing, the literature review and subsequent research questions, the various strategies for inquiries and the methods available for data collection and analysis.
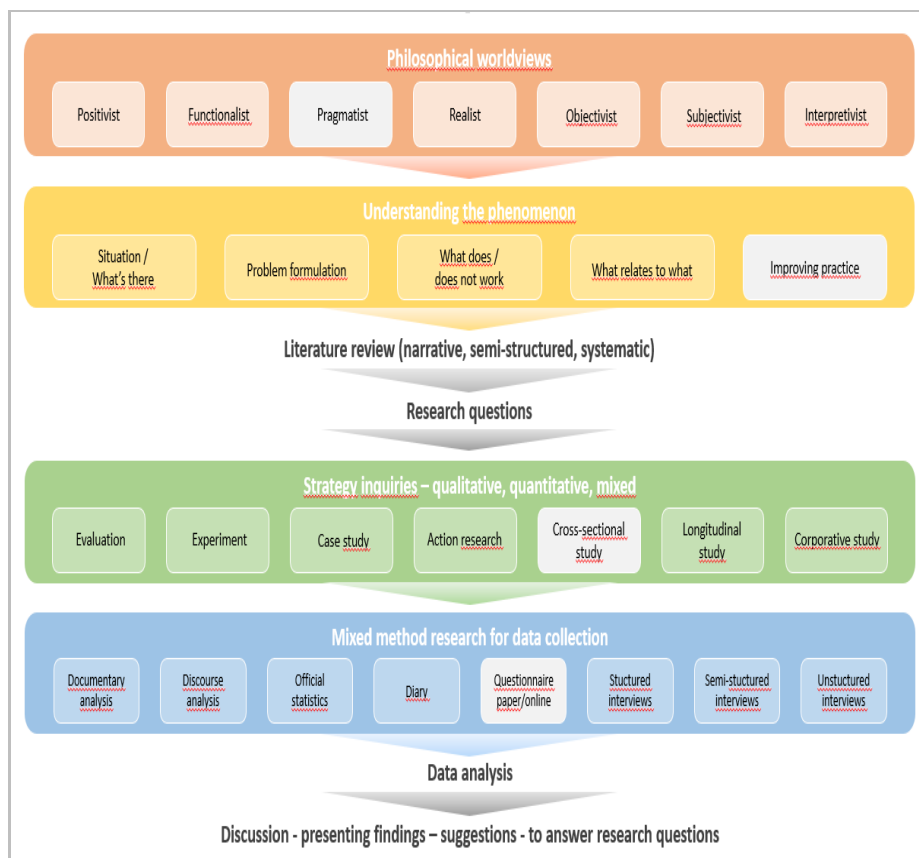
Figure 6 – Research design framework: worldviews, strategies, data collection

An alternative approach is provided by Saunders et al. (2009), who illustrate research design within their 'research process onion', presenting the researcher's philosophical standpoint, the two opposing research approaches, the different research strategies, and time horizon and data collation methods. Distinguishing between deductive and inductive reasoning, Saunders (2009) has offered an additional and valuable notion to my research process.
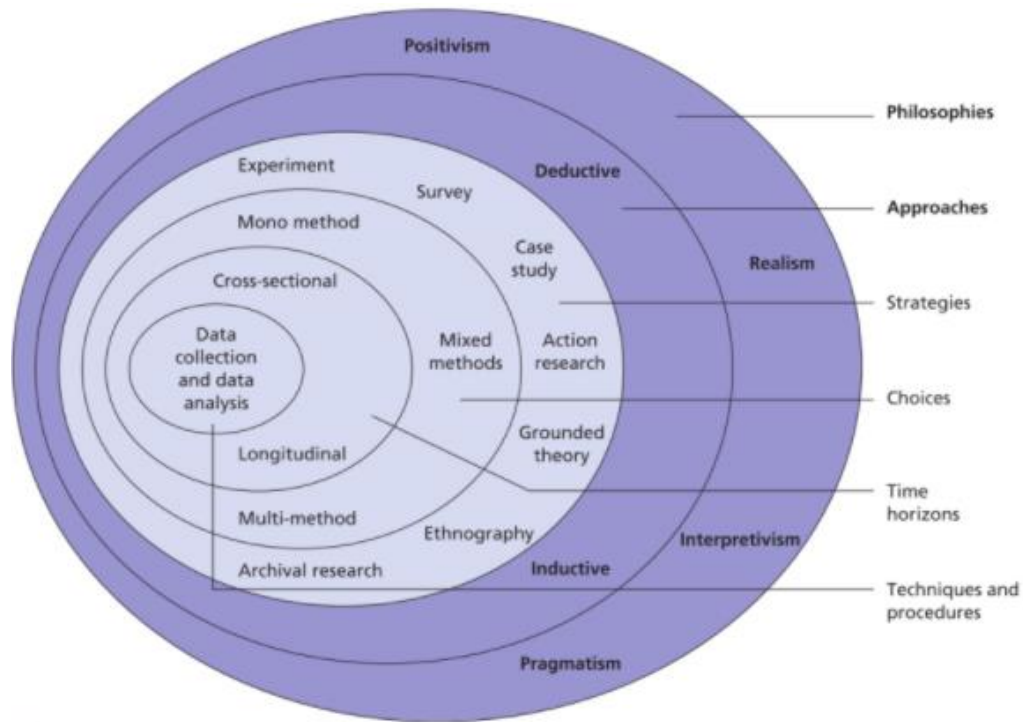
Figure 7 – Research onion by Saunders et al. (2009)

4.3.   Pragmatism

Philosophical concepts and their influence shape and guide the researcher's work, from the study of existing literature, to methodologies and strategies for the inquiries (methods) chosen, to data analysis and the subsequent presentation and discussion of the findings. However, as the notion and definition of the various ontologies (the form and nature of reality) and epistemologies (the nature of the relationship between the 'knowers' and 'reality') have been described many times within other studies, research and theses, I have decided against repeating this content within my own study. The following authors, in what may now be a fairly standard way, have informed my view: Guba (1990), Guba and Lincoln (1994), Perry, Riege, & Brown (1999), Denzin & Lincoln (2000), Collis and Hussey (2003), Creswell (2007), Creswell (2009).

Looking at the whole spectrum of philosophical perspectives and the particular research methodologies, methods and analyses, I realize that I tend to look at the world through a more positivist than an interpretivist lens. When studying the different worldviews, I came across the work of John Dewey (1925), who was influenced by other pragmatist philosophers such as Charles Sanders Peirce (1903/1992 & 1999) and William James (1907/1975). However, Dewey looked at things in a more concrete way than most other thinkers.

According to Dewey (1925), philosophy only needs to make explicit the difference between events that challenge thought and events that have met that challenge and therefore possess meaning. One of his major insights was that the attainment of truth results from the development of complex and elaborate methods of searching. Methods, that are suitable in some ways, in many respects go against the human grain, so that they are adopted only after long punishment in a school of hard bumps.

Contrary to other philosophers, he advocates that given to thought, the universal is known and the particular is already known and given to perception. Learning simply brings these two given forms into connection, so that what is discovered is the subsumption of the particular under the universal. This means that what we ought to learn is a result of what is given and the knowledge and experience we have instilled. Therefore, learning is the result of attaining knowledge, so there is no learning without knowledge and knowledge received.

Pragmatism is fundamentally a theory of learning; it unites a theory of knowledge development with education, links knowledge and experience. As such it frames well the view espoused here in relation to expertise.

Dewey claims that the dialogue reasoning person is one who makes his/her intuitions more articulate and more deliverable in speech as an explicit sequence of initial premises, connections and conclusions. Likewise, he identifies that thinking and thought is radically different. Thought is acting upon experience, thinking then executing thought. Likewise, Dewey stresses the importance of communication and considers it to be the 'most wonderful of all affairs'.

The social participation affected by communication, through language and other tools, is the naturalistic link that stands against the often-alleged necessity of dividing the objects of experience into two worlds, one physical and one ideal.

He illustrates that when communications occur, all natural events are subject to reconsideration and revision; they are readapted to meet the requirements of conversation, whether it be public speech or that preliminary discourse termed 'thinking'. Where communication exists, things are acquiring meaning and implications, which are substantially more agreeable to management, are more permanent and more accommodating than events in their first state. He concludes, that every thinker puts some slice of an apparently stable world in peril and no one can wholly predict what will emerge in its place.

We learn from our experiences, even in our subconscious human thinking. We constantly engage in an immense multitude of immediate organic selections, rejections, welcomings, appropriations, withdrawals, shrinkings, expansions, miseries, attacks, etc. We are not aware of the makings of many or most of these actions as we do not objectively differentiate and identify them. Yet, they exist as feeling qualities, and have a massive directive effect on our behaviour. The subconscious of a civilized adult reflects all the habits he or she has acquired.

Dewey further stipulates that knowledge, however attained, characterizes intelligently directed experience, as distinct from mere casual and uncritical experience, which has been mostly systematically ignored by philosophy.

For him, the investigator assumes that experience, controlled in a specifiable way, is the avenue that leads to the facts and laws of nature; he uses reason and calculation freely and could not get along without them.

He perceives reality as what we wish existence to be if our reasonably justified preferences were so completely established to exhaust and define our entire being and thereby rendering search and struggle unnecessary. He believes that the world is real and he counters traditional philosophies that have separated life from nature, mind from organic life, and thereby created mysteries. He determines that restoring the connection, and the problem of how a mysterious mind can know an external world or even know that there is such a thing, is like an animal eating things external to itself.

Another challenging thought was that knowledge and action without purpose is not useful. He specified that modern science represents a generalized recognition of the useful arts, as it proceeds by employment of a similar operative technique of manipulation and reduction. Physical science would be impossible without the appliances and procedures of separation and the combinations of the industrial arts, making actions explicit and its consequences useful.

Because of his thinking, John Dewey (1925.), along with Peirce and James became the originator of the pragmatist philosophy (Webb, 2007). Other more recent writers include Rorty (1990), Murphy (1990), Patton (1990), Putman (1994), Cherryholmes (1992), Misak (2007) and Malachowski (2013).

Cherryholmes (1999), Morgan (2007) and Hookway (2015) condense the characteristics of pragmatist philosophy to the following:

- The focus on epistemological inquiry should not be on showing how we can possess absolute certainty, instead we should focus on how we can possess methods of inquiry that contribute to making fallible progress.

- Inquiry starts with defining a real problem as we are involved in an unknown situation that aims to find answers in a controlled and directed process to arrive at a unified whole.

- Pragmatism can be seen as a laboratory philosophy that tests theories by carrying out experiments.

- Classic pragmatists identified beliefs and other mental states as habits that guide our desires and shape our actions.

- The core of pragmatism is the pragmatist maxim, a rule for clarifying ideas, concepts and hypotheses by tracing their practical consequence.

- The method for pragmatists is practical problem solving, - the scientific inquiry of common sense investigations of our surroundings.

- Ppragmatists see themselves as providing responses to common sense and the facts of experience and, thus, rejecting a flawed philosophical heritage stemming from other philosophical thinkers.

- The most influential application of the pragmatist maxim is the concept of truth, whereby the truth is whatever proves itself to be good in the way of belief for definite assignable reasons. A true idea marries old facts to new ideas to provide a minimum of surprise and a maximum of continuity.

- When we first face a problem, our initial task is to understand the problem through describing its elements and identifying its relations. The logical forms we use in the course of the inquiry are understood as ideal instruments, - tools that support us in transforming things and solving our problem.

- Pragmatism is understood as a form of empiricism. Our ability to think about external things and to steadily improve our understanding of them rests on experience; consequently, experience provides the material for knowledge and conceptualization.

- Knowers are agents who obtain empirical backing for their beliefs, by making experimental interventions in their environments and learning from the experiences that their actions produce.

- Experience in turn, is a process through which we interact with our surroundings, gaining information that benefits us to meet our needs.

- Pragmatists ought to propose new languages, - systems of classifications that enable us to achieve our goals.

- Pragmatists further hold that shared inquiry directed at resolving social and political problems is key to the conception of a good life and real democracy.

Conclusions for those who are pragmatists:

- Pragmatism is a worldview of a basic set of beliefs that guides my research and actions.

- We pragmatists believe that the material world is true and that truth is constructed from experience.

- We do not gain confidence from external values as we create values ourselves.

- We consider experience as the source for attaining knowledge and investigational methods as the ideal means to accomplish understanding.

- We are open to all kinds of methods to solve a problem; hence pragmatism does not require a particular method or method mix and does not exclude others.

- We are convinced that our actions must follow a purpose and that findings must be useful.

- We consciously challenge what we do and how we go about it, and we advocate social responsibility and the concept of untainted democracy.

4.4. The role of the researcher

As mentioned within the introduction, and as suggested by Creswell (2009) for transparency reasons, I want to re-state that I am an actively involved person within this field of study. Since 2010, I have worked for an asset management company (Sincera Asset Management) which I co-founded with others. It focuses on low cost indexing and well-diversified portfolios for the service of the 'general investors'.

These circumstances have clearly influenced the focus of my thesis as well as the design and content of the instrument (online questionnaire) but not the discussion and interpretation of the results and findings. The contrary is the case. When I decided to conduct a PhD, one of my personal goals was (but not to conflict with the aim of this research) that I wanted to challenge our business model in regard to identifying significant new research, information and concepts that would help us to optimize the way we work and invest for our clients.

4.5.   Traits of the investment experts

This section identifies the qualities of the investment experts. This overview of their characteristics directed the focus of the online questionnaire and the subsequent analysis and discussion.

There is currently little literature available on the mechanisms and variables with which to distinguish experts in respect of investment or asset management. Jaffe (2010) lists many different curriculums and courses available that support learners to become i.e. a certified financial planner (CFP), an investment management consultants association (IMCA), a chartered mutual fund consultant (CMFC) or a chartered investment controller (CIC) but a concise description of 'what actually constitutes an investment expert' is not presented.

The chartered financial analyst designations (CFA) is probably the most demanding and prestigious accreditation for investment professionals. Candidates have to pass a challenging, three-level test on investment analysis, economics, portfolio theory, accounting, corporate finance, etc., administered by the CFA Institute (formerly the Association for Investment Management and Research) that sets standards for excellence and integrity in the finance industry. CFA holders must also demonstrate expertise in specialized areas of investments (CFA Institute, 2017).

An alternative means to identifying expert knowledge, or at least ascertain what an investment firm would expect from its specialists, is to evaluate job advertisements for asset managers, investment advisers, portfolio managers, wealth managers or similar positions. I conducted an analysis of 31 relevant Swiss job advertisements and categorize below the most common desired requirements into education and qualification, skills, experience, expertise and behaviour. These are:

Education and Qualification	Skills	Expertise	Experience	Behaviour
Banking apprenticeship.	Analytically minded with strong problem-solving skills.	Profound understanding of the asset management industry and investment funds.	A minimum of 10 years' experience in portfolio management, asset management, or wealth management.	Confident, enthusiastic, motivated, open and pro-active team player.
A university degree/equivalent specialist qualification, or commercial training combined with higher education.	Advanced communication, presentation and organization skills.	Thorough understanding of financial markets, investment management concepts. and best-in-class approaches in the investment management industry.	Several years of experience in sales or relationship management to institutional clients and/or UHNW clients and family offices.	Outstanding commitment and a highly solution-focused approach.
Excellent academic performance and demonstration of continuous learning.	Superior sales and client relationship skills.	Sound knowledge of all traditional and alternative asset classes including strategic and tactical asset allocation.	Existing longstanding book of private banking clients, outstanding network.	Positive, entrepreneur and 'can-do' attitude.
Solid education in financial markets and/or economics (university degree, CFA, CIPM, CIIA AZEK).	Confidence in dealing with senior management, both internal and client based.	Long-standing and successful track record of institutional investment management, covering due diligence and portfolio management.	An existing network of wealth management clients.	Ability to work independently in a dynamic, international environment.
Excellent command of English, German and French, other languages being desirable.	Strong advisory, interpersonal, social and conviction skills.	A comprehensive understanding of the regulatory environment in the region.	A successful record in investment advice.	Strong passion for financial markets, combined with a high degree of customer orientation.
	Expert at building networks and connections (people want to know you).		Acquisition of institutional and private clients.	Determination to perform well in a competitive, highly-demanding and dynamic environment.
	Extremely organized, with great planning skills and efficient time management.		Active portfolio management of institutional clients.	High grade on flexibility and capability to work under pressure alongside attention to detail.
	Ability to prioritize multiple responsibilities to meet deadlines.		Active adviser of wealth managers and special-clients.	High service and result orientation
	Ability to perform and deliver high-end proactive service in a fast-paced work environment.		Investment control for chosen clients.	
	Sound methodical / quantitative skill set, including pertinent software know-how.		Administration of investment funds.	
	MS Office (Excel, Word, PowerPoint) and portfolio management systems skills.		Leadership experience	

Table 2 – Traits of investment experts

The above shows that the qualifications (job requirements) weigh severely on 'general skill sets' such as analytical, sound communication, presentation and organization skills and/or on 'experience'. This might include several years in relationship management of institutional clients or administration of investment funds, and/or on 'behaviours' such as outstanding commitment and 'can-do' attitude, rather than on the notion of 'expertise'.

Profound expert knowledge i.e. the concept of asset allocation or rebalancing, or the mechanics of structured products or hedge funds, or industry- or company specific knowhow, as well as various investment strategies like buy-and hold, value investing, active vs. passive investing, value averaging, were not specified. One could assume that these imperative requirements are subsumed in 'education and qualifications', i.e. within a banking apprenticeship or in post-graduate course work such as the CFA, CIPM or CIIA.

Research gap

From the above discussion about the characteristics of 'proficiency', I conclude that 'expertise' in general is an under-researched field and that this is particularly marked in the domain of investment management and asset management. Furthermore, it seems that private investors would usually not be experts, since most of them would not hold any of the mentioned credentials, and they are not working in the investment field (required by the Dreyfus model), or as determined by the EU study. Also, as Sincera (2011) established, the professional experts do not always act in an expert manner, as they regularly do not construct sustainable portfolios that reflect their clients' best interests. This leaves a gap in knowledge, about both what constitutes expertise in this field and who might possess it, that my research seeks to answer.

4.6.   Research approach

The research approach means selecting the most appropriate and logical process to arrive at conclusions from challenges formulated. The researcher needs to study and select from either inductive reasoning (from the specific to the general), deductive reasoning (from the general to the specific) or abductive reasoning (from an observation to a theory).

Saunders et al. (2009) explain deductive reasoning (deductive logic) as the process of reasoning of one or more hypothesis to reach a logically certain conclusion.

This process follows from the general to the specific and holds that if all premises are true and the terms are clear, and the rules of deductive logic are followed, then the conclusion reached must be true. Deductive reasoning is commonly used, e.g., in applied social science, to test hypotheses, as hypotheses are usually developed from an existing theory.

The opposite notion is inductive reasoning (inductive logic); data are collected and as a result of their analysis, a theory is developed. While the conclusion of a deductive argument is certain, the truth of the conclusion of an inductive argument is plausible, based upon evidence provided. The inductive reasoning process arrives at a conclusion by a flow that follows from the singular statement (the specific) to the universal (the general).

Popper (2002) is opposed to this method of reasoning and asserts that it is generally flawed and its process and result inherently uncertain. He states that 'it is far from obvious, from a logical point of view, that we justify in inferring universal statements from a singular one, not matter how numerous. For any conclusion drawn in this way, it may always turn out to be false: no matter how many instances of white swans we may have observed, this does not justify the conclusion that all swans are white'.

Pragmatism introduces a third category of reasoning, that of the abductive which is concerned with how hypotheses are developed. Abduction is due to Peirce, rather than Dewey. Abduction introduces a context in which hypotheses are developed, by an inductive process, in a manner consistent with current conceptual contexts.

Employing a substantially quantitative study and deductive reasoning process seems to me the appropriate choice for my data generation. It enables me to test my hypotheses and thus intend to discover answers to questions in ways that I may or may not have anticipated. Importantly though, the context for this study is one in which I am immersed, and this will undoubtedly have influenced the abductive process by which I generated the initial hypotheses.

4.7.   Methodology and method

Owing to the nature of my research aim and objectives, and my philosophical standpoint as a pragmatist, I decide to employ a cross-sectional study and to design and conduct a

detailed online questionnaire (Thomas, 2009). The survey was open for data collection for a period of four months.

Applying this method enabled me to contact several thousand potential participants and to receive 550 responses to analyse, discuss and from which to draw conclusions. Using an online format offered several advantages over paper-based questionnaires or interviews, i.e. giving the respondents the freedom to answer the questions within their own time schedule (with limitations), a higher response rate at lesser cost and the possibility to partly automate the analysis (Colorado State University, 2012).

4.7.1. Online questionnaire

The questions in the questionnaire evolved from the conceptual framework and therefore from the universe of available research and literature, as well as from my personal knowledge, experience and expertise.

The relevant questions specified within my online questionnaire related to:

a) the investor's experiences, regarding:

- Savings invested

- Investment duration

- Products invested in

- Consequences from participating in the stock market

- Asset management mandates

- Banking services and satisfaction

b) the investor's knowledge, regarding:

- Education

- Qualifications

- Self-rating

- Asset classes

- Markets

- Products

- Fee structures

- Risk willingness and ability (risk profile)

- Factors that foster sustainable positive returns

c) the investor's investment approaches, regarding:

- Single stocks vs. funds

- Active vs. passive investing

- Investment criteria

- Investment strategies

d) the characteristics and investment behaviours of experts

The complete survey instrument, its questions and answer categories are presented in the appendix.

4.7.2. Piloting for viability and reliability

Pilot studies usually either refer to a 'small scale version' conducted in preparation for a major study; or a pre-testing of a particular research instrument (Baker, 1994). One of the main goals of testing interview questions or, in my case, the online questionnaire is that it provides advanced warning that the project at hand could fail, or that the instrument itself is inadequate, or too complicated; even that the questions and relevant answers are too difficult to understand.

Peat et al. (2002) suggest that the 'validity' of a study can be improved by:

- Asking the subjects for feedback to identify ambiguities and difficult questions.

- Recording the time taken to complete the questionnaire; decide if it is reasonable.

- Discarding all unnecessary, difficult or ambiguous questions.

- Assessing whether each question gives an adequate range of responses.

- Establishing that replies can be interpreted in terms of the information that is required.

- Checking that all questions are answered.

- Re-wording or re-scaling any question/answer category that are not answered as expected.

- Shortening, revising and if possible, piloting again.

Gill and Johnson (2010) point out that a vital skill when undertaking a survey is the ability to structure, focus, phrase and ask sets of questions in a manner that is suitable for respondents. They also state that the questionnaire must be short, clear and precise and designed in a way that it takes care of the various biases, i.e. prestige bias - most people want to look good or to appear nice, rich, educated, ethical etc. Prior to distributing the survey, I ran an extensive pre-testing phase to pilot the questionnaire with a smaller number of both private and professional investors. This ensured reliability and construct validity and anticipated any problems of comprehension or other sources of confusion.

To adhere to the suggestions of Peat et al. (2002), I completed five different testing phases.

Phase 1 – Testing it myself

I definitely wanted the first version of my survey to be extensive, containing all possible, even vague but relevant questions, to then analyse and discard the ones which I felt did not qualify or were unnecessary, difficult or ambiguous. Thus, my initial online questionnaire consisted of 52 questions with around 90 different sub-questions, in the main categories, 'general information', 'knowledge/expertise' and 'experience', and was written in German. I tested and corrected it in sections several times and the final version four times. One of the main issues was the time investment to thoroughly conduct the survey, which at the beginning was more than a half an hour, and around 20 minutes for the final version. I understood that the success and completion rate would increase with a shorter and more reasonable 10-12 minutes survey, so I distributed the 'long' questionnaire to my first external testing group, to receive objective feedback on the timing, but more importantly, on the validity of the questions.

Phase 2 – Investment experts

The initial external testing group consisted of four professional investors. One works for a German retail bank, one for a Swiss based independent asset manager, another one works for an US head-quartered institutional asset manager in Switzerland, and one who is engaged in the merger and acquisition team (M&A) of an Australian firm; prior to that, he had gained investment experience as a broker for a UK-bank.

Their feedback was as expected as far as the time required to answer the survey, and referred also to the quality of the questions, their wording, as well as to their order, and in particular to the multitude of answer possibilities (an extended range of response formats). The latter referred to the use of too many different 'answering types', i.e. descriptive text, multiple choice, matrix tables, sliders, ranked order, heat maps, that rather confused respondents. In addition, the question was raised if I should force the participants to choose to answer, or let them go on the next question without 'ticking a box'. I decided against a forced answer, in order to minimize the 'abandonment' rate. I would rather have more users completing the survey but missing some answers, than have many partakers 'giving up', especially bearing in mind that the survey is quite a technical one that takes a lengthy amount of time to complete.

The feedback was highly valuable and I therefore incorporated the recommendations from the initial respondents. I then retested the instrument myself and thereafter it was verified again by the same first external testing group. Subsequently I translated this revised version of my online questionnaire into English.

Phase 3 – Friends and supervisors

In this phase, I distributed the survey to the second group of external pilot testers. This time the instrument was taken by around 20 individuals whom I thought would have a certain level of investment knowledge and experience in investing. Besides my two thesis supervisors, there were friends and former colleagues living in Switzerland; a small number of them work in finance related professions, with a few occupying management positions, though the majority worked as employees in many different non-finance related industries.

Compared to phase two, the main goal was not to validate the questions but to test if the general 'non-professional investor' would comprehend the survey and conclude it within 15 minutes.

The feedback I received was mixed. It ranged from some individuals who seemed to 'sail' through the survey in the desired time frame, to some identifying the questions as being too ambiguous and difficult, or acronyms/abbreviations that were not explained or understood. There were yet others who took up to 30 minutes to complete the task. The English version also revealed grammar and spelling flaws. I analysed the feedback and implemented most of the elements mentioned, then tested it again myself before I re-sent it to the second group.

Phase 4 – Final testing with two experts

For the final piloting phase, I asked two of the experts from the first external testing group; one working for a German retail bank and the other as an independent asset manager. As well as their professional opinion, I particularly valued their input, as both have conducted related studies using similar instruments (interviews and questionnaires).

The goal here was again carefully to analyse every single question and its wording, as well as the related answer categories. Next to re-testing the validity of my survey, the focus now was also on ensuring reliability. The survey should always yield the same results, with an acceptable margin of error. I wanted to make everything evidently clear and eliminate all potential biases (as far as possible).

After they completed the survey, I interviewed both of them over the phone, discussing each question and feedback. After dealing with and implementing their comments, we all re-took the survey again for the last round of feedback.

Phase 5 – Polishing the languages

After I was content with the quality of the online questionnaire, I studied the questions and answers again carefully with the focus on identifying any last minor spelling and grammar mistakes. For the English version, I received support from an investment professional whose mother tongue is English.

My online questionnaire that was at first pretty extensive, was tested around 65-70 times within different phases. It finally read quite fluently and logically and was answered within 10-20 minutes. The careful and detailed planning and piloting was presumably one of the key factors that permitted me to receive 550 individual answers, from which almost a third were professional investors working as asset managers or institutional asset managers.

4.8.   Sampling

The next section provides detailed descriptions of the data gathering method, the underlying sample process as well as the techniques and tools for analysing the data.

Sampling is the process of choosing units of, for example, people, groups, or organizations, from a population of importance, so that by studying the sample we are able to generalize back to the overall population. For the purpose of this thesis, I am aiming to generalize back to all *potential* investors, mainly in Switzerland.

Unfortunately, establishing the definite population of Swiss investors is not possible as such information is unavailable and has not been collected previously. Therefore, a distinction needs to be made between the theoretical population and the accessible population before the sampling frame can be established.

4.8.1.   Sampling frame

The sampling frame, as described by Jessen (1978) and Salant and Dillman (1995), is the source material from which the sample is drawn, hence it is a list of all those within my accessible population who can be sampled. Jessen describes how the ideal sampling frame is one that: contains all units that can be found including their contact information, location and other relevant data; that all units have a logical, numerical identifier; that the frame is logical and systematically organised; that all the data in the frame is up-to-date.

Kish (1995) describes the main problems inherent in a sampling frame, i.e. that some members of the population are not included in the frame, that non-members of the population are included, that a member of the population is surveyed more than once or that the frame lists groups instead of individuals.

The latter challenge can be excluded but the other issues can only be identified and mitigated by careful testing of the questionnaire and appropriate coding of respective answers.

4.8.2. Sampling strategy

After designing the questionnaire, the researcher needs to decide how to sample from the overall population in question, or the accessible population in particular. The researcher needs to develop a sampling strategy that closely relates to the validity of generated data (Saunders et al., 2005). Therefore, the selected sampling method needs to be able to reflect the population as closely as possible. There are manifold sampling methods available; the choice depends largely on factors such as the field of study, the nature of the population, the type of measurement used in the research and the resources available (Dillman et al., 2009). The larger the sample size (within limits), the lower the possible error when generalizing from the sample to the population. The sample size also depends on the variability in the population; thus, the higher the variability in the population, the larger the sample ought to be (Saunders et al., 2005).

Saunders et al. note that either probability sampling or non-probability sampling can be applied in research. Probability sampling is mainly chosen when the probability of a unit to be selected is known and generally equal for all cases. Non-probability sampling does not involve random selection; hence the probability is not known and therefore generalization on a statistical basis is not (classically) possible. The challenge here is that we may or may not represent the population clearly and we often do not know how well we may have done so. This is why researchers typically prefer (quasi)random sampling methods such as simple random, systematic, stratified random or cluster methods, as these are more accurate (or precise in relation to parent population) and permit generalization (within limits) to their parent population. In applied social science however, there are circumstances where probability sampling is neither sensible nor practical. Accordingly, the researcher can choose from a wide range of non-probabilistic alternatives, i.e. quota, purposive, snowball, self-selection or convenience sampling (Saunders et al., 2005).
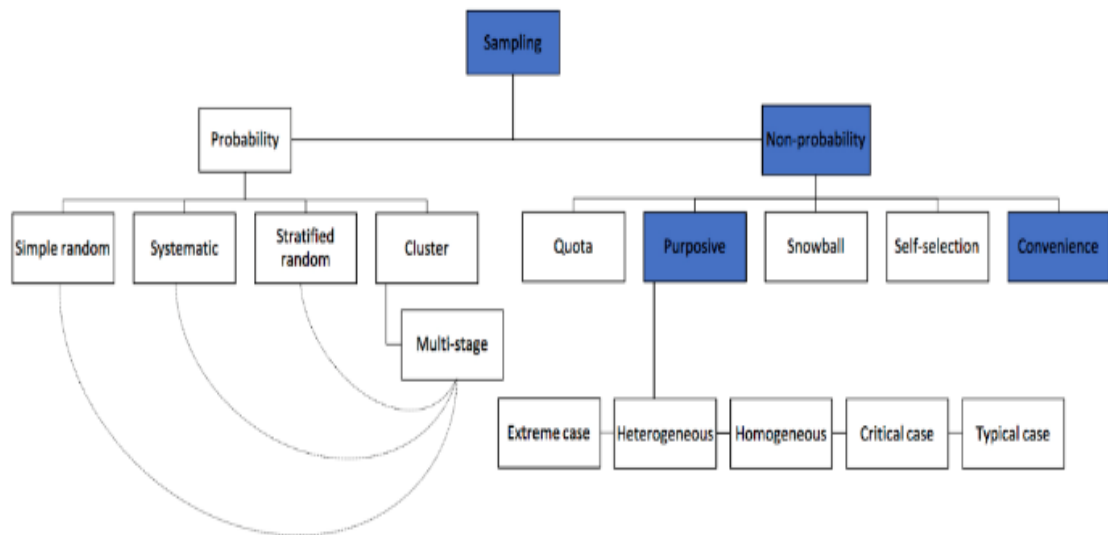
Figure 8 – Sampling approaches by Saunders et. al (2005)

Trochim et al. (2016) divide non-probability sampling methods into two broad categories, 'accidental' (haphazard and convenience) and 'purposive sampling'. They elaborate that accidental sampling is choosing 'the person on the street' to be contacted for interview purposes, i.e. television news or a public opinion, or college students in psychological research or clients in clinical practice. There may, of course, be selection criteria employed in some forms of intercept sampling. The researcher is more or less asking for volunteers, which exemplifies one of the main issues with accidental or convenience sampling. With many of these types of samples, we have no evidence that they are representative of the population of which we are interested in generalizing.

Purposive sampling is one of the most prominent methods used in social science, as we usually approach the sampling issue with a specific plan in mind. We are typically looking for one or more specific predefined groups, i.e. a researcher on the street is selecting Caucasian females between 30-40 years. Hence, s/he is trying to carefully select the respondents and would first verify if the participant meets all predefined criteria to fit into that defined category. Trochim et al. (2016) state that with purposive sampling, you are likely to get the opinion of your target population as we sample with a purpose. On the other hand, researchers need to be cautious not to overweight subgroups in the population that are more readily accessible.

Trochim et al. further define subgroups of purposive sampling, i.e. modal instance sampling (looking out for the most frequent or typical case), or quota sampling (selecting people nonrandomly according to some fixed quotas) or expert sampling that involves the assembling of people with knowledge, demonstrable experience or expertise in some area. There are generally two reasons why a researcher chooses the expert sampling method. First, because it would be the ideal way to examine the views of individuals who have specific expertise and experience in a certain field of research, as in my case of investment management. Second, to provide evidence for the validity of the sampling approach chosen.

Since for this thesis, the population I am interested in are 'mainly' Swiss investors but the number of them are unknown, I have chosen to apply several non-probability sampling strategies.

Convenience sampling (participants are available to the researcher by virtue of their accessibility) was employed to access the private investors and purposive sampling (using knowledge of the field of study and the population) to connect with the professional investors, the asset managers and institutional asset managers. The advantages are not only that these methods of sampling are cost effective and rapid; they also allow me to apply expert knowledge of the population and thus select a sample of participants in a deliberative non-random manner. On the other hand, such an approach may be more prone to biases than would perhaps be the case with probability sampling.

4.9.   Survey distribution

No list or register of the population of all units in question was available so my sampling frame consisted of four different channels that allowed me to access and contact the desired population/sample. Hence, the questionnaire was distributed through/to:

- My personal contact list: people I knew and from whom I had email addresses. I contacted around 450 potential participants.

- Xing contacts: a prominent business social media platform with a focus on the German speaking countries. I individually contacted around 600 members and posted a query to participate within different finance related groups.

- LinkedIn contacts: an important business social media platform with a worldwide reach. I individually contacted approximately 200 members and posted a query to participate within different finance related groups.

- IBM Switzerland contacts: I reached out to around 3,000 former work colleagues by email (not personalized).

In total, I contacted a large sample of around 4,250 potential participants directly and an indefinite number through online posts.

The criteria for the selection process of the private investors were that they:

- Lived in Switzerland (predominantly).

- Either spoke German or English (survey languages).

- Had at least a first experience in investing money (stock markets) by themselves, or through their bank or asset manager.

The criteria for the selection process of the professional investors were that they:

- Lived in Switzerland (predominantly).

- Either spoke German or English (survey languages).

- Were either working as/in:
  - asset managers / investment managers for private or retail banks.
  - independent asset managers.
  - institutional asset managers / investment managers.
  - an asset management team / investment team of i.e. pension funds or family offices.

- Were willing to answer the question with respect to their own money (vs. investing their client's funds).

It is important to note that I made it explicit that participation in my survey was completely anonymous, especially due to the nature of the topic. I did however leave it to the participant whether they desired to leave their email address to receive the results of my study. 138 contributors did so. The principles of the Market Research Society (2016) guided the research process.

4.10.   Data analysis

The majority of respondents lived in Switzerland and were to a lesser or greater extent knowledgeable investors investing their own wealth (as opposed to asset managers and institutional investors investing for their clients).

However, I also distributed the questionnaire through the online business platforms XING and LinkedIn and so I did not exclude non-Swiss participants from the survey or analysis as there could have been valuable insight from foreign investors.

As listed above, one of the selection criteria for a participant to be included for analysis and discussions was 'first investment experience', either by themselves or through a bank or an asset manager. Out of the 550 individuals that partook in my survey, 125 private investors showed no investment experience and were therefore excluded from the main part of the analysis.

The data collected was then analysed by the use of a) frequency tables (XLS/Pivot) and description and b) by statistical analysis and its interpretation, using different tests, depending on the research question and responses received.

4.10.1.   Types of statistical analysis applied

Research question 1

- Frequency tables (XLS/Pivot, SPSS, Stata).

- Description and interpretation.

- Factor analysis for questions with a high loading on single factors, reducing dimensions/numbers of variables.

- Discriminant analysis to investigate whether private and professional investors can be distinguished by their knowledge, expertise and investment decisions.

- Wilks' Lambda to indicate if there is a statistical relevance of the responses to the questions about knowledge and expertise in the prediction of investor types.

- Canonical correlation analysis as multivariate method to identify the strength of the relationships between the dependent and independent variables, to predict the investor types.

- Box's test of equality of covariance matrices to test that the observed covariance matrices of the dependent variables are equal across groups.

- The Levene test to examine all single dependent variables; the same as with the Box test, the Levene test has to be not significant for any of the response variables.

Research question 2

- Frequency tables (XLS/Pivot, SPSS).

- Description and interpretation.

- Pearson Chi Squared-test to inspect and compare the expected frequencies with the observed frequencies.

- Fisher's exact test for frequencies of less than five.

Research question 3

- Frequency tables (XLS/Pivot).

- Description and interpretation.

4.11. Summary of this chapter

To adhere to the aim and the research questions of this study and following the conceptual framework, this chapter was mainly concerned with the research design framework, the instrument chosen to conduct primary research (online questionnaire), the population (focus on Swiss investors) and the process of sampling (non-probability, sampling frame and strategy).

It further described the piloting phase of the instrument (its questions and answers) for validity and reliability, the distribution of the survey as well as the subsequent data analysis (and tools).

This chapter also clarified my role as the researcher working within the field of study, detailed the desired traits of experts from a professional point of view, and my philosophical beliefs as a pragmatist and the consequential arguments for a deductive reasoning process.

5. Distinguishing private from professional investors (descriptive)

5.1. Chapter overview – Research question 1

The next two chapters (descriptive and statistical nature) seek to present the results, analysis and discussion to answer RQ1:

How do private and professional investors differ (if at all) in terms of their knowledge, experience, and investment approaches (examining the first Dreyfus related categories)?

Following my research aim, the literature (and its gaps) and the conceptual framework, my initial null hypothesis was that the more knowledgeable and experienced an investor is, the more cautiously s/he will invest and the superior their level of portfolio diversification, investment criteria and strategies. Based on the literature, this is the expectation, as to where increased knowledge would lead as investors became less of a novice. In my belief, the more knowledgeable investors would invest passively, within a buy-and-hold strategy, be appropriately diversified, seek cost-efficiency, apply periodical rebalancing while taking a long-term view.

In relation to the Dreyfus-model, I would thus (a priori) hypothesize that the private investors are either 'novice' or potentially 'advanced beginners'; that asset managers are to be found in the range of 'competent' and 'proficient,' and the institutional investors within 'proficient' and 'expertise'.

I assume that the *institutional* investors, because they deal mainly with professional clientele (pension funds, family offices, trusts, private and retail banks), must be highly educated and highly experienced in investing. They would therefore possess superior investment acumen, in comparison to asset managers who are mostly handling *private* client's money. This is because the value of investments held by institutions tends to out-run that of private individuals. I do not doubt however, that there are many asset managers who are as well educated, experienced and handle their investing clientele's money with profound care.

In the following, if there are only the percentages displayed, then they are always in alphabetical order from 'asset managers', to 'institutional investors' to 'private investors'.

5.2. Results for initial investor groups

In total, 550 participants completed the survey, yet 125 of them had never invested in the stock market. Another 49 participants did not answer at least 50% of the survey questions, which is why I excluded them from the analysis, as were the 'non-investors' revealed by the preliminary investigation. 376 participants were therefore included in the main part of the initial analysis.

5.2.1. Demographics

Of the 550 initial respondents, more than 61% were private investors, 22.5% had never invested in shares, bonds, funds, etc., and about 8% were asset managers or institutional investors. After deducting the non-investors and the ones who did not qualify for the analysis, almost 80% were private investors, 11% were asset managers, and just under 10% were institutional investors. Hence, 21% were professional investors.

The female to male ratio of the respondents was 16% vs. 84%, and the main age group was from 35 to 44 years (40%) followed by 45 to 54 years with 29%.

The survey was mainly targeted at investors living in Switzerland, which is why 322 participants (out 376) were from there, followed by 21 respondents from Germany and 12 from Australia; the remaining 21 contributors were from 10 further countries. The overall Swiss vs. 'global' population ratio was 86% to 14%.

More than 48% of the replies confirmed that their highest education was a university degree, a masters or higher degree, followed by almost 18% who held a Swiss federal diploma. Only 5%, after their compulsory schooling or apprenticeship, had not engaged in higher education.

15% of all respondents held a master of finance and 7% a qualification as a chartered financial analyst (CFA).

The professionally qualified accountant (CPA) formed with 5% the third largest group of investors who had completed a financial, accounting or investment related qualifications. Eight investors actually held two of those credentials.

The majority of repliers earned between CHF 120,000 to 160,000 (27.7%) and 29% generated an income > CHF 200,000.

Investor distribution	Frequency	Percent	Valid Percent
Asset Managers	47	8,5	8,5
Institutional Investor	43	7,8	7,8
Private Investors	336	61,18	61,1
I have never invested (stock market)	124	22,5	22,4
Total	550	100,0	100

Table 3 – Distribution by original investor type – all repliers

Investor types	Frequency	Percent	Valid Percent
Asset Manager	43	11.4	11.4
Institutional Investor	35	9.3	9.3
Private Investor	298	79.3	79.3
Total	376	100.0	100

Table 4 – Distribution by original investor type – after data reduction process

Gender	Frequency	Percent	Valid Percent
Male	314	83.5	83.5
Female	62	16.5	16.5
Total	376	100	100

Table 5 – Gender distribution

Age groups	Frequency	Percent	Valid Percent
16 – 24	4	1,1	1,1
25 – 34	76	20,2	20,2
35 – 44	149	39,6	39,6
45 – 54	110	29,3	29,3
55 – 64	30	8,0	8,0
65 – 74	7	1,9	1,9
Total	376	100,0	100,0

Table 6 – Age distribution

Country	Frequency	Percent	Valid Percent
Australia	12	3,2	3,2
Austria	4	1,1	1,1
France	1	0,3	0,3
Germany	21	5,6	5,6
India	1	0,3	0,3
Liechtenstein	2	0,5	0,5
Norway	1	0,3	0,3
Romania	1	0,3	0,3
Singapore	1	0,3	0,3
Switzerland	322	85,6	85,6
Thailand	1	0,3	0,3
UK	2	0,5	0,5
USA	7	1,9	1,9
Total	376	100,0	100,0

Table 7 – Country distribution

Education	Frequency	Percent	Valid Percent
Compulsory school	2	0,5	0,5
Secondary school	2	0,5	0,5
Trade school	16	4,3	4,3
Trade school incl. 'Maturität'	8	2,1	2,1
Bachelor (BA/BS)	38	10,1	10,1
Swiss Federal Diploma (eidg. Dipl.)	67	17,8	17,8
University/ETH//Masters	156	41,5	41,5
Doctorate (PhD/DBA)	25	6,6	6,6
University of Applied Science	62	16,5	16,5
Total	376	100,0	100

Table 8 – Education distribution

Financial qualification	Frequency	Percent	Valid Percent
Chartered Financial Analyst (CFA)	26	6,9	6,9
Certified Financial Planner (CFP)	6	1,6	1,6
Master of Finance (or similar)	58	15,4	15,4
Master of Investment Management (or similar)	6	1,6	1,6
Professionally Qualified Accountant (e.g. CPA)	19	5,1	5,1
None of the above	269	71,5	71,5
Total financial qualifications	384	102,1	102,1
Double degrees	-8	-2,1	0,0
Total investors with financial qualification	376	100,0	102,1

Table 9 – Financial qualification

Income	Frequency	Percent	Valid Percent
- 60'000	16	4,3	4,3
60'001 - 80'000	11	2,9	2,9
80'001 - 100'000	35	9,3	9,3
100'001 - 120'000	34	9,0	9,0
120'001 - 140'000	50	13,3	13,3
140'001 - 160'000	54	14,4	14,4
160'001 - 180'000	36	9,6	9,6
180'001 - 200'000	32	8,5	8,5
200'001 - 220'000	24	6,4	6,4
220'001 - 240'000	13	3,5	3,5
> 240'000	71	18,9	18,9
Total	376	100,0	100,0

Table 10 – Income distribution

5.2.2. Investment expertise of private and professional investors

The survey showed that for private investors and the asset managers, the majority of investors possessed 10 to 15 years of experience in investing, while 37% of the institutional participants formed the longest-investing group with > 20 years of practice. More than 51% of all asset managers rated their investment knowledge as excellent, whereas 32% of the institutional and only 6% of the private investors believed that their investment familiarity was of the same standard. The private investors showed by far the highest percentage of basic knowledge (PI 25.7%; II 7.0%, AM 8.8%).

53% of all private investors, 61% of the asset managers and 68% of the institutional investors decided how and where to invest for themselves without consulting anybody; only every third private investor sought support from friends, relatives or an adviser. Less than < 6% of the private investors entrusted a bank or asset manager to handle their funds.

60% of the private investors and 63% of the institutional investors disagreed or strongly disagreed when asked if they had changed their investment manager or bank because they had lost trust in them. For the asset managers it is even more, as > 83% had not done so.

However, 19% of the private investors changed their adviser. Fewer professional investors had done the same, as they managed their personal funds themselves more often than the private investors.

More than 15% of the private investors changed their bank (or investment manager) because they invested their money mainly in that bank's own products. Such a situation arises, I assume, as banks generate higher fees and commissions for themselves from clients by selling 'internal' products. 11.7% of the asset managers had done so too, as well as 18.8% of the institutional investors. Conversely, around 60% of the private investors and asset managers as well as 53.1% of the institutional investors stayed with their current bank/adviser.

Years' experience in investing in the stock market	Asset Manager	Institut. Investor	Private Investor
None	0.0%	8.6%	4.0%
1 – 3	4.7%	0.0%	9.4%
3 - 6	2.3%	14.3%	12.4%
6 – 10	14.0%	20.0%	20.1%
10 – 15	34.9%	5.7%	23.2%
15 – 20	23.3%	14.3%	14.4%
> 20	20.9%	37.1%	16.4%
Total	100.0%	100.0%	100.0%

Table 11 – Years' experience by original investor type
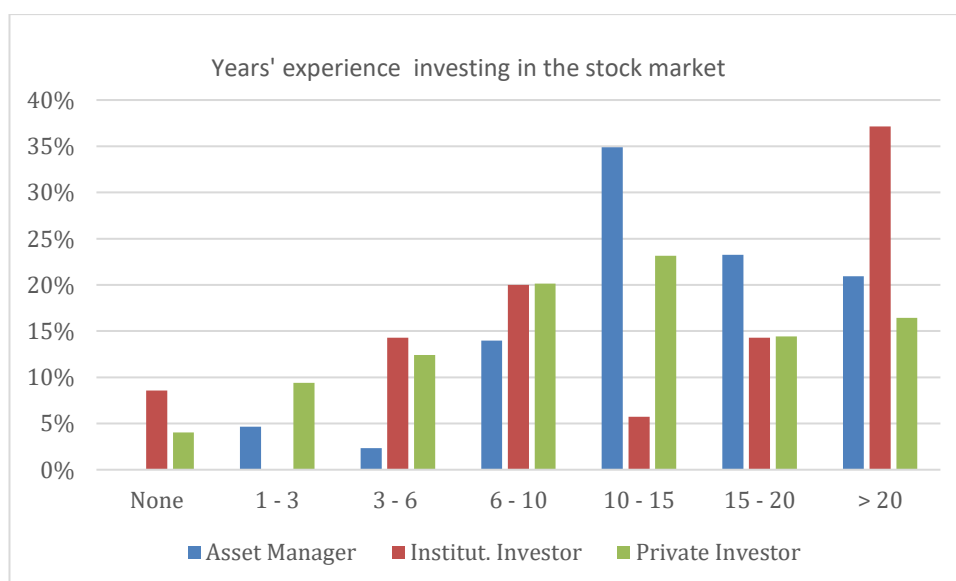
Figure 9 – Years' experience investing in the stock market

Self-rating of financial investment knowledge (shares, bonds, funds, etc.)	Asset Manager	Institut. Investor	Private Investor
No knowledge	0.0%	2.9%	2.0%
Basic knowledge	7.0%	8.8%	25.7%
Average knowledge	2.3%	8.8%	33.8%
Good knowledge	39.5%	47.1%	32.8%
Excellent knowledge	51.2%	32.4%	5.7%
Total	100.0%	100.0%	100.0%

Table 12 – Self-rating of financial investment knowledge
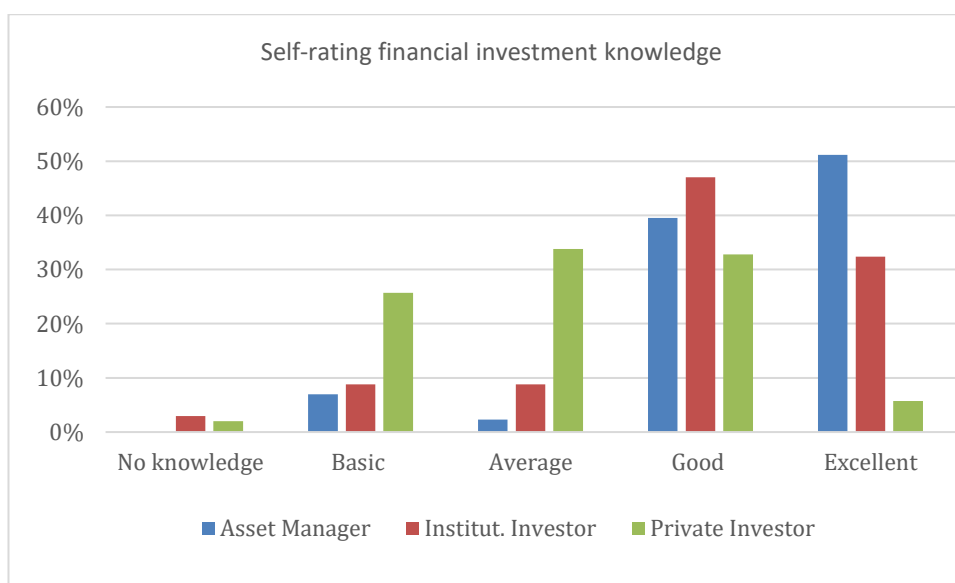
Figure 10 – Self-rating of financial investment knowledge

How investors make their investment decisions	Asset Manager	Institut. Investor	Private Investor
I decide myself without consulting anyone	61.0%	67.6%	52.7%
I decide myself after discussions with friends or relatives	12.2%	11.8%	17.1%
I decide myself after consulting with an investment adviser from my bank	9.8%	8.8%	18.1%
The bank or asset manager decides for me	4.9%	8.8%	5.7%
Other	12.2%	2.9%	6.4%
Total	100.0%	100.0%	100.0%

Table 13 – How investors make their investment decisions
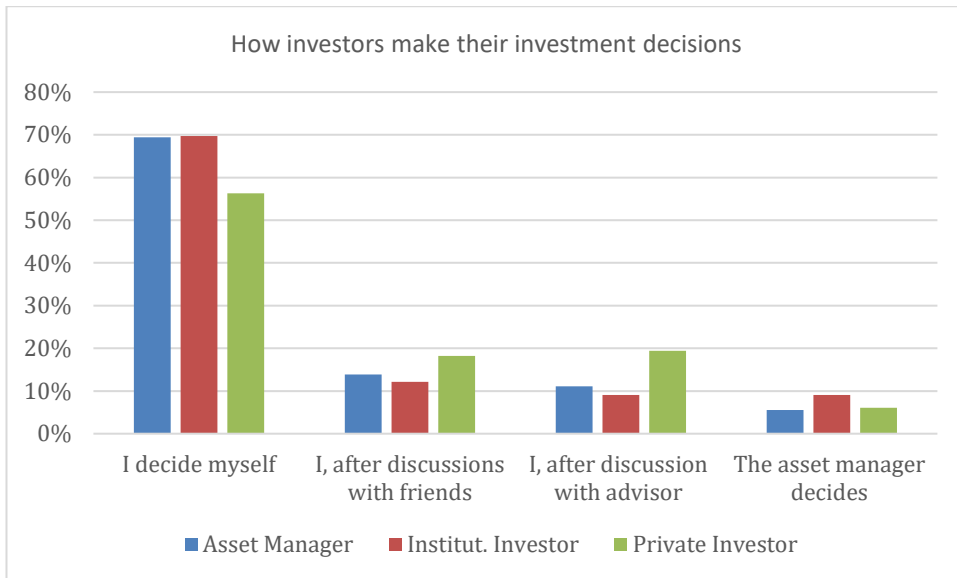
Figure 11 – How investors make their investment decisions

Change of bank/asset manager due to lost trust	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	50.0%	34.4%	34.7%
Disagree	33.3%	28.1%	25.3%
Neutral	9.5%	25.0%	21.1%
Agree	4.8%	6.3%	11.9%
Strongly agree	2.4%	6.3%	7.0%
Total	100.0%	100.0%	100.0%

Table 14 – Change of bank/asset manager due to lost trust
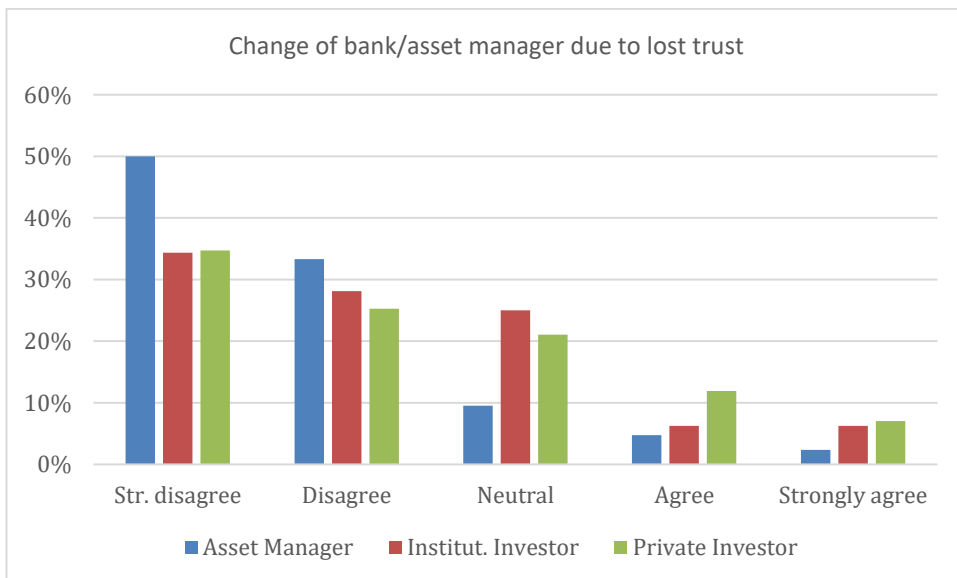
Figure 12 – Change of bank/asset manager due to lost trust

Change of bank/asset manager due to investments into own funds	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	34.9%	28.1%	31.7%
Disagree	37.2%	25.0%	28.8%
Neutral	16.3%	28.1%	24.2%
Agree	4.7%	18.8%	8.2%
Strongly agree	7.0%	0.0%	7.1%
Total	100.0%	100.0%	100.0%

Table 15 – Change of bank/asset manager due to investments into own funds
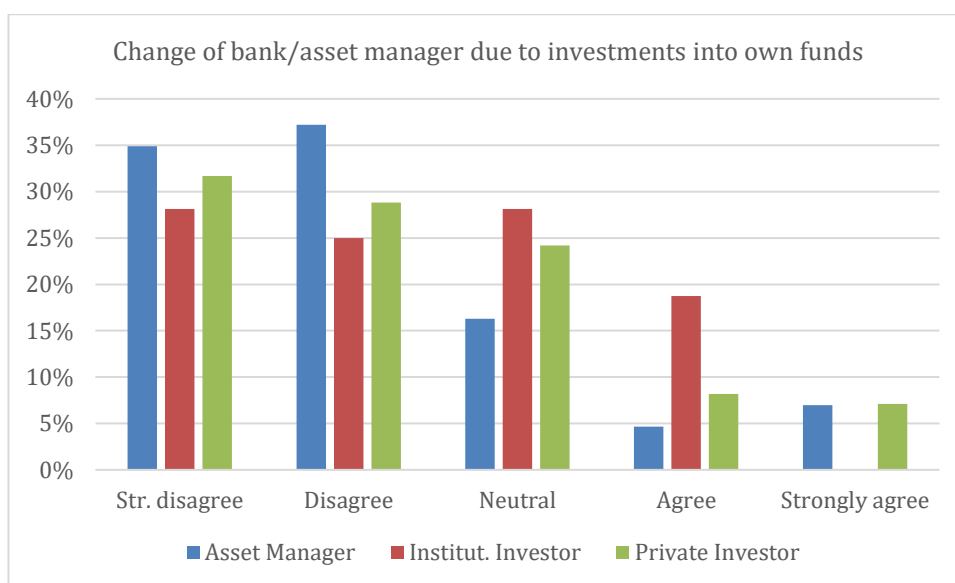
Figure 13 – Change of bank/asset manager due to investments into own funds

5.2.3. Risk profile questions for private and professional investors

69% of the asset managers were willing to take higher risks for potential higher or superior returns, whereas the institutional investors (53%) were more conservative and the private investors the most risk averse (47%).

30% of all asset managers, 29% of the institutional investors and 35% of the private investors had never worried about generating a risk profile. 35% and 40% of the professional investors had developed such a profile themselves, as did 23% of the private investors. On the other hand, 35%, 31% and 42% of the investors had a risk profile developed by either a private bank, a retail bank or an asset management company.

40% of all asset managers, 28% institutional investors and 57% private investors held only 1 to 7 positions in their portfolio, whereas 32 %, 48% and 22% were well diversified.

When asked about how much of an individual's savings (excess money) was invested, 60% of the asset managers, 56% of the institutional investors and 41% of all private investors had invested more than 50% of their funds. Conversely, none of the professional investors and only 1% of the private investors had invested all their money.

Almost 46% of the institutional investors invested for the long-term (> 10 years) while most of the private investors participated for 7 to 10 years and > 50% of the asset managers for 2 to 10 years. On the contrary, 19%, 9% and 11% of the investors showed an investment horizon of less than 2 years.

45% of the asset managers, 34% of the institutional investors and 31% of all private investors expected a return on their investment of 4 to 6%. 25%, 34% and 19% of all investors wanted to achieve an annual profit of 6 to 8%, while 5%, 16% and 17% anticipated 8 to 10% in return. 10% of all asset managers and 8% private investors, but none of the institutional investors were eager to achieve 12 to ≥ 30%.

The most frequent answer for tolerance for loss was 20% for both the asset managers and private investors and 25% for the institutional investors. The majority, however, was willing to lose 5 to 10% in a bad year (asset managers 29%, institutional investors 36% and private investors 27%). Some (5%, 17% and 11%) were prepared to lose 50% or more in an unfortunate investment year.

Investor's risk profile	Asset Manager	Institut. Investor	Private Investor
I am a risk-averse investor whose main priority is safety	11.9%	2.9%	12.7%
I am rather risk-averse but expect an attractive return on my investment	9.5%	38.2%	34.4%
I am not risk averse nor am I a risk taker. I am happy if my amount of money stays the same	9.5%	5.9%	13.4%
For higher potential returns I am willing to accept higher levels of risk	50.0%	35.3%	31.3%
I am a risk taker but expect superior returns	19.0%	17.6%	8.2%
Total	100.0%	100.0%	100.0%

Table 16 – Risk profile by investor type
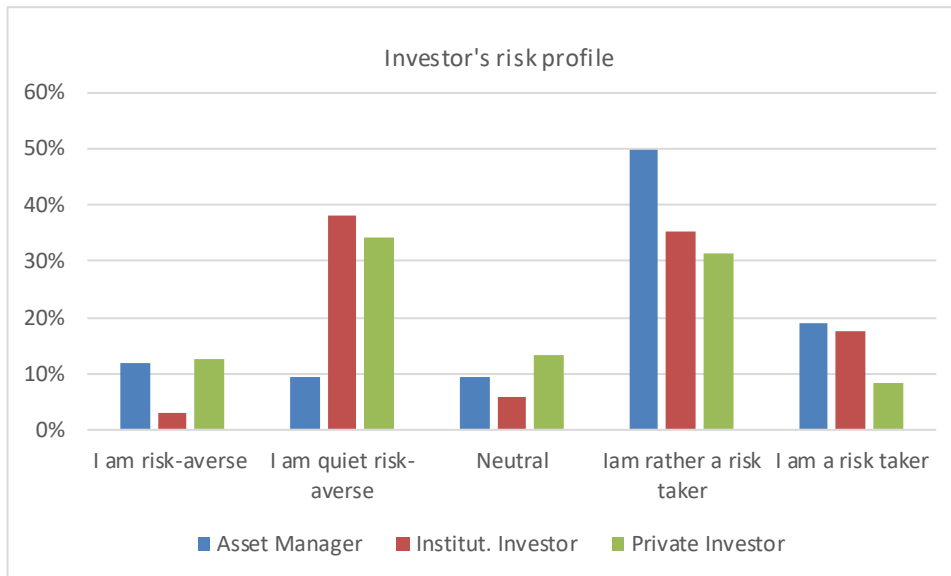
Figure 14 – Risk profile by investor type

Who has developed a risk profile for me	Asset Manager	Institut. Investor	Private Investor
A private bank	7,5%	2,9%	8,7%
A retail bank	15,0%	14,3%	21,3%
An asset management company	12,5%	14,3%	12,2%
I did it myself	35,0%	40,0%	23,1%
Nobody	30,0%	28,6%	34,6%
Total	100,0%	100,00%	100,00%

Table 17 – Risk profile development
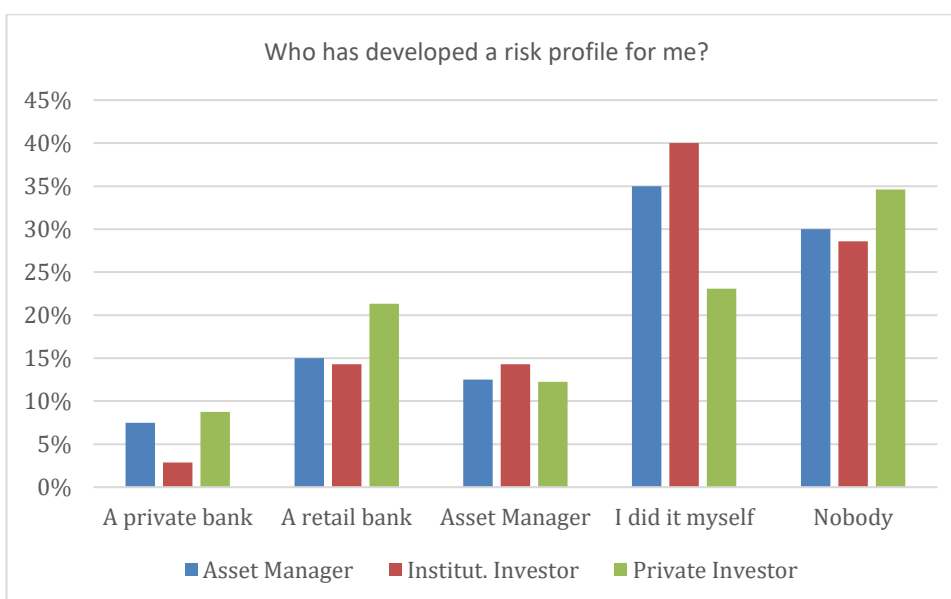
Figure 15 – Risk profile development

In how many products invested	Asset Manager	Institut. Investor	Private Investor
1 - 3	20,0%	10,3%	26,8%
4 - 7	20,0%	17,2%	29,9%
8 - 11	27,5%	24,1%	21,1%
12 - 15	12,5%	13,8%	8,8%
16 - 20	12,5%	17,2%	4,6%
> 20	7,5%	17,2%	8,8%
Total	100,0%	100,0%	100,0%

Table 18 – In how many products invested
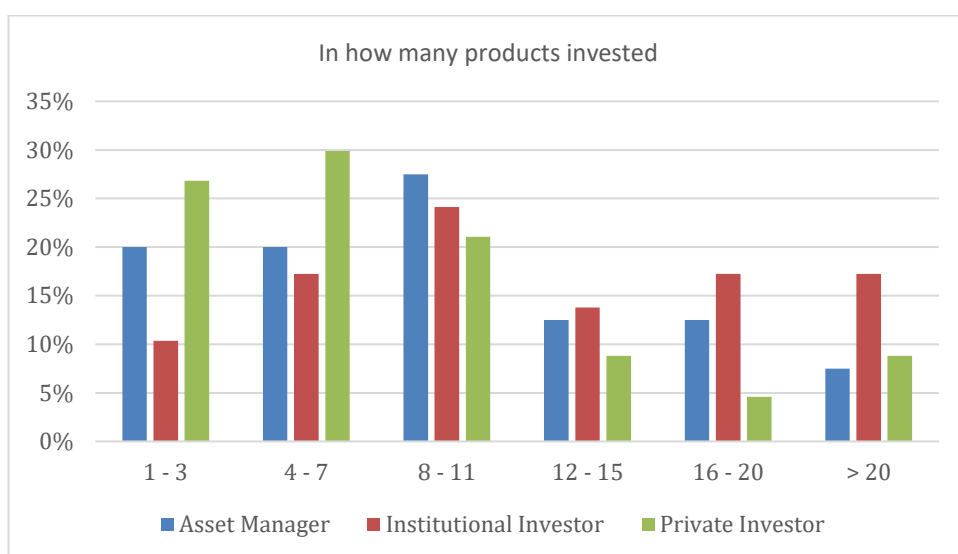
Figure 16 – In how many products invested

Proportion of savings invested	Asset Manager	Institut. Investor	Private Investor
10,0%	9,5%	3,1%	18,1%
20,0%	4,8%	9,4%	15,1%
30,0%	7,1%	25,0%	15,9%
40,0%	19,0%	6,3%	10,0%
50,0%	14,3%	21,9%	13,3%
60,0%	9,5%	6,3%	8,5%
70,0%	16,7%	6,3%	7,7%
80,0%	11,9%	3,1%	8,1%
90,0%	7,1%	18,8%	2,2%
100,0%	0,0%	0,0%	1,1%
Total	100,0%	100,0%	100,0%

Table 19 – Proportion of savings invested
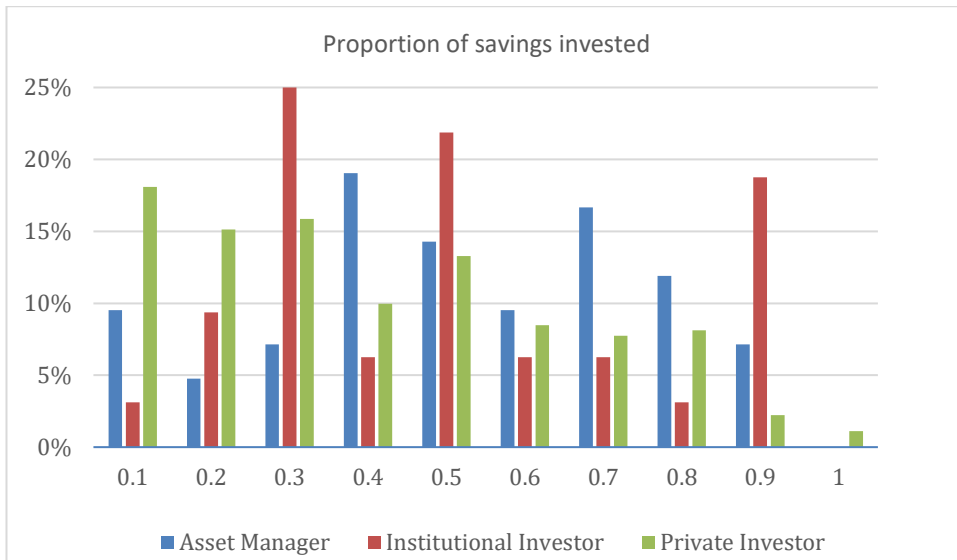
Figure 17 – Proportion of savings invested

Investment duration	Asset Manager	Institut. Investor	Private Investor
< 1 year	7,1%	2,9%	3,4%
1 - 2 years	11,9%	5,7%	7,2%
2 - 4 years	16,7%	14,3%	26,1%
4 - 7 years	11,9%	14,3%	17,2%
7 - 10 years	23,8%	17,1%	26,5%
10 - 15 years	19,0%	22,9%	12,4%
> 15 years	9,5%	22,9%	7,2%
Total	100,0%	100,0%	100,0%

Table 20 – Investment duration
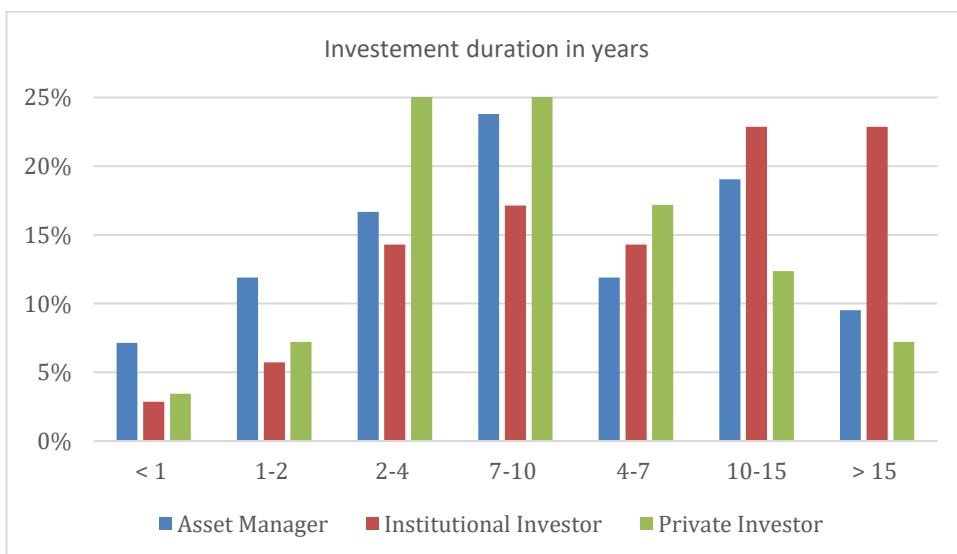
Figure 18 – Investment duration

Expected annual return	Asset Manager	Institut. Investor	Private Investor
1 - 2%	2,5%	0,0%	3,0%
2 - 4%	10,0%	6,3%	16,5%
4 - 6%	45,0%	34,4%	30,5%
6 - 8%	25,0%	34,4%	18,8%
8 - 10%	5,0%	15,6%	16,5%
10 - 12%	2,5%	9,4%	6,4%
12 - 14%	5,0%	0,0%	1,1%
14 - 16%	0,0%	0,0%	2,6%
18 - 20%	2,5%	0,0%	1,5%
20 - 25%	0,0%	0,0%	1,5%
25 - 30%	0,0%	0,0%	0,8%
> 30%	2,5%	0,0%	0,8%
Total	100,0%	100,0%	100,0%

Table 21 – Expected annual return
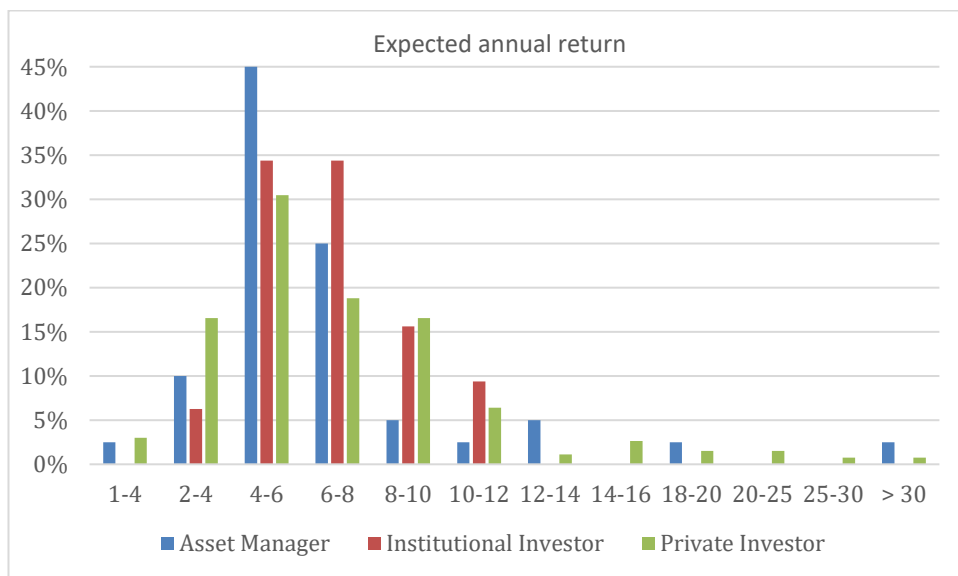
Figure 19 – Expected annual return

Tolerance for loss in a bad year	Asset Manager	Institut. Investor	Private Investor
0%	2,4%	0,0%	2,8%
5%	12,2%	16,7%	9,1%
10%	17,1%	20,0%	18,1%
15%	9,8%	6,7%	13,0%
20%	34,1%	13,3%	25,6%
25%	19,5%	26,7%	20,9%
50%	4,9%	10,0%	5,1%
> 50%	0,0%	6,7%	5,5%
Total	100,0%	100,0%	100,0%

Table 22 – Tolerance for loss in a bad year
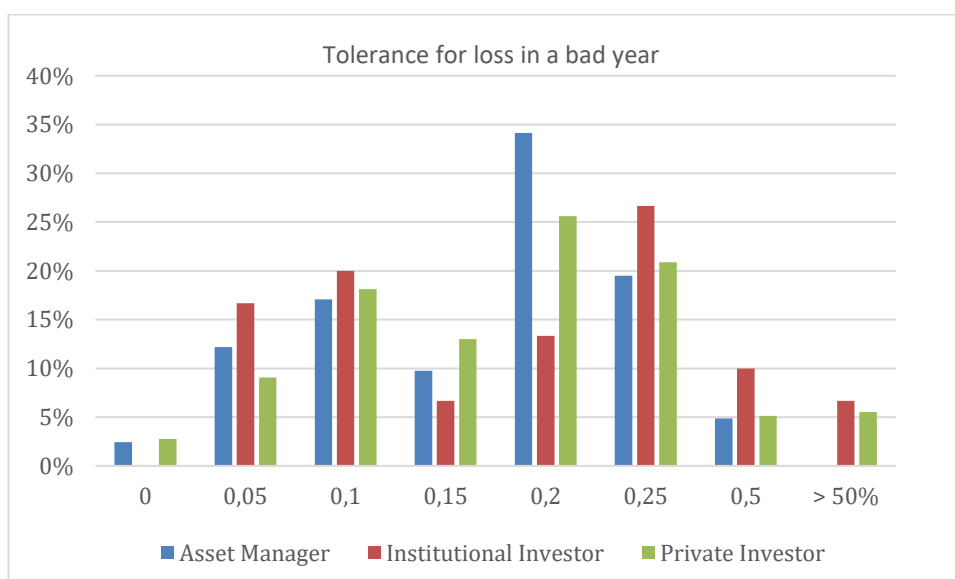
Figure 20 – Tolerance for loss in a bad year

5.2.4. Knowledge and expertise of private and professional investors

Ability to explain asset classes, vehicle types, terminologies

The professional investors (81% asset managers and 63% institutional investors) understood the notion of an asset class very well, whereas only 31% of the private investors strongly agreed to the statement as to whether they could explain that concept. The same is true when it came to explain a coupon (77%, 60%, 34%) or an option (70%, 56%, 31%). The differences were more diverse when asking the participants about futures (65%, 54%, 25%) or the P/E ratio (70%, 51%, 27%).

The variances were largest in terms of rebalancing and structured products. Only 70% of the asset managers, 53% institutional investors and 16% of all private investors strongly agreed that they could define rebalancing very well. For structured products, the figures were 65%, 51% and 22%.

Overall, the asset managers were the most knowledgeable group in terms of explaining the selected investment themes, while the private investors possessed the least understanding, especially when it came to more technical and complex topics such as structured products (18%), rebalancing (41%) or the PE/Ratio (26%).

I can explain what an asset class is	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	0,0%	0,0%	6,4%
Disagree	0,0%	5,7%	9,1%
Neutral	2,3%	0,0%	9,5%
Agree	16,3%	31,4%	43,9%
Strongly agree	81,4%	62,9%	31,1%
Total	100,0%	100,0%	100,0%

Table 23 – Ability to explain asset classes
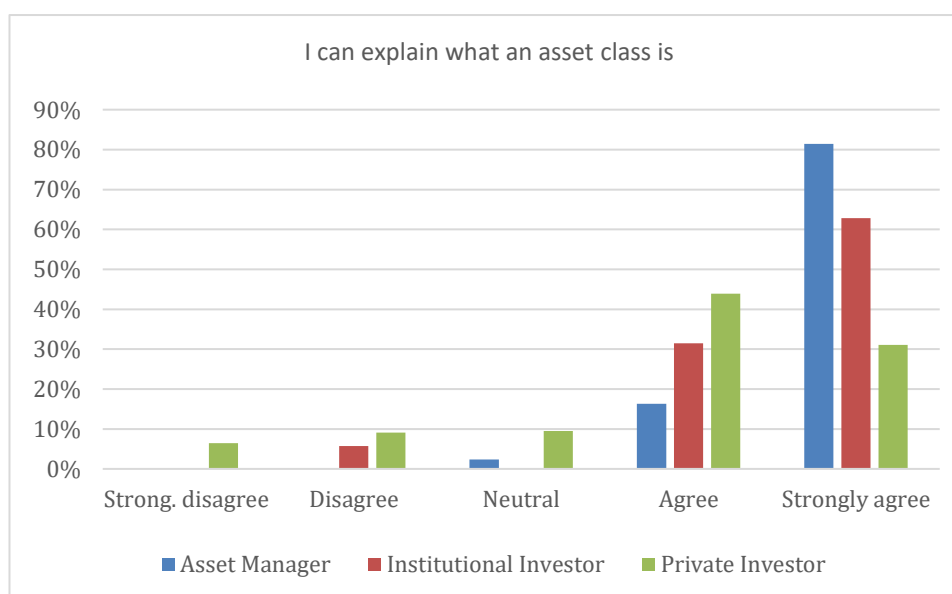
Figure 21 – Ability to explain what an asset class is

I can explain what a coupon is	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	0,0%	0,0%	4,4%
Disagree	0,0%	2,9%	10,9%
Neutral	7,0%	5,7%	8,2%
Agree	16,3%	31,4%	42,5%
Strongly agree	76,7%	60,0%	34,0%
Total	100,0%	100,0%	100,0%

Table 24 – Ability to explain what a coupon is
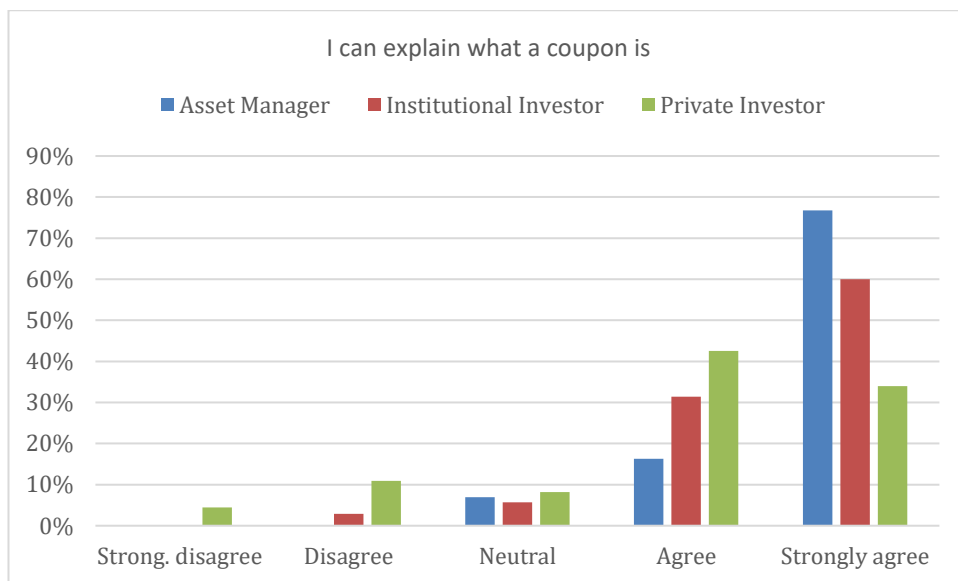
Figure 22 – Ability to explain what a coupon is

I can explain what futures are	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	0,0%	0,0%	2,4%
Disagree	2,3%	2,9%	13,2%
Neutral	4,7%	2,9%	14,5%
Agree	27,9%	40,0%	44,6%
Strongly agree	65,1%	54,3%	25,3%
Total	100,0%	100,0%	100,0%

Table 25 – Ability to explain what futures are
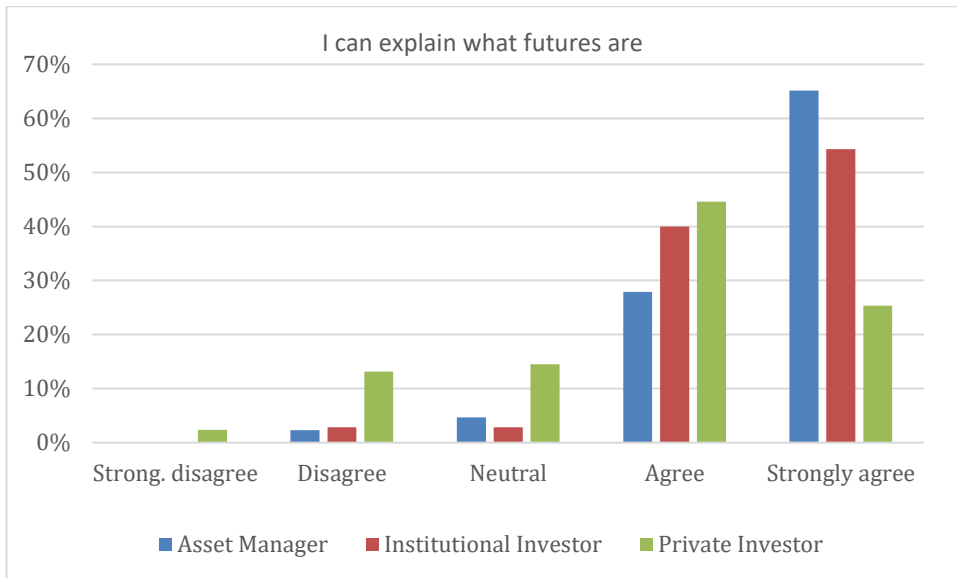
Figure 23 – Ability to explain what futures are

I can explain what options are	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	0,0%	0,0%	1,7%
Disagree	0,0%	2,9%	6,7%
Neutral	2,3%	8,8%	10,1%
Agree	27,9%	32,4%	50,8%
Strongly agree	69,8%	55,9%	30,6%
Total	100,0%	100,0%	100,0%

Table 26 – Ability to explain what options are
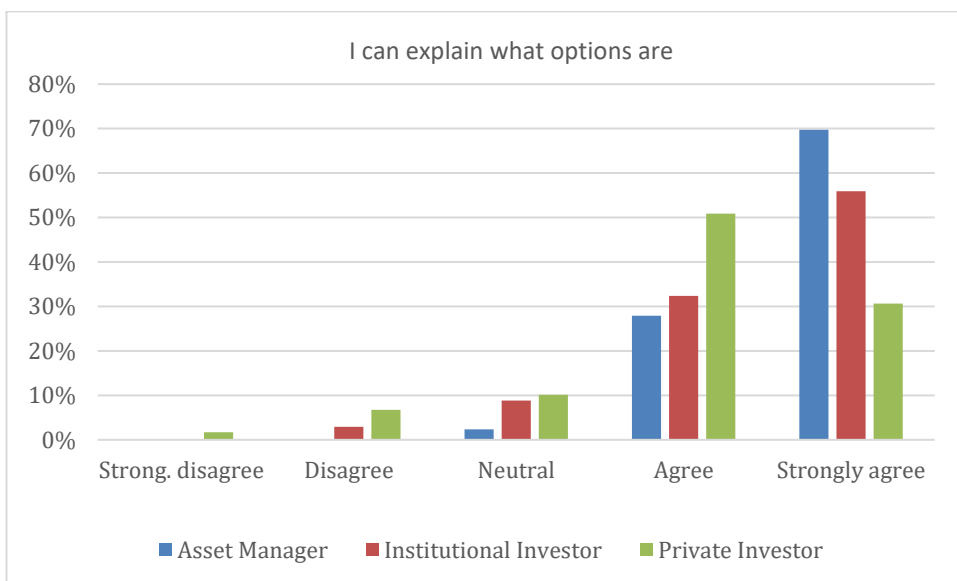
Figure 24 – Ability to explain what options are

I can explain what the P/E Ratio is	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	2,3%	8,6%	6,4%
Disagree	0,0%	8,6%	19,3%
Neutral	7,0%	2,9%	8,8%
Agree	20,9%	28,6%	37,8%
Strongly agree	69,8%	51,4%	27,7%
Total	100,0%	100,0%	100,0%

Table 27 – Ability to explain what the P/E Ratio is
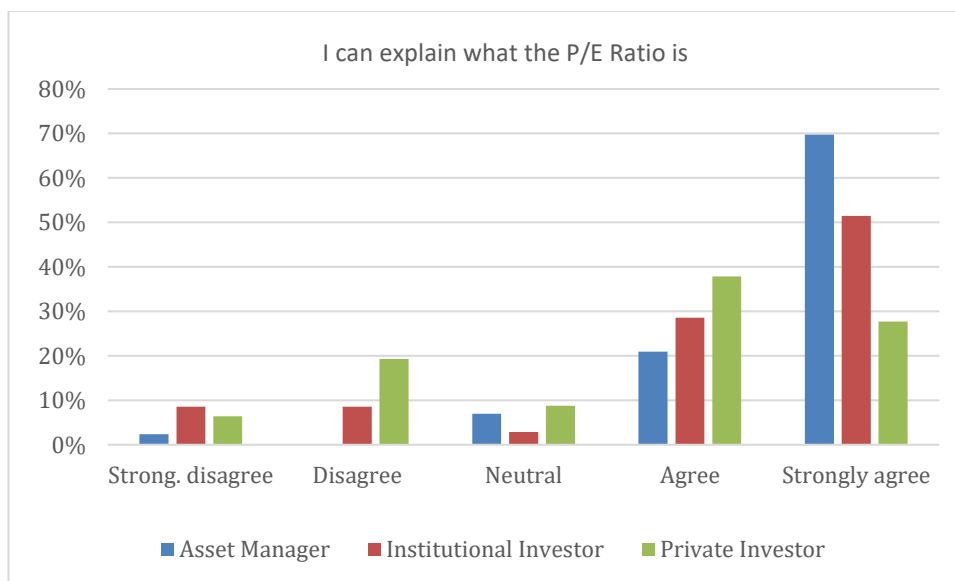
Figure 25 – Ability to explain what the P/E-Ratio is

I can explain what rebalancing is	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	2,3%	2,9%	10,8%
Disagree	4,7%	5,7%	30,2%
Neutral	4,7%	2,9%	13,9%
Agree	18,6%	31,4%	26,8%
Strongly agree	69,8%	57,1%	18,3%
Total	100,0%	100,0%	100,0%

Table 28 – Ability to explain what rebalancing is
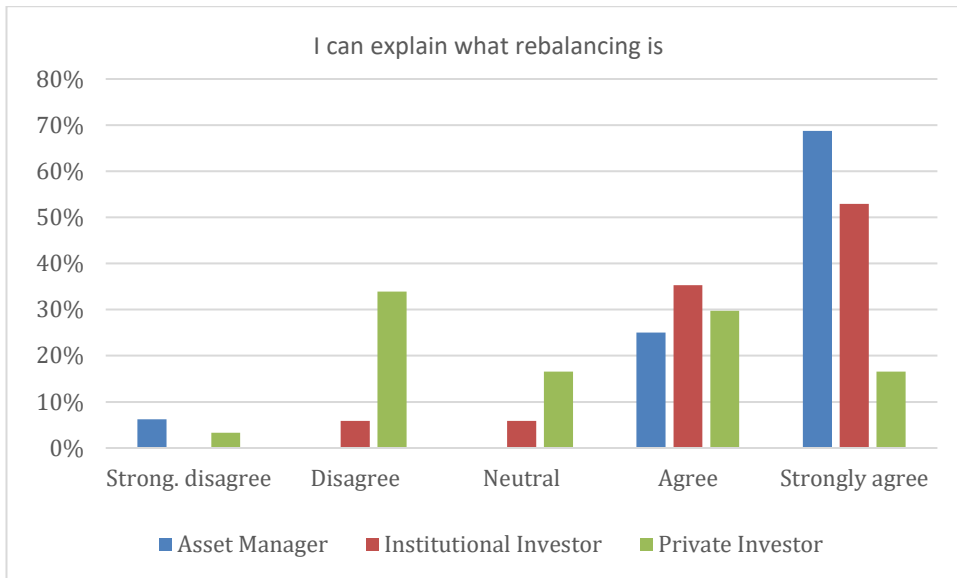
Figure 26 – Ability to explain what rebalancing is

I can explain what structured products are	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	0,0%	0,0%	4,1%
Disagree	2,3%	0,0%	13,9%
Neutral	2,3%	14,3%	16,9%
Agree	30,2%	34,3%	43,4%
Strongly agree	65,1%	51,4%	21,7%
Total	100,0%	100,0%	100,0%

Table 29 – Ability to explain what structured products are
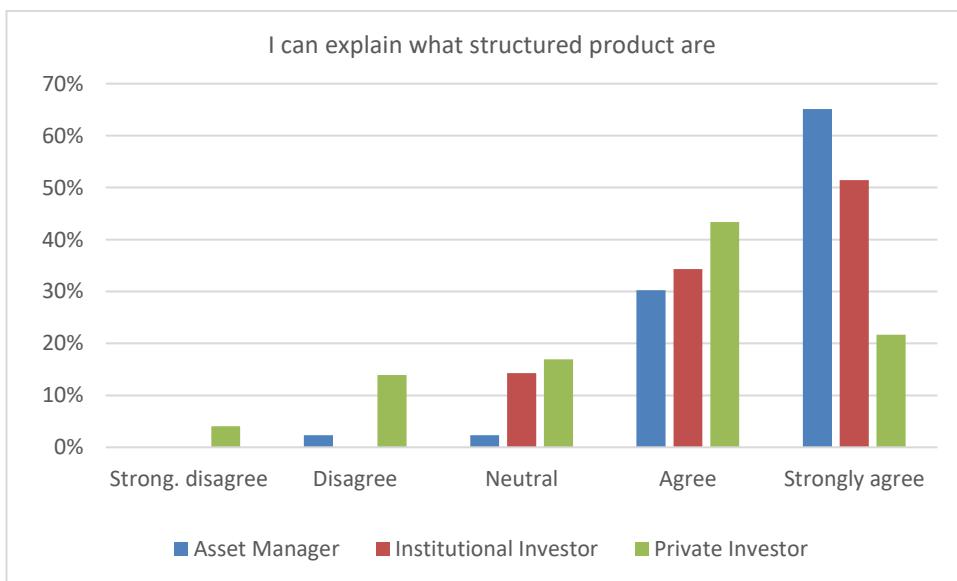
Figure 27 – Ability to explain what structured products are

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Ability to explain the fee structure of active/passive funds, shares

67% of the asset managers, 43% of all institutional investors but only 12% of the private investors could offer a detailed explanation of the fee structure of an active managed fund. The numbers for passive managed funds were similar (65%, 43%, 13%). The ratios improved when asked about shares/stocks (67%, 51%, 21%).

On the other hand, more than half of all private investors could not explain described fees structures well or were neutral about it (active managed funds – 50%, passive managed funds – 51%, shares – 24%). The numbers for the professional investors were between 0% and 20%.

I can explain the fee structure of an active managed fund	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	2,3%	5,7%	9,1%
Disagree	0,0%	2,9%	21,8%
Neutral	2,3%	14,3%	19,1%
Agree	27,9%	34,3%	37,6%
Strongly agree	67,4%	42,9%	12,4%
Total	100,0%	100,0%	100,0%

Table 30 – Ability to explain the fee structure of an active managed fund
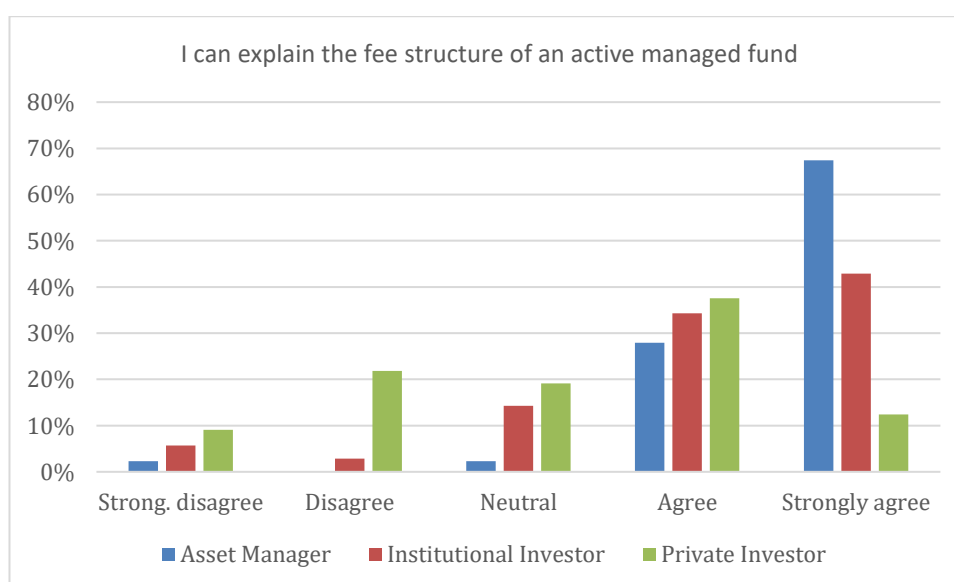
Figure 28 – Ability to explain the fee structure of an active managed fund

I can explain the fee structure of a passive managed funds	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	2,3%	5,7%	9,4%
Disagree	0,0%	2,9%	22,1%
Neutral	2,3%	11,4%	19,8%
Agree	30,2%	37,1%	35,6%
Strongly agree	65,1%	42,9%	13,1%
Total	100,0%	100,0%	100,0%

Table 31 – Ability to explain the fee structure of a passive managed fund
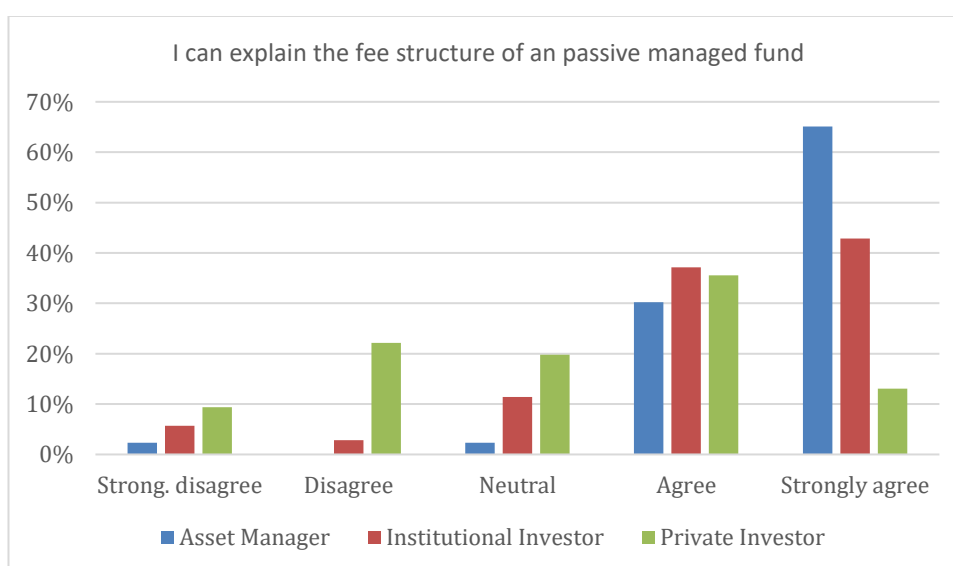
Figure 29 – Ability to explain the fee structure of a passive managed fund

I can explain the fees structure of shares/stocks	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	0,0%	2,9%	5,7%
Disagree	0,0%	2,9%	8,7%
Neutral	0,0%	17,1%	9,1%
Agree	33,3%	25,7%	55,7%
Strongly agree	66,7%	51,4%	20,8%
Total	100,0%	100,0%	100,0%

Table 32 – Ability to explain the fee structure of shares/stocks
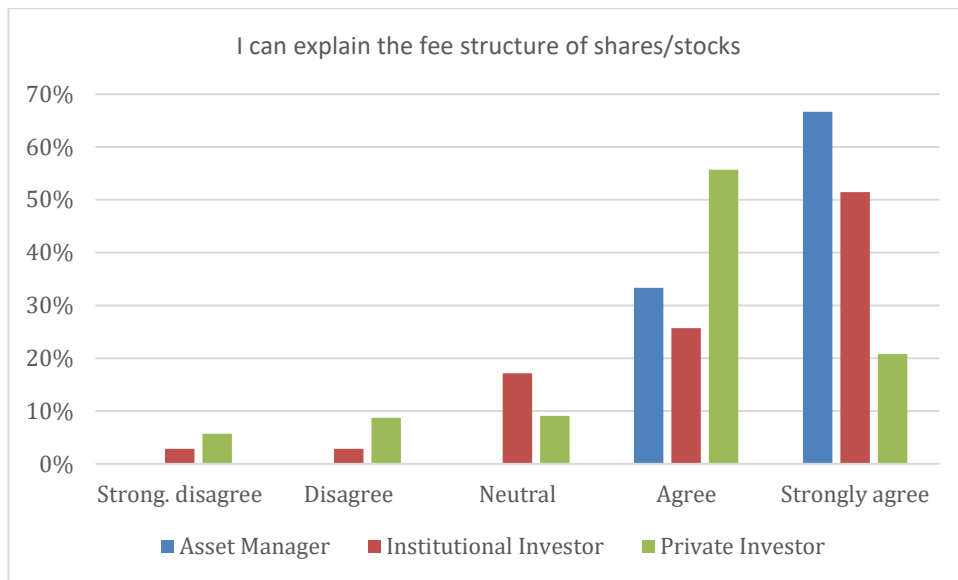
Figure 30 – Ability to explain the fee structure of shares/stocks

Since there are mainly the results in percentages displayed, I moved the remainder of my initial outcomes, which is presented and described in the same manner as above, to the appendix.

5.3.   Discussion of the results for RQ1 – Descriptive Analysis

The previous sections present a summary of the survey data. It shows the differences between asset managers, institutional investors and private investors, in terms of their experience, knowledge and investment approaches. This section proceeds with the discussion of these findings in the light of the research questions and hypotheses initially proposed, and the relevant literature. It elaborates on the implications of the results for both theory and practice and identifies possible suggestions and guidance for the retail investor.

My initial hypothesis was that increased knowledge and expertise leads to superior and more risk-averse investment decisions (passive, buy-and-hold, appropriately diversified periodical rebalancing, cost-efficient and long-term), and that generally asset managers and institutional investors act more knowledgably and cautiously than private investors. In relation to the Dreyfus-model, the private investors are initially thought to be either 'novice' or potentially 'advanced beginners'; asset managers are to be found in the range

of 'competent' and 'proficient', whereas the institutional investors *should* be within the level of 'proficient' and 'expertise'.

First, the education, knowledge and experience level of the private investors is compared to the professional investors and then an understanding of what investment criteria and investment strategies they apply to invest in certain asset classes, markets and products is established. This permits an initial consideration of the 'fit' of the Dreyfus model to this field, or reconsideration of the nature of the initial hypothesis. I can also (more confidently) draw conclusions aiming to support the everyday investor with sustaining or increasing wealth by investing in the stock market.

The first section of the discussion will be descriptive and based on the frequency breakdown (XLS/Pivot) from the initial analysis, in relation to existing literature and practice. For every question discussed, I will determine which investor group demonstrates the superior knowledge, set against a 'benchmark' derived from the literature, best practice and my own knowledge. The one-point scores are then summed across all groups to give an overall score, which is then cast as a percentage of the points available.

The second section (within the following chapter) will be statistical, investigating relevant dependencies between important variables.

5.3.1.   Self-rating of investment knowledge vs. experience

These questions focused on the participant's self-rating of financial investment knowledge and how many years' experience they possessed in stock market investing (buying/selling/holding shares, bonds, funds, etc.).

91% of the asset managers and 80% of all institutional investors rated their financial knowledge as good or excellent, the remainder as basic or average. 28% of all private investors however, invested their money in the stock market with either no financial investment related knowledge or just by understanding the basics. Only 38% trusted that their investment knowledge was good or excellent.

Looking at the knowledge self-rating at 1 to 3 years' experience by private investors only, almost 70% stated that they possessed basic knowledge. Yet, nearly 30% displayed an average or good investment knowledge, which could lead to the conclusion that even with little actual experience, investors can obtain the necessary knowledge to actively influence positive investment outcomes or at least the sentiment to understand this notion. This is in line with Sander (2012) who holds that the investment process and continuous learning should become habit-forming or with Town (2007) who claims that 15 minutes of time investment a week would result in a positive portfolio return.

When contrasting 1 to 10 years' experience, the level of knowledge was roughly evenly distributed amongst the three investor groups, but looking at greater than 10 years' experience, the results showed a direct and positive correlation between years of experience and self-rating of financial investment knowledge.

One can see that investors with a longer experience in investing seem to develop superior knowledge regarding the topic at hand, which would be in-line with Dreyfus' theory. However, the results of the 'self-rating investment knowledge question' have to be treated with caution, as many participants may not have possessed a real benchmark to measure their knowledge against and because there is possibly a tendency to over-rate their own expertise.

Thus, in regard to the Dreyfus model, a novice could view himself/herself as an advanced beginner, and the advanced beginners as being competent or even proficient (Dreyfus, 2004).

For these questions, the benchmark for successful investing were the asset managers.
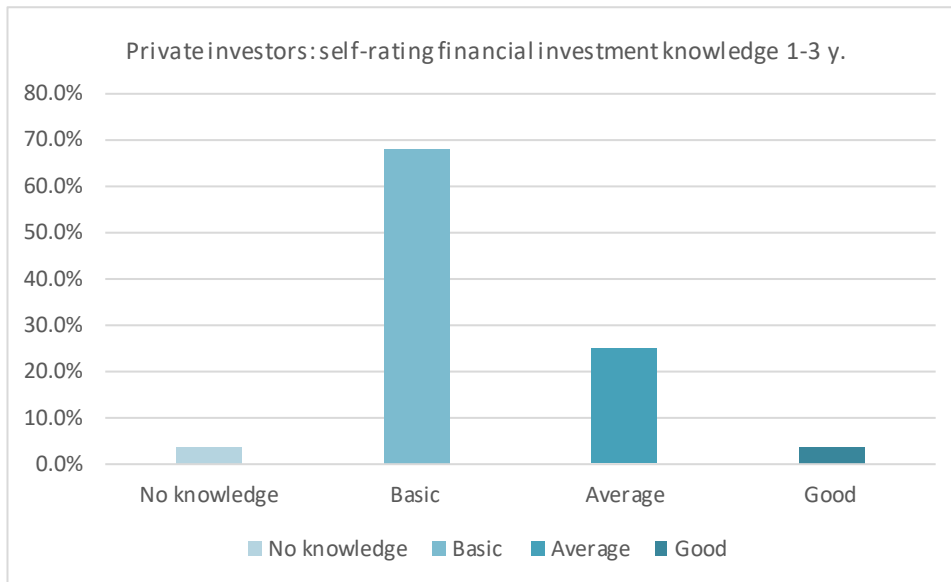
Figure 31 – PIs self-rating of financial investment knowledge 1–3 years' experience
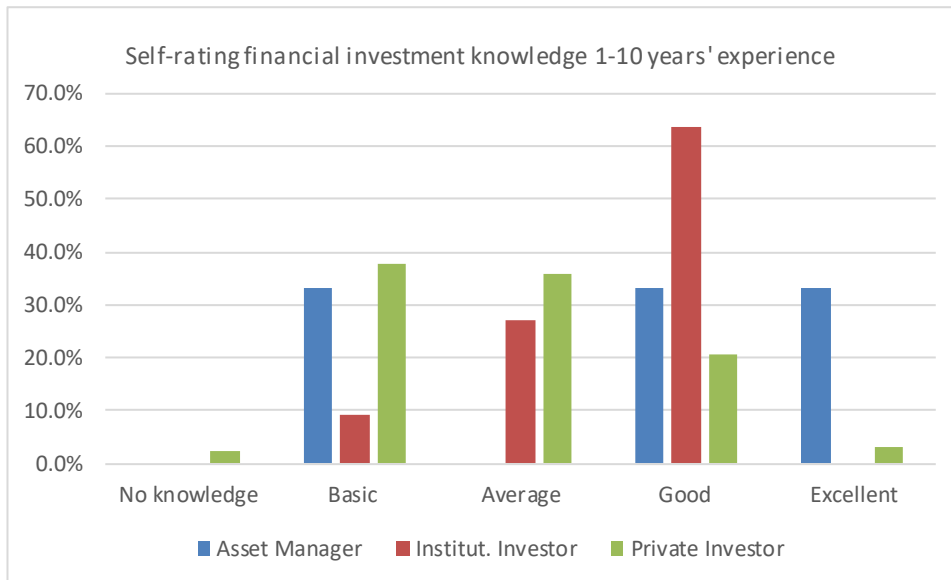
Figure 32 – Self-rating of financial investment knowledge 1-10 years' experience
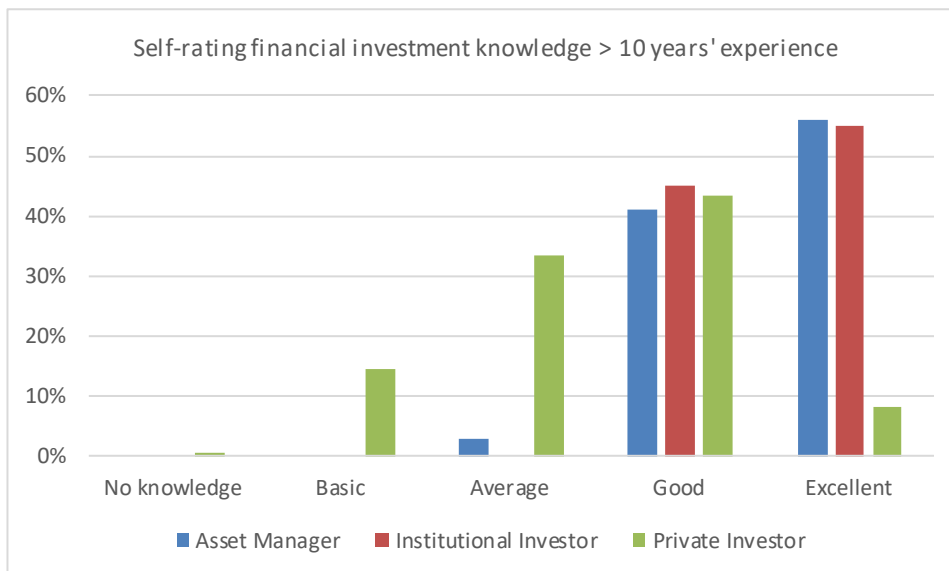
Figure 33 – Self-rating of financial investment knowledge > 10 years' experience

5.3.2. How investors make their investment decisions

This question asked how investors usually make their investment decisions (buying/ selling shares, bonds, funds, etc.).

My assumption was that most investors would make up their own mind about investments in the stock market, with more professional than private investors deciding themselves without consulting anyone. The analysis actually revealed that a large portion of the private investors decided for themselves, after discussions with family members and friends, but two-thirds of the professional investors and just over half of all private investors decided themselves without consulting anyone.

The above analysis and discussion about knowledge and investment experience exposed that private investors in particular possess only basic or no knowledge at 1-3 years' experience, yet most of them make up their own mind about buying/selling shares, bonds, funds and other investment products.

For this question, the benchmark for superior investing was the institutional investors.
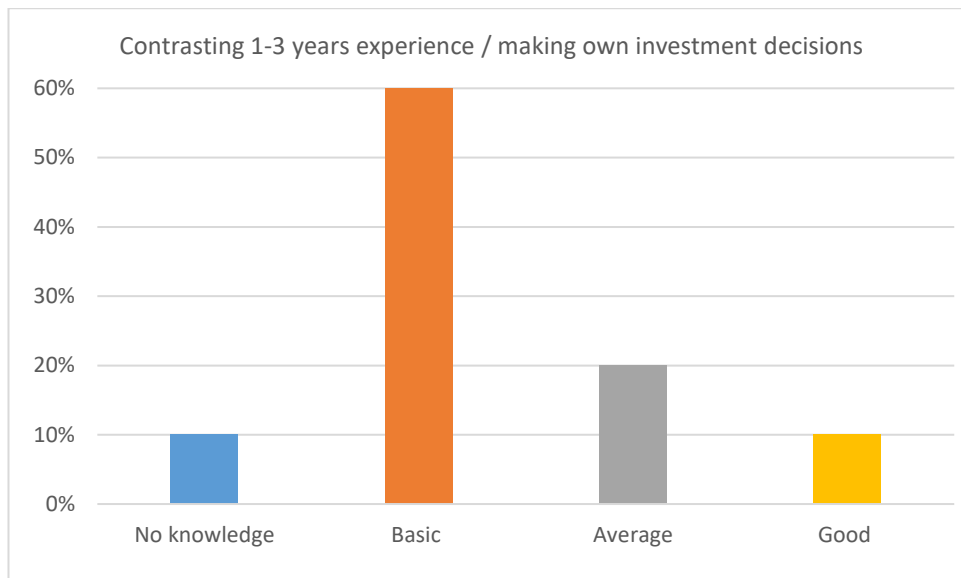
Figure 34 – Contrasting 1-3 y. of experience vs. making own investment decisions

5.3.3. Change of asset manager: loss of trust / investments into own funds

These questions asked if investors have changed their bank or asset manager because they lost trust in them, or because managers invested investors' money into 'captive' funds belonging to their employers.

The analysis showed that fewer than one-fifth of all three investors groups have changed their banks or asset managers due to either loss of trust, or because they invested the participant's assets mainly into 'captive' managed funds, for which they would usually receive kick-backs, retrocessions or other kinds of commissions.

However, when it comes to investing in commission-linked products, the institutional investors are, with 18.9%, the group most likely to change investment managers.

For these questions, the benchmark for superior investing was the institutional investors.

5.3.4. The risk profile that best describes the investors

This question asked which risk profile, in terms of the investor's financial investments (buying/holding/selling shares, bonds, funds, etc.), describes them best.

The results of the analysis showed that, in terms of taking higher risks for potential higher returns, the private investors with 40%, were clearly the group with the lowest numbers of risk takers, vs. 69% for the asset managers and 53% for the institutional investors. Conversely, the asset managers, with 21%, were the group with the lowest number of risk-averse investors; 41% for the institutional and 47% for the private investors.

For this question, the benchmark for superior investing was the institutional investors.

5.3.5. Development of an investor's risk profile

This question asked if an investor had ever created a risk profile themselves or through a third party.

30% of all asset managers, 29% institutional investors and 35% of the private investors had never worried about generating a risk profile. 35% and 40% of the professional investors had developed such a profile themselves as had 23% of the private investors. On the other hand, 35%, 31% and 42%, respectively, had developed a risk profile by either a private bank, a retail bank or an asset management firm.

It is interesting to recognize that 70% of the asset managers, 71% of the institutional investors and 65% of all private investors had either developed a risk profile themselves or through the support of an investment adviser. However, around a third of all investors had never worried about it.

For this question, the benchmark for superior investing was the institutional investors.

5.3.6. How many products within an investor's portfolio

This question asked in how many products (shares, managed funds, bonds, ETFs, etc.) respondents were invested in (e.g. 1 share, 1 ETF, 1 fund, etc. equals 1 product).

The analysis showed 20% of all asset managers, 10% of all institutional investors and 27% of all private investors were invested in 1 to 3 products only. Another 20%, 17% and 29%, respectively, hold 4 to 7 products, which is still at the lower end of a well-diversified portfolio, depending on investment goals and strategies.

On the other hand, 7 to 17% across the investor groups could be over-diversified, holding more than 20 products within their portfolios. The question specifically asked about the number of products they were invested in while a product could be a single share or a single fund.

Birchler et al. (2010) arrived at an analogous conclusion, as they found that the average Swiss investor holds shares in five different companies, but 46% of all investors, only in one or two. They further established that merely around 10% of all shareholders distribute their funds over more than 10 products, which is in contrast to this study that revealed that 21% to 48% of the three investor groups hold more than 11 products.

For this question, the benchmark for superior investing was the institutional investors.

5.3.7.   Proportion of savings invested

This question asked about the proportion of savings a participant had invested in shares, bonds, funds, etc.

40% of the asset managers, 44% of the institutional investors, but 59% of the private investors had invested $\leq$ 40% of their savings in the stock market. On the other hand, 45%, 35% and only 28% respectively of each of the investor groups had invested $\geq$ 60 to 100%.

Some literature (Ellis, 2002; Swensen, 2005) holds that because of inflation, investors should always be fully invested with surplus funds, having only a small percentage in cash. Even in low inflationary environments, cash positions will lose in value over time. As a rule of thumb, at 2% inflation, one's cash value will decrease by 45% over 30 years. Likewise, many studies have shown (i.e. Sincera, 2010) that missing the most lucrative trading days (when not invested) leads to underperforming portfolios; especially when the poorest trading days are not missed.

For this question, the benchmark for superior investing was the private investors.

5.3.8.   Investment duration

This question asked about an investor's investment horizon (in years).

28% of the asset managers, 46% of the institutional investors and only 20% of the private investors invested for more than 10 years. The largest groups among asset managers (41%) and private investors (53%) thought in 4 to 10-year terms. Looking at 1 to 4 years, the results showed 29%, 20%, 33% in each group; 7%, 3%, and 3% in each group respectively for less than 1 year. The study undertaken by Birchler, Volkart, Ettlin and Hegglin (2010) generally confirmed these outcomes across all investor types as 8% of all investors invested for less than 1 year, 17% for 1 to 3 years, 40% for 3 to 8 years and 35% for over 8 years.

The long investment period for the institutional investors (46% over 10 years), could have been a result of their professional life, as their clients (pension funds, family offices and UHNWI, etc.) usually invest for the long-term. On the other hand, a third of the asset managers turned over their portfolio after less than 4 years.

For this question, the benchmark for superior investing was the institutional investors.

5.3.9.   Expected annual return and tolerance for loss

The next two questions asked about the investors' expected annual return and tolerance for stock market loss in a bad year (e.g. bear market year).

Almost half of the asset managers and approximately a third of the institutional investors and private investors expected an annual return of 4 to 6% on their investment, which is comparable with the long-term average of the last 200 years (Siegel, 2013) or with what Pictet (2015) established for the years from 1925 to 2014. Overall, the institutional investors were the most realistic group, expecting between 4 to 8% return (69%) with no one expecting a profit greater than 12%. On the other hand, 10% of the asset managers and 9% of the private investors wanted to achieve 12 to ≥ 30%. The latter was only possible if they would accept greater risk and therefore expect to incur higher losses.

As for the tolerance for loss, the answers were commonly as anticipated as the majority of investors (29% of the asset managers, 36% of the institutional investors and 27% of the private investors) were willing to lose 5 to 10% in an unfortunate investment year. Conversely, it was notable to see that 5% of the asset managers, 17% of the institutional investors and 11% of the private investors were even prepared to lose 50% or more during a disastrous year. They either purposefully executed an aggressive investment strategy or they could lack knowledge, as such an excessive loss does not need to be endured when invested sensibly.

For this question, the benchmark for superior investing was the institutional investors.

5.3.10. Ability to explain investment topics and fee structures of vehicles

These questions asked about the participants' ability to explain investment topics such as asset classes, coupon, future, options, P/E Ratio, rebalancing or structured products, as well as the fee structures of active managed funds, passive managed funds and shares. These results contributed to my RQ1 as they show that the level of knowledge and expertise clearly influenced investors' investment decisions.

I was surprised that generally across all investor groups, the meaning and mechanism of options (265%), or futures (252%) could be explained better then asset classes (246%), coupons (244%), or even the fee structure of shares (233%). Other more technical features like structured products (226%) and the P/E Ratio (191%) were ranked in the middle.

At the low end were the fee structures of passive and active managed funds (182%; 181%) as well as the important concept of rebalancing (165%).

Ability to explain the notion of asset classes

In terms of asset classes, the professional investors (81% of the asset managers and 63% of the institutional investors) understood the notion of an asset class very well, whereas only 31% of the private investors strongly agreed. On the contrary, 16% of the private investors but also 6% of the institutional investors could not explain these clusters of securities.

In the literature (viz. Stevens, Surz and Wimer, 1999; Ibbotson and Kaplan, 2000; Swensen, 2005; Ferri, 2006; Ashby, Williams & Stinson, 2010), the various asset classes, and even more so the asset class allocation, are important for any reasonable investor as they have different inherent risk and return profiles and specific advantages and disadvantages

Thus, a thorough understanding of asset classes would (almost certainly) be beneficial.

For this question, the benchmark for superior investing was the asset managers.

Ability to explain the notions of options, futures, structured products

Options, futures and structured products are highly technical and complex investment vehicles, but the majority of investors seem to comprehend them better than the simple fee structures of shares or funds.

Certainly, some knowledgeable and supposedly skilled investors focused on investment strategies that allowed for trading call/put options or the different variations of futures or structured products, as Assogbavi and Fagnissè (2009) promote. Whether they were 'sustainably' successful is another matter.

As expected, the private investors had the least understanding about these rather technical investment vehicles.

For these questions, the benchmark for superior investing was both, the asset managers and the institutional investors.

Ability to explain the notion of coupons and the P/E ratio

The professional investors understood the notion of coupons very well (93%, 91%) but the private investors also showed a good understanding of this concept (77%). This is important since regular, periodical payments and their reinvestments play a vital role in sustainable investing and increasing wealth. This is especially true when talking about coupon earnings from government bonds (Melton and Mackey, 2010) that averaged real returns of 243% during the last 90 years (Pictet, 2015.).

The picture looked different regarding the investors' ability to explain the P/E ratio, as around every fifth professional investor and more than every forth private investor did not comprehend the concept.

Indisputably, the P/E ratio is not an investment strategy but certainly, for many an important indicator about the potential future performance of an investment. Other key performance indicators to be aware of are for example the price to book ratio (P/B ratio), the return on equity (ROE) or the return on assets ratio (ROA).

For this question, the benchmark for superior investing was the asset managers.

Ability to explain the fee structures of shares, active and passive funds

As evidenced by Fama and French (2010) or Ellis (2002), the fee structures of investment vehicles are paramount in order to maximize investment returns. It is therefore unfortunate that almost a third of all private investors do not apprehend it, except for shares. If the neutral answers were included, more than 50% did not apprehend it.

The same is true for the professional investors as 5% of the asset managers and 23% of the institutional investors could not accurately explain these fee structures (incl. neutrals).

To illustrate this effect, an active managed fund is usually 1 to 2% more expensive (TER) than its passive counterparts, and every per cent paid in excess on fees will greatly harm the return of a portfolio over time (Ellis, 2002; Bogle, 2007).

If the active fund costs 2% more per annum, which is often the case, the difference in returns between active and passive funds is $29,000 over 10 years, $52,000 for 15 years and $84,000 over a period of 20 years on an initial investment of $100,000. Given these figures, it remains surprising that the participants understood the notion of complex investment vehicles like options, futures and structured products better than the fee structures of passive and active managed funds.

For these questions, the benchmark for superior investing was the asset managers.

Ability to explain the notion of rebalancing

Finally, the important concept of rebalancing was not understood by over 50% of the private investors. Fortunately, most professional investors had a good appreciation of it. 70%, 57% and 18% respectively, fully comprehended it.

As shown in the literature review (Ellis, 2002; Swensen, 2002; Goldie and Murray, 2010), adjusting the asset class ratios (products) according to an investor's risk profile (rebalancing) is of utmost importance, as an investor will otherwise find his/her portfolio out of balance with an increased weighting of some asset classes over others. In other words, if investors fail to counter market moves by making rebalance trades, a passive drift away from the desired risk profiles occurs.

Therefore, an investor could end up with e.g. fewer government bonds, but with a larger portion of assets invested in shares instead. In this way, the share quota rises above target level and consequently increases the overall risk of his/her portfolio (and vice versa). Thus, the initially identified return/risk profile of a portfolio starts to deviate, which can easily be managed if rebalancing takes place. The rebalancing investor often acts in a contrarian way (usually taking a market position 'against the herd') and keeps the ratio of the products within his/her portfolio in balance.

For this question, the benchmark for superior investing was the asset managers.

Overall, private investors possessed the least knowledge about the investment topics in question and how the fees for buying/holding/selling funds and shares are structured. The asset managers on the other hand were the most knowledgeable group here, as the institutional investors answered only the questions about futures and rebalancing more accurately.

	I can explain well				I cannot explain it well		
	Asset Managers	Institut. Investors	Private Investors	Total	Asset Managers	Institut. Investors	Private Investors
Option	97.7%	88.3%	81.4%	256.0%	0.0%	2.9%	8.4%
Future	93.0%	94.3%	69.9%	252.1%	2.3%	2.9%	15,6%
Asset Class	97.7%	94.3%	75.0%	245.7%	0.0%	5.7%	15.5%
Coupon	93.0%	91.4%	76.5%	242.8%	0.0%	2.9%	15.3%
Fee of shares	100.0%	77.1%	76.5%	233.4%	0.0%	5.8%	14.4%
Structured Product	95.3%	85.7%	65.1%	225.9%	2.3%	0.0%	18.0%
PE/Ratio	90.7%	80.0%	65.5%	191.0%	2.3%	17.2%	25.7%
Fees of passive funds	95.3%	80.0%	48.7%	181.6%	2.3%	8.6%	31.5%
Fees of active funds	95.3%	77.2%	50.0%	180.8%	2.3%	8.6%	30.9%
Rebalancing	88.4%	88.5%	45.1%	165.4%	7.0%	8.6%	41.0%

Table 33 – Ability to explain various investment topics
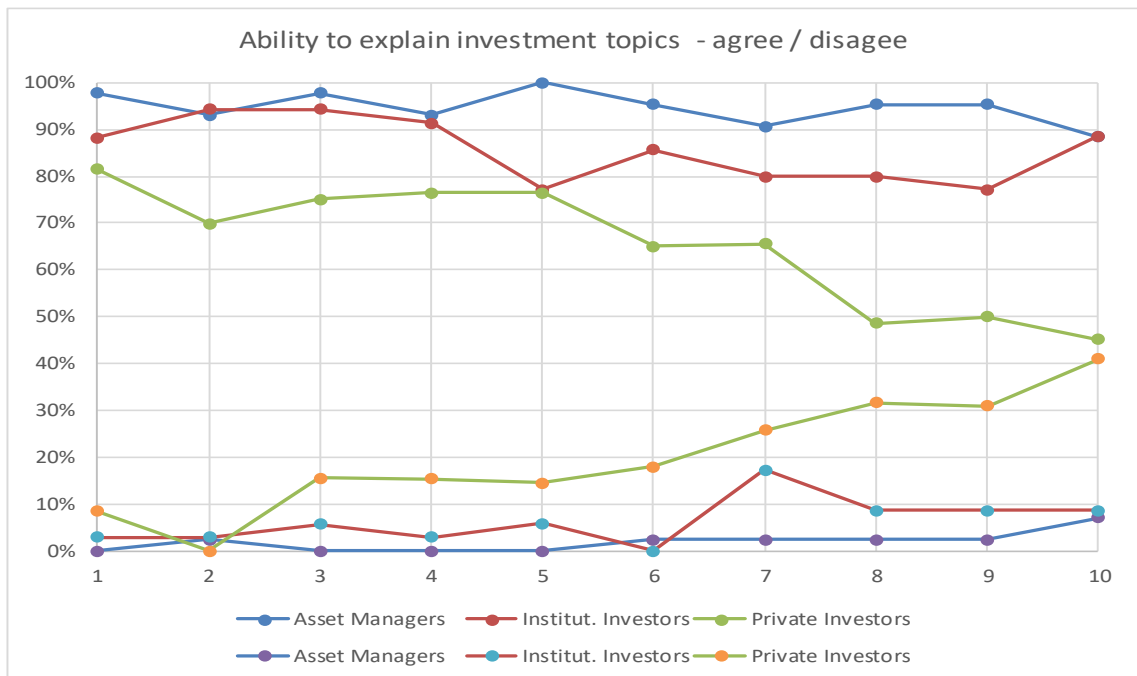
Figure 35 – Ability to explain various investment topics

5.3.11. Factors that contribute to an outperformance of market benchmarks

These questions were about the importance of factors contributing to the achievement of a performance (profit/gain) that is higher and more sustainable than the market average.

Most of the results contribute to my RQ1 as they demonstrate that the level of knowledge and expertise influence investors' investment decisions.

After subtracting the percentages of the unimportant answers from the important answers (table 33), the analysis has shown that the three most significant contributors for a sustainable performance above the benchmarks were the asset class allocation (246%), the investment duration (235%) and the product choice (231%).

The next noteworthy influences were reducing TER (189%), rebalancing (166%), the choice of active managed funds vs. passive managed funds (154%), the buying price of a vehicle (154%), re-investing dividends (143%) and reducing retrocessions (90%).

The bank holding the portfolio (-9%) and the institution issuing ETFs (-29%) were considered least important.

The importance of the asset class allocation

This question referred to the importance of the asset class allocation to achieve a performance that is higher and more sustainable than the market average.

Ibbotson and Kaplan (2000) state that asset allocation is the ultimate key to investment success. They found that 90% of the variability of returns of a typical fund across time is explained by asset allocation. Brinson, Hood and Beebower (1986) identified the same. This importance seems to be widely known by both professional investor groups, yet only 63% of the private investors opted for this answer, while 5% actually believed that the asset class choice plays no important role when investing.

For this question, the benchmark for superior investing was the asset managers.

The importance of the investment duration

This question referred to the importance of the investment duration to achieve a performance that is higher and more sustainable than the market average.

95% of the asset managers, 81% of the institutional investors and 79% of the private investors found, in-line with Ellis (2002), Swensen (2005) and Ferri (2006), that the investment duration was paramount to achieve a higher and more sustainable return than the market.

These results were as expected as the asset managers and institutional investors in particular would, within their professional - but most probably also with their private investments - take a long-term view. However, since the literature (but also the long-term data on average returns on e.g. equity or governments bonds) suggests an extensive investment duration, it is surprising that 16% of the intuitional investors were still of the opposite belief (2% of the asset managers; 2% of the private investors).

For this question, the benchmark for superior investing was the asset managers.

The importance of the product choice

This question referred to the importance of the product choice to achieve a performance that is higher and more sustainable than the market average.

I imagined that this would only be an important factor for the private investors as most of them would comprehend actual products better than asset classes, i.e. shares, bonds, funds, real-estate, gold, etc., and the professional investors would put a much higher focus on the asset class choice (Goldie and Murray, 2010). However, the results showed that all three investor groups found the product choice important or very important (90% asset manager, 74% institutional investors and 79% private investors), yet almost 10% of the institutional investors were in disagreement.

While the asset allocation is most important, the product choice on its own is too, as once the asset classes are selected, the products need to be chosen.

For this question, the benchmark for superior investing was the asset managers.

The importance of reducing TER and retrocessions

These questions referred to the importance of reducing the TER as well as retrocessions to achieve a performance that is higher and more sustainable than the market average.

The asset managers answered the TER question as I would have predicted - 83% in favour. According to the literature and as demonstrated above, every basis point saved on expenses positively contributes to the performance of an investor's portfolio.

This is even more marked if you factor in compound interest (Bogle, 2009; Clare, Seaton and Thomas, 2009; Gwilym, et al., 2010). Consequently, it is surprising that only two-thirds of the institutional and private investors voted for it. In fact, a total of 13% of the institutional investors, 3% private investors and 5% of all asset managers found it to be unimportant.

Since reducing cost is imperative, it is astonishing that reducing retrocession was generally seen as rather insignificant as only 45%, 41% and 50% supported it. Even 17% of the asset managers as well as 22% institutional investors and 12% of all private investors thought it to be unimportant. One could assume that this is perhaps not in the professional investors interests, as they would have to forgo part of their charges to clients if they followed the policy themselves.

For this question, the benchmark for superior investing was the asset managers.

The importance of rebalancing

This question referred to the importance of rebalancing to achieve a performance that is higher and more sustainable than the market average.

Rebalancing was also found (83%, 56%, 56%) to be a significant factor contributing to a positive and sustainable portfolio return. Yet some investors (8% of the asset managers, 16% of the institutional investors and 6% of the private investors) disagreed that this is a vital concept. These answers were in-line with the previous questions regarding the investors' ability to explain the notion of rebalancing.

For this question, the benchmark for superior investing was the asset managers.

The importance of the choice between active vs. passive funds

This question referred to the importance of the choice between active managed funds and passive managed funds to achieve a performance that is higher and more sustainable than the market average.

There was agreement by 63% of the professional investors, but just under 50% of the private investors, that the differences between active and passive management was important. On the contrary, 10% of the asset managers but only 3% of the institutional investors and 6% of the private investors disagreed. Surprisingly, 6% of the institutional investors and 13% of the private investors did not seem to worry about it, or may not have known the distinction.

Several studies confirm that only a very few active managers outperform their respective indices over the long run. For example, Bogle (2010), who listed the 10 best US fund managers in the three-year period of 1997 to 1999 and then compared them with the following three-year period of 2000 to 2002, in which none of the previous top 10 funds was ranked within the first 790 funds in the subsequent period.

It follows that it is very challenging, if not impossible, for any qualified investor to find, out of the 10,000s of specialists, those very few fund managers who in fact outperform the individual indices in the long run (Ellis, 2002; Goldie and Murray, 2010).

Balling, Gnan and Lubochinsky (2008), on the other hand, would disagree, stating that there are in fact many arbitrage opportunities that can be exploited by active managers. Yet, if an investor really were to find that individual, would s/he know that this manager continues to manage that very fund, or if s/he has left that organization in the meantime to pursue other opportunities.

The evidence seems to suggest that passive managed funds are the more profitable and sustainable way of investing, which is ultimately due to fee structure. Passive funds are typically 1.5% to 2% cheaper per annum than actively managed funds.

For this question, the benchmark for superior investing was the institutional investors.

The importance of the purchasing price

This question referred to the importance of the purchasing price of shares, bonds, funds, etc. to achieve a performance that is higher and more sustainable than the market average.

The purchasing price of an investment product is important for around two-thirds of the investors. However, it is not important for 20% of the asset managers, for 13% of the institutional investors or for 8% of the private investors.

As of the literature, the purchasing price of an investment product is more or less important depending on which investment strategies one favours. If one, for example, follows a stock picking or day trading strategy, the price s/he pays is highly relevant. On the contrary, if one invests passively for the long-term, the price becomes less important. Therefore, it cannot be said whether the private or professional investor's voting is superior since this question was not presented in relation to relevant strategies or other investment criteria. However, there seems to be a disconnection between the 2nd ranked contributor - the investment duration as described above, and the highly rated importance of the purchasing price that would call for further examination.

For this question, the benchmark for superior investing was the asset managers.

The importance of re-investing dividends

This question referred to the importance of re-investing dividends to achieve a performance that is higher and more sustainable than the market average.

When it comes to re-investing dividends, 70% of the asset managers found it important but only 50% of the institutional and 48% of the private investors. On the contrary, 3% AMs, 9% IIs and only 14% PIs found it unimportant.

These are rather unexpected results as re-investing dividends (or coupons) lead to higher profit over the years. For instance, an investment of 1'000 shares at $75 per share, with an annual dividend paid of 2.5% and an annual increase of the dividend paid by 5%, results in $168,390 over 20 years. The same number of shares, but with a quarterly paid and re-invested dividend, achieves $174,754 over the same period. Without any dividend invested, the value remains at $75,000. It follows, that if an investor does not re-invest dividends, such compounding of interest does not take place, hence they are disregarding the chance to accomplish higher than the market average returns.

However, one could argue that without the concept of compounding interest, re-investing dividends is only important to increase savings and wealth, not to achieve higher returns. This argument though would be faulty, as every additional investment into a portfolio has the chance to earn profits, therefore increasing the overall return of an investor's portfolio Gwilym, et al., (2009).

For this question, the benchmark for superior investing was the asset managers.

The choice of bank (custodian) and the institution issuing ETFs

These questions referred to the importance of the bank holding an investor's portfolio and to the institutions issuing ETFs, to achieve a performance that is higher and more sustainable than the market average.

Neither professional investor group (40%, 41%) considered the choice of the bank holding an investor's portfolio to be important whereas the private investors were of the opposite belief (35% vs. 26%). The same was true when asked about the importance of the organization issuing ETFs. 40% of the asset managers and 41% of the institutional investors found it unimportant, but as with the previous question, 30% of the private investors voted for and 21% against it. It may be that the professionals trust that there are many other more important aspects that influence profitable and sustainable investing.

For these questions, the benchmark for superior investing was the institutional investors.

Change to an online asset manager to save cost

This question asked if investors, if the quality and products were the same, would change to an 'online asset manager' if they could save 25% of the annual asset management fee, or once they could save 50% of the annual asset management fee respectively.

Surprisingly, 41% of the asset managers, 31% of the institutional asset managers and 28% of the private investors would not change to an online asset manager at 25% savings; 41%, 56% and 55%, respectively, would. Yet, if the saving rate were increased to 50% per annum, another 57% of the initially remaining asset managers and institutional investors and 55% additional private investors would move on.

It appears that the majority of investors are aware of the impact of fees on investment return.

For this question, the benchmark for superior investing was the institutional investors.

		Important to achieve higher and more sustainable profit				Not important to achieve higher and more sustainable profit		
		Asset Managers	Institut. Investors	Private Investors	Total	Asset Managers	Institut. Investors	Private Investors
1	Choice of asset class	100.0%	87.5%	62.9%	245.7%	0.0%	0.0%	4.6%
2	Investment duration	95.0%	81.3%	78.6%	234.6%	2.5%	15.6%	2.1%
3	Choice of products	90.0%	74.2%	78.5%	230.5%	0.0%	9.7%	2.5%
4	Reducing TER	82.5%	64.5%	62.6%	188.5%	5.0%	12.9%	3.2%
5	Rebalancing	82.5%	56.3%	56.5%	166.0%	7.5%	15.6%	6.1%
6	Active/passive funds	62.5%	62.5%	48.9%	154.4%	10.0%	3.1%	6.4%
7	Purchasing price	57.5%	68.8%	68.1%	153.6%	20.0%	12.5%	8.2%
8	Re-investing dividends	70.0%	50.0%	48.2%	142.8%	2.5%	9.4%	13.6%
9	Reducing retrocessions	50.0%	40.6%	50.0%	89.5%	17.5%	21.9%	11.8%
10	Bank holding portfolio	37.5%	25.0%	35.1%	-9.2%	40.0%	40.6%	26.2%
11	ETF issuing Institution	20.0%	21.9%	30.1%	-29.1%	40.0%	40.6%	20.4%

Table 34 – Important factors to achieve a higher than market average return
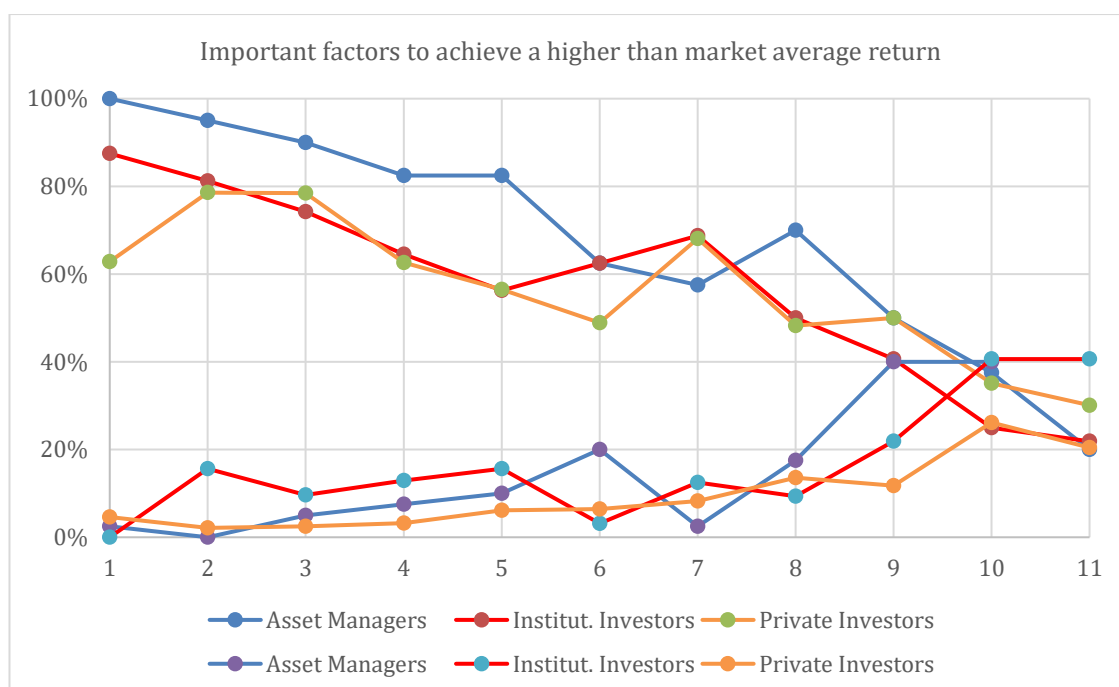
Figure 36 – Important factors to achieve a higher than market average return

5.3.12. Significant investment perceptions

These questions were primarily proposed to verify knowledge and experience levels. They therefore support the answers of my first research question but also validate some of the prior answers to important questions in the survey.

Extent of focus on diversification

This question asked if the investors now pay more attention to diversification.

As expected, and as previously demonstrated by Markowitz (1952), Statman (1987), Goetzmann and Kumar (2008) and many others, diversification was seen by 75% of the asset managers, 77% of the institutional investors and 62% of the private investors as imperative, in order to spread the risk of an investor's portfolio and optimize return. However, 26%, 23% and 38%, respectively, were neutral or disagreed.

It seems that over a third of the private investors and a large number of professionals did not comprehend the notion of diversification or believed that having only a limited number of products within their portfolio was a superior investment approach. This is in accordance with the previous question regarding the number of products within an investor's portfolio; 40% of the AMs, 28% of the IIs and 57% of the PI trusted in only 1 to 7 products; 20%, 10% and 27% were even only invested in 1 to 3 products.

When looking at the distribution of participants, in light of their beliefs about diversification, while holding merely 1 to 7 products within their portfolio, the results showed that the ones who disagreed that diversification was a vital concept were mainly the private investors with 21% (and 6% of the asset managers).

There were also institutional investors with a restricted portfolio, yet they either agreed or strongly agreed to 'now' paying more attention to diversification.

For this question, the benchmark for superior investing was the institutional investors.
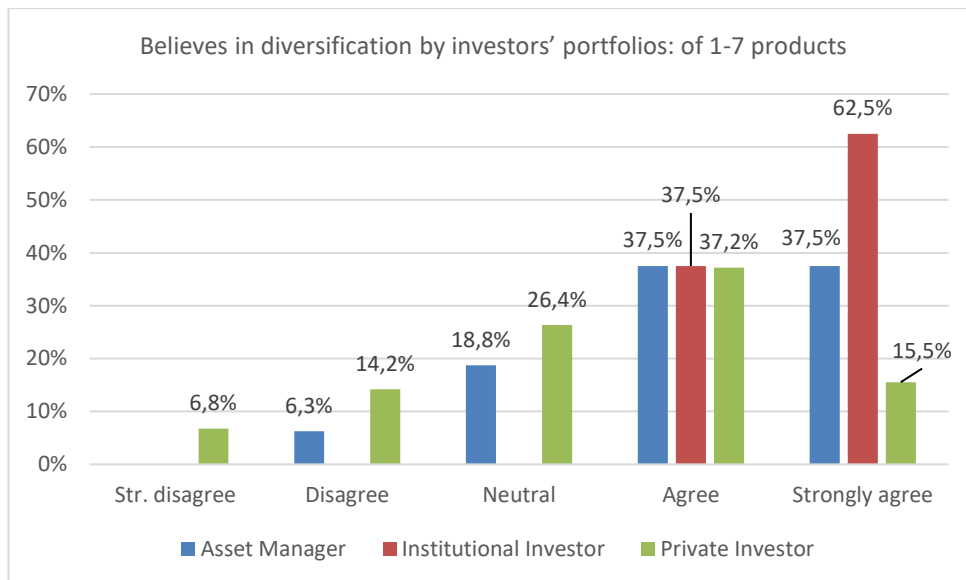
Figure 37 – Believes in diversification by portfolios consisting of 1-7 products

Investing for the short-term or long-term

This question asked if investors currently preferred to invest for the short-term as the long-term is uncertain.

As expected, 71% of the asset managers, 62% of the institutional investors and 56% of the private investors disagreed with the statement that they are investing for the short-term as the long-term is unsure; 19%, 15% and 25%, respectively, agreed.

This could be due to multiple reasons, i.e. the investor believes that markets are generally overheated or needs to have capital accessible for planned investments (buying a car, property, etc.) or simply because investors are not cognisant that betting for the short-term (i.e. stock picking, market timing) often carries higher risks.

The literature holds, if one does not have any short-term obligations, one should always have a long-term focus, independent of your age. Even investors of senior age do not need to invest for the short-term if they do not require their funds immediately, as their assets one day will be handed-over to children, relatives, friends or maybe to non-profit organizations or other beneficiaries (Swensen, 2002).

For this question, the benchmark for superior investing was the asset managers.

Investing in single shares of funds

This question asked if investors would currently prefer to invest in single shares than in funds.

14% more asset managers (46% vs. 32%) and 17% more institutional investors (43% vs. 26%) advocated for funds over single shares. 7% of the private investors, however, trusted that investments in single sharers were superior (36% vs. 43%).

These answers were unexpected, as I believed that the professional investors in particular would mainly opt for funds, as investments in single shares are too risky. Unless of course, they fostered a stock picking investment strategy or if that professional investor managed such large sums (assets under management) that they could replicate an index themselves by buying relevant stocks. The same would be true if the portfolio consisted 30+ companies with low correlation coefficients. Usually that is not the case, as the cost for managing these investments (i.e. research cost and trading fees) is too high or higher than buying a respective fund altogether.

Of course, many professional investors possess superior knowledge and employ the best analysts and portfolio managers, who have real-time access to financial information providers such as Bloomberg or Reuters. Yet, the past has shown that, despite the amount of information or advantages investors might have, companies do fold. Examples are manifold and include companies like Swissair, Enron, Arthur Anderson, Delta Airlines, Global Crossing, WorldCom, Lehman Brothers, Parmalat, General Motors, and Chrysler.

For this question, the benchmark for superior investing was the institutional investors.

Investing without emotions

This question asked if investors increasingly invest without letting emotions influence their investment decisions.

Surprisingly, 42% of the asset managers, 37% of the institutional investors and 56% of the private investors' investment decisions (incl. neutrals) were influenced by their emotions.

Omitting neutrals, the least emotional group was the institutional investors with 9% vs. 26% and 24% for the other two groups. On the positive side, almost two thirds of the professional investors (58% and 63%) agreed or strongly agreed that emotions were an inferior conception when it came to financial investing; yet only 44% of the private investors believed the same.

Robbins (2014), Siegel (2014), Stanyer (2010) and Stammers (2015) hold that investment decisions ought to be made based on facts and free from any emotions (assuming that 'facts' are devoid of emotional content). There are many who hold to this 'super-rationalist' perspective, who ignore, perhaps, the benefit of emotions, or other 'non-rational' elements in thinking, such as ethically-based investment.

One of the many examples when emotions are in play is when employees working for public companies, such as Lindt and Sprüngli, Swatch, UBS, etc., and exhibit an emotional attachment that is positive on the one hand but creates emotional bias on the other (see Stammers, 2015). They often hold stocks of their company, which they buy themselves and are further invested through shares or stock options plans. In addition, they increase their dependability on that company as they not only rely on their employer for their salary but also in regard to their pension money as part of their remuneration package. Overall, such trusted employees could end up with an overly-large portion of their income/wealth being invested in one company.

Another example are investors who are 'betting' on shares that are 'hyped', as described by Graham as early as 1949, when he illustrated the tremendous stock market loss of the brilliant Isaac Newton, or as later evidenced during the start-up/Internet rush when innumerable investors lost enormous sums (Vickers & Weiss, 2000).

Similarly, colleagues, friends or family members who have made profitable investments and talk or even brag about them, pose another prominent bias as one will never know for certain how these profits were obtained. Maybe they took on great risks. Generally, investors prefer to talk about their winners rather than their losers (Ellis, 2014).

For this question, the benchmark for superior investing was the institutional investors.

5.3.13. Considerations of investments in various asset classes

Shares/stocks

This question asked about the investors' opinion of the asset class shares/stocks as being a good investment.

Shares or stocks are the dominant asset class overall. 91% of the asset managers, 91% of the institutional investors and 86% of the private investors believed in this vehicle type.

When dealing with shares, most people think that an increase in the share price will generate profits but tend to forget, or are not aware of, that the share price itself is only one part of the equation. Equally important can be the dividends one may receive from holding stakes in a company, be it through direct investments or through funds (Gwilym, et al., 2010). As noted previously, re-investing dividends evidently leads to a more sustainable investment and to higher profit over the years, which is also attributed to the power of compounding interest (Bogle, 2009).

In addition, by buying shares of a public or private company, investors obtain the right to have a say in that company, which for many shareholders is a good enough reason for a direct investment. In Switzerland, this has a long tradition. It also has a social focus, when shareholders attend annual meetings and welcome the opportunity to network and to be entertained (Kuhn-Spogat, 2006).

Shares inherit negative characteristics too, as they are generally a relatively volatile asset class. This is especially true when compared to cash or fixed income investments in government bonds or US treasury securities, which provide a steady income (Ferri, 2006). However, if one invests wisely, the fluctuating share prices can be anticipated and should therefore not prevent investors from sleeping at night.

Furthermore, when shares are bought OTC (over the counter) and not on a stock exchange, buyers also face additional counterparty risk. For multiple reasons, a company, could cease trading or even to exist (Zweig, 2006).

However, and as explained earlier, shares in whatever form or shape are a key asset class for any astute investor, driving the potential profits of a diversified portfolio.

For this question, the benchmark for superior investing was the institutional investors.

Corporate bonds

This question asked about the investors' opinion of the asset class corporate bonds as being a good investment.

Corporate bonds are the second most favourable asset class as 83% of the asset managers, 80% institutional investors and 60% of the private investors opted for it.

These are somewhat unexpected results as corporate bonds, on the one hand, inherit various risks investors must be wary about, and on the other hand, show similar characteristics as shares. They in essence add to the equity quota of a portfolio.

Companies usually issue corporate bonds to raise funds for all kind of strategic or operational activities. They typically come as investment grade or high yield bonds that differ in the percentage of the coupons paid to investors, and consequently, in the risk inherent in that bond/company. Corporate bond prices move inversely with interest rates, as they become less attractive when interest rates rise, and more attractive when interest rates fall. This is because the coupon payment stays the same but substitute funds can be attained cheaper/more expensively.

They do offer some valuable advantages such as a stable and predictable income stream through periodical coupon payments that are usually higher than the coupons received from government bonds and often higher than dividend payments expected from common shares. On the other hand, they bear risks that some investors might not be aware of.

As they pay higher premiums than government bonds, corporate bonds often possess a call provision that allows the issuer to pay back the underlying principal (the funds the company loaned from the investors) before the official maturity date of the bond.

This typically happens when interest rates change, making the bonds unfavourable for the company. For the astute long-term investor, this poses an unnecessary uncertainty (re-investment risk) as they could be forced to find a new place for their funds. This could be of less value than initially anticipated when buying that corporate bond, constructing the portfolio respectively.

Corporate bonds also bear volatility risk, as credit rating agencies such as Standard and Poor's or Moody's constantly up and downgrade companies' credit ratings. This does not affect the interest payments but does affect the market price of the bonds. An unforeseen downgrade will cause the bond price to fall, affecting the bonds' liquidity (some investors might be forced to sell) and making it unattractive for other investors. Another main disadvantage is undoubtedly the credit risk, as bondholders could lose much of their funds, or even the entire investment, if the company becomes insolvent.

Swensen (2005) argues that if investors would receive a generous premium to compensate for credit risk, callability and illiquidity, then corporate bonds might earn a place in an investor's portfolio. However, as this is commonly not the case, corporate bonds actually provide less return than government bonds, when considering all risk factors.

For this question, the benchmark for superior investing was the private investors.

Real estate

This question asked about the investors' opinion of the asset class real estate as being a good investment.

The survey showed that only 49% of the asset managers were in favour of real estate, whereas 68% of the institutional investors and 61% of the private investors viewed it as a valuable asset class.

Real estate was the third most favoured asset class, which is approximately what I expected; yet, I was surprised that not more of the asset managers saw it the same way. Investments in real estate (rental apartments, office locations, retail stores, logistics properties, senior residences, hotels, etc.), whether through a managed fund or an ETF,

offer great value for any investor's portfolio and many advantages, especially in a low-interest rate market environment (Swensen, 2005).

As stated in the literature review, one of the main benefits is the low correlation with other asset classes like shares or bonds, which particularly holds true for direct investments in real estate, i.e. non-listed real estate funds, real estate foundations and direct mortgages. Those, unfortunately, are most often not accessible for the general investor. However, real estate investment trusts (REITs), to a greater extent than direct investments, are available for any investor and still add to diversification, as the value for property prices tends to fall and rise more slowly than share and bond prices.

Other advantages of investing in real estate, especially in REITs, are that 90% of the profits generated every year have to be paid out as dividends to the investors. Furthermore, non-direct real estate investments profit from high liquidity and are consequently tradable at the time when needed. Also, real estates are directly linked to the payments from tenants and tend to increase in inflationary environments. They also act as a hedge against inflation.

For this question, the benchmark for superior investing was the institutional investors.

Commodities

This question asked about the investors' opinion of the asset class commodities as being a good investment.

When it comes to investments in commodities, the opinions varied more. 62% of the asset managers (much more than 46% of the institutional investors and 52% of the private investors) believed that commodities were vital for a portfolio.

As of the literature, commodities are also an important asset class in order to diversify an investor's portfolio beyond shares and bonds. Commodities exist in many different forms but are generally raw material used to produce innumerable goods. Examples of commodities are industrial metals - copper, lead, zinc, aluminium or tin, precious metals like gold, silver, platinum or palladium; energy commodities - oil, natural gas, and heating

oil, or agricultural products - wheat, cocoa, sugar, oat or soybean, but also livestock such as cattle or hogs.

There are many different ways for investors to obtain commodities. They can buy them on the future market by engaging in a contract to buy or sell a specific quantity to an agreed price fixed now - but in the future, through direct investments into commodity stocks or through ETFs or managed funds.

Buying futures is a risky undertaking for general investors, even for the professional ones, as this market is very volatile. Futures were invented in the 1840s for farmers (who would sell) and dealers (who would buy) to commit to future exchanges of grain for cash. These deals worked for both, as the farmers knew in advance how much they would get paid and the dealers what cost would be incurred.

Further down the line, these contracts were sold off to other parties if a dealer did not want that grain anymore or if a farmer did not want to deliver anymore. The prices would therefore rise and fall depending on the supply and demand within the wheat market. Today, most buyers and sellers of commodities have no intention of producing or selling the actual product, they just speculate, hoping to buy low and sell high.

If investors want to diversify their portfolios, direct investments in commodities are another option, as they are less prone to price swings than futures.

A feasible way for the general investor to make use of commodities for diversification purposes is through ETFs, as they track the prices of certain commodities or groups of commodities without the investor investing 'directly' or through futures (Swensen, 2005). The buyer can therefor obtain a broad range of companies specializing in i.e. agriculture, metals or livestock at very low cost. On the contrary, commodity investments, through active managed funds, are the alternative, which come at higher cost but with the possibility that those active managers will pick the winners.

For this question, the benchmark for superior investing was the asset managers.

Gold

This question asked about the investors' opinion of the asset class gold as being a good investment.

Concerning gold, investors seemed to be more cautious. 63% of the asset managers and 47% of the private investors, but only 37% of the institutional investors saw gold as a valuable asset class.

This is perhaps due to the fact that gold has only been on the rise for the past 10 years (the last cycle: up to April 2013, the time the survey was taken) so investors may have thought that the upper boundary has been reached. Looking at the following two years (May 2013 – April 2015), this may hold true as gold devalued around 25%. Yet, one could argue that the price for shares has only been on the rise as well, yet almost all investors during the last years were in favour of that asset class. Why is this?

Do investors simply have a better understanding of investments in shares than in gold? On closer inspection, that argument is invalid as shares during the subprime and financial crisis took an enormous hit while gold increased by more than 90% between 2008 and 2011, and much more until 2013. Gold preserves wealth, which is one reason why the international monetary fund (IMF) holds about 20% of all gold reserves, whereas many other central banks also stocked up their reserves during the past years (IMF, 2015).

Gold is simple to obtain as one can either buy physical gold, or purchase shares or ETFs that are invested in this precious metal. One of the many advantages of gold is that it generally correlates negatively with other asset classes like shares, real estate, etc., and therefore serves against currency devaluation but also as a hedge against a rising inflation when investors are realizing that their purchasing power decreases.

In other words, if the majority of investors believe that equities are over-inflated, or worse, a severe economic crisis would materialise as happened several times in Argentina in the 1970s, 1980s and 2001 (The Economist, 2014) or in some of the European countries like the PIICS states (Portugal, Italy, Ireland, Greece, Spain) since 2009, we would subsequently find gold prices on the rise again.

One of the few disadvantages of gold is that such investments do not pay any dividends or coupons and that the gold price is very difficult to predict, as are prices for other asset classes and products.

Considering the above, gold is a viable asset class, especially in stressed markets, a meaningful protection against an overall loss of confidence in the monetary system (Mercer, 2011).

For this question, the benchmark for superior investing was the asset managers.

Cash

This question asked about the investors' opinion of the asset class cash as being a good investment.

Surprisingly, 56% of the asset managers, 57% of the institutional investors and 41% of the private investors trusted that cash was a vital asset class.

Certainly, the news is constantly talking about interest rate issues, stimulus programmes that could end (USA) or will be enhanced (Europe), overheated stock markets or worldwide economic and political uncertainties that could steer investors to keep money as cash. There are viable advantages, as cash is a way to preserve capital, especially in downturn markets and it also offers the benefit of financial liquidity and is therefore quickly assessable. As long as inflation is near zero, the damage to an investor's cash position is minimal.

For this question, the benchmark for superior investing was the asset managers.

High yield bonds

This question asked about the investors' opinion of the asset class high yield bonds as being a good investment.

High yield bonds were not favoured by most of the investors as only 51% of the asset managers, 38% of the institutional investors and 32% of the private investors placed faith in this asset class.

The SEC (Security Exchange Commission, 2013) defines high yield bonds as a type of corporate bond that offers a higher rate of interest because of its higher risk of default. When companies with a greater estimated default risk issue bonds, they may be unable to obtain an investment-grade bond credit rating. As a result, they typically issue bonds with higher interest rates in order to entice investors and compensate them for this higher risk. In other words, high yield bonds are also called junk or below-investment grade bonds. They are debt obligations with a ranking that is according to the rating agency Standard and Poor's, BB or lower, or Ba or lower on the Moody's scale. Investments in such vehicles are remunerated with a higher premium (coupon) that ought to compensate investors for the additional risk they are infusing into their portfolios.

One could argue that high yield bonds have their place within an investor's portfolio, i.e. due to their usually higher yields, as they are less affected by interest rates shifts and therefore do not precisely correlate with shares or investment grade bonds, hence adding value to a diversified portfolio. In addition, should a company that has issued high yield debt obligations become insolvent, bond holders would enjoy higher priority than equity holders and therefore get paid first.

The literature shows that the offered premium is rarely justified or high enough as the disadvantages are just too manifold and often underestimated. Investors must withstand higher volatility than with other asset classes but most of all the risk of a company defaulting on their obligations, which is true for almost 3% of all companies (The Economist, 2013).

In addition, as with corporate bonds, most high yield bonds have a call option attached to them that permits the issuing company to refund the debt prematurely. In other words, if market conditions or interest rates change in favour of the debt issuer, they will want to re-issue their bonds at lower interest rates, leaving the investors trying to find another feasible investment opportunity much sooner than planned, and most likely to inferior conditions.

High yields on junk bonds on the outset seem to be attractive for investors, especially in the current low-interest rate environment, but as soon as interest rates are on the rise again, or if an economy slips into a recession, those investors might find themselves in a doomed situation.

For this question, the benchmark for superior investing was the private investors.

Government bonds

This question asked about the investors' opinion of the asset class government bonds as being a good investment.

Government bonds were the second least favourable asset class with around 40% of the professional investors and 47% of the private investors considering them as an investment.

The SEC (Security Exchange Commission, 2014) describes government bonds as a debt obligation where investors are lending money to a government, municipality, or a federal agency known as the issuer. In return for the loan, the issuer promises to pay investors a specified rate of interest during the life of the bond and to repay the face value of the bond (the principal) when it matures or is due. In contrast to shareholders, bondholders do not own a part of the institution that is issuing the bond.

Generally, bond prices decrease when bond rates increase, which results in investors making bets on interest rate expectations. To continuously determine interest rate changes, and therefore ideal bond prices or the perfect timing to invest in bonds, is impossible for the experienced investor, and certainly unlikely for the general investor.

While it is true that Swiss government bonds currently yield almost no or even negative return and pose downside risk on the principal as soon as interest rates start to increase, these bonds are still vital for a well-diversified portfolio as they function as a safety net (excellent diversifier with low risk, higher return than cash and high liquidity) if share markets and other negatively correlated asset classes decrease.

In Europe particularly, where many economies are still struggling and where the European Central Bank (ECB) in March 2015 has started to buy governments bonds worth 60 billion Euros every month until September 2016, investors do not yet need to worry too much about substantial increases of interest and bond rates. The same is true for Switzerland, which is not only highly dependent on the European markets but fears a recession due to the rising Swiss Franc against the Euro (as of June 2015). Many industries, such as export and tourism, dread losses of revenues and profits. This is still true as of August 2017.

To weaken the Swiss Franc, and to foster inflation, at the end of 2014 the Swiss National Bank, has enforced a penalty on institutions holding Swiss deposits (The Guardian, 2014). It became the first national bank in history to sell a 10-year bond at a negative interest rate of -0.055% (Financial Times, 2015), and is thinking to further increase negative interest rates from - 0.75% to - 1.50% (Reuters, 2015).

Thus, the question will be as to what portion of a well-diversified portfolio needs to be invested in government bonds and with which durations; and if there are feasible alternatives that provide similar characteristics but generate positive returns, i.e. Swiss covered bonds, medium-term notes or deposit funds of cooperatives (Depositenkassen von Genossenschaften).

For this question, the benchmark for superior investing was the private investors.

Hedge funds

This question asked about the investors' opinions of the asset class hedge funds as being a good investment.

As expected, 38% of the asset managers, 34% of the institutional investors and 48% of the private investors disagreed with the statement that hedge funds are a beneficial investment. Only 20% of the private investors, 21% of the institutional investors and 41% of the asset managers believed in this asset class.

The SEC (Security Exchange Commission, 2012) describes hedge funds as funds that pool investors' money to apply flexible investment strategies, like borrowing to increase

investment exposure and therefore risk, short-selling and other speculative investment practices, in an effort to achieve extraordinary returns (The Economist, 2014).

There is significant consensus that hedge funds are a positive influence on the diversification effect of investment portfolios, as they show low correlation with most other asset classes (Amenc, Martellini and Vaissie, 2003). On the other hand, they are generally seen as aggressive investment options, trying to generate above-market average returns while inheriting multiple risks.

Next to the fact that hedge funds are not subject to regulations that are enacted to protect investors, one of the major drawbacks of hedge funds are the excessive costs investors have to pay, even more so for fund of hedge funds. Usually, they charge a high management fee at around 2% per annum, but on top of that, a performance fee that is typically 20% of whatever the fund earns per year. They often charge other administration fees as well (Ellis, 2002; Swensen, 2005).

Not only must hedge fund managers therefore achieve returns that are at least so high that they can make up for those fees, but they also often find themselves investing very aggressively in order to leverage on the performance fee. Moreover, there is stark empirical evidence, that, in line with the mutual fund managers, there are only a very few hedge fund specialists who are capable of beating the market consistently.

There is also an on-going debate as to whether their success is attributed to their skills or just luck. Hence, most hedge fund managers, and therefore their clients, lose money (The Economist, 2014). Likewise, research by Grecu, Burton, Malkiel and Saha (2006) concludes, that hedge funds very often fail within their first years or cease reporting their performances at a later stage. Not, as some would argue, because they are too successful and therefore do not require additional funds anymore, but simply because they just fail.

For this question, the benchmark for superior investing was the private investors.

		Vote for it				Vote against it		
		Asset Managers	Instit. Investors	Private Investors	Total	Asset Managers	Instit. Investors	Private Investors
1	Shares/stocks	90.5%	91.2%	86.0%	256.4%	4.8%	2.9%	3.5%
2	Corporate bonds	83.3%	79.4%	59.5%	194.5%	4.8%	11.8%	11.3%
3	Real estate	48.8%	67.6%	61.4%	137.0%	14.6%	11.8%	14.4%
4	Commodities	61.9%	45.7%	52.1%	104.4%	19.0%	17.1%	19.1%
5	Gold	63.4%	37.1%	47.4%	95.8%	12.2%	22.9%	17.1%
6	Cash	56.1%	57.1%	40.7%	80.6%	19.5%	20.0%	33.8%
7	High yield bonds	51.2%	38.2%	31.8%	36.2%	19.5%	32.4%	33.2%
8	Government bonds	40.5%	40.0%	46.7%	31.6%	45.2%	28.6%	21.8%
9	Hedge funds	41.0%	20.6%	19.6%	-49.2%	38.5%	44.1%	47.8%

Table 35 – The investors' opinions about investing in certain asset classes
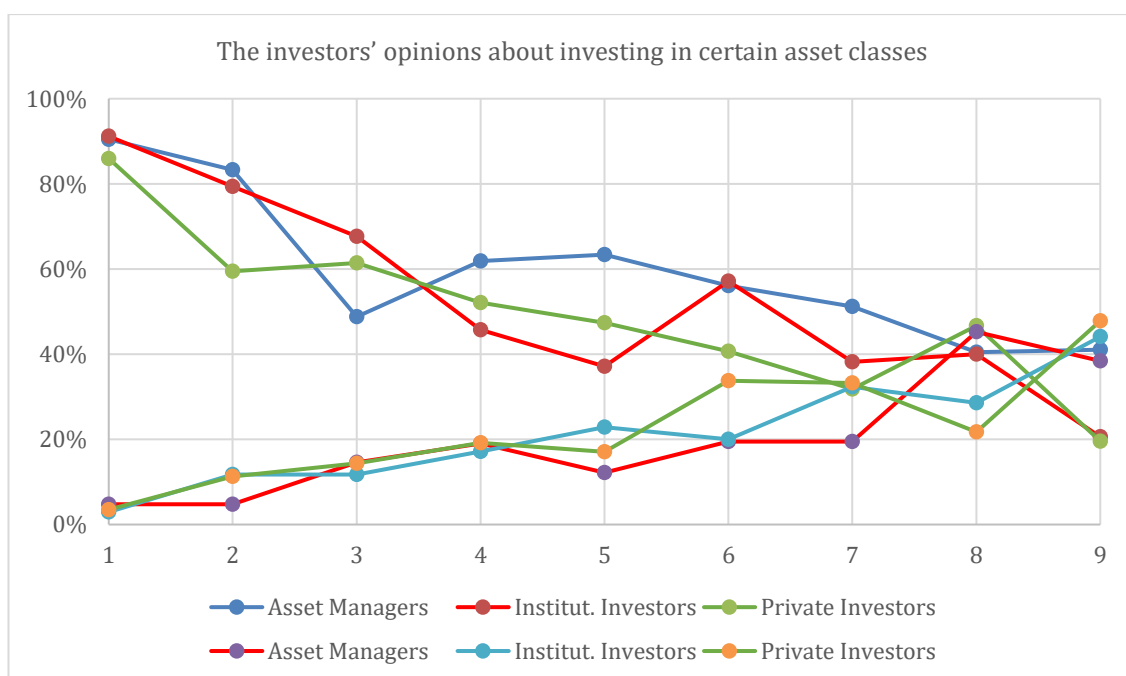
Figure 38 – The investors' opinions about investing in certain asset classes

5.3.14. Considerations of investments in various markets

All investors

These questions asked about the investors' opinions of investments in various markets.

Overall, investments in emerging markets (247%) were most favoured amongst the three investor groups, followed by investments in Switzerland (240%). Germany (175%) and the US markets (163%) with around 25% less support ranks third and fourth.

With the latter, only half of the private investors thought that the US was worth investing, vs. 76% of the asset managers and 66% of all institutional investors. When it comes to Europe (144%), the private investors were even less convinced (46% v. 63%, 68%). The numbers further decreased for Australia / New Zeeland (96%) and the UK market (74%). Amongst every market in discussion, the private investors were the group with the highest proportion opposing an investment.

The questions, however, did not ask how much of a portfolio would be placed in the various markets. Nevertheless, it is surprising that emerging markets were favoured so strongly, as those markets, besides offering interesting possibilities, are rather volatile and bear various hazards like currency, liquidity or interest rate risks and certainly the possibility to default on obligations. It is controversial whether investors are adequately compensated for the risk they are taking (Vandersteel, 2010). It is further interesting that investors trusted the US rather than the general European or UK markets.

For a well-balanced portfolio, a wide range of equities within applicable asset classes are important but also diversification through currencies, e.g. Euro, UK pound or US Dollars, with the largest part invested in the base currency, e.g. Swiss franc for investors living in Switzerland. From this point of view, the investors showed a good understanding voting not only for the Swiss markets. Conversely, a study by Birchler, Volkart, Ettlin, and Hegglin (2010) showed that the majority of Swiss investors only invest in the Swiss market, which indicates a home bias.

The above analysis was a result of all participants, regardless of their residence. Consequently, this portrays a misleading picture as the base currency varied from country to country and 54 of the 376 participants lived in 12 additional countries. The following analysis will only encompass investors living in Switzerland and investors from Germany, the second largest participants group.

		Asset Managers	Institut. Investors	Private Investors	Total	Asset Managers	Institut. Investors	Private Investors
1	Emerging countries	90.2%	81.8%	81.7%	246.4%	0.0%	3.0%	4.3%
2	Swiss	82.9%	84.8%	81.4%	239.8%	2.4%	3.0%	3.9%
3	German	67.5%	71.4%	56.6%	174.9%	7.5%	2.9%	10.2%
4	United States	75.6%	65.7%	52.5%	163.1%	9.8%	5.7%	15.2%
5	Europe	63.4%	67.6%	45.7%	143.9%	4.9%	8.8%	19.1%
6	United Kingdom	48.8%	42.4%	37.2%	96.2%	12.2%	6.1%	14.0%
7	Australien / NZ	45.0%	51.5%	25.5%	73.8%	12.5%	9.1%	26.6%

Table 36 – The investors' opinions about certain markets – all investors
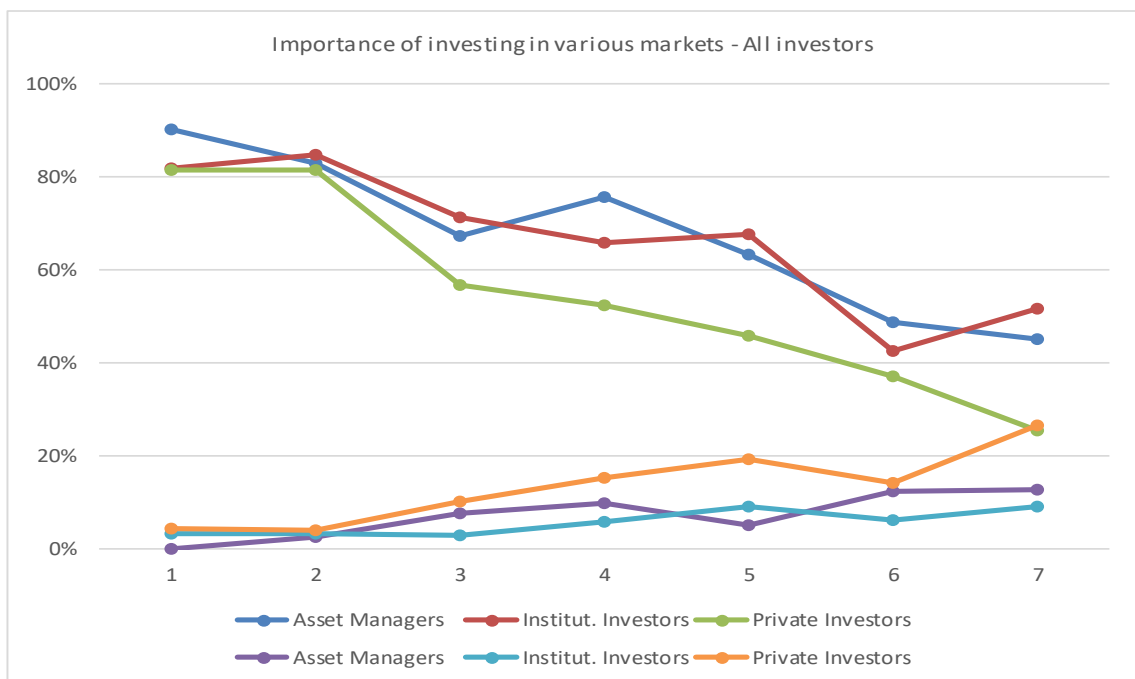
Figure 39 – The investors' opinions about certain markets – All investors

Switzerland and Germany based investors

As assumed, when discounting the non-Swiss investors, investments in the home market were top ranked (248%), yet still emerging markets followed second (243%) while investments in the other markets remained more or less the same.

It is surprising to see that there were some asset managers and private investors who would not place any capital into the Swiss market at all.

		Vote for it				Vote against it		
		Asset Managers	Institut. Investors	Private Investors	Total	Asset Managers	Institut. Investors	Private Investors
1	Switzerland	83.8%	86.2%	83.8%	248.6%	2.7%	0.0%	2.5%
2	Emerging countries	91.9%	78.6%	80.5%	243.2%	0.0%	3.6%	4.2%
3	Germany	66.7%	70.0%	55.1%	169.4%	8.3%	3.3%	10.7%
4	United States	75.7%	63.3%	51.5%	161.0%	10.8%	3.3%	15.4%
5	Europe	62.2%	65.5%	45.0%	138.2%	5.4%	10.3%	18.8%
6	Australian / NZ	45.9%	39.3%	34.0%	84.9%	13.5%	7.1%	13.7%
7	United Kingdom	41.7%	51.7%	25.4%	76.5%	13.9%	3.4%	25.0%

Table 37 – Swiss based investors' opinions about certain markets – Swiss investors
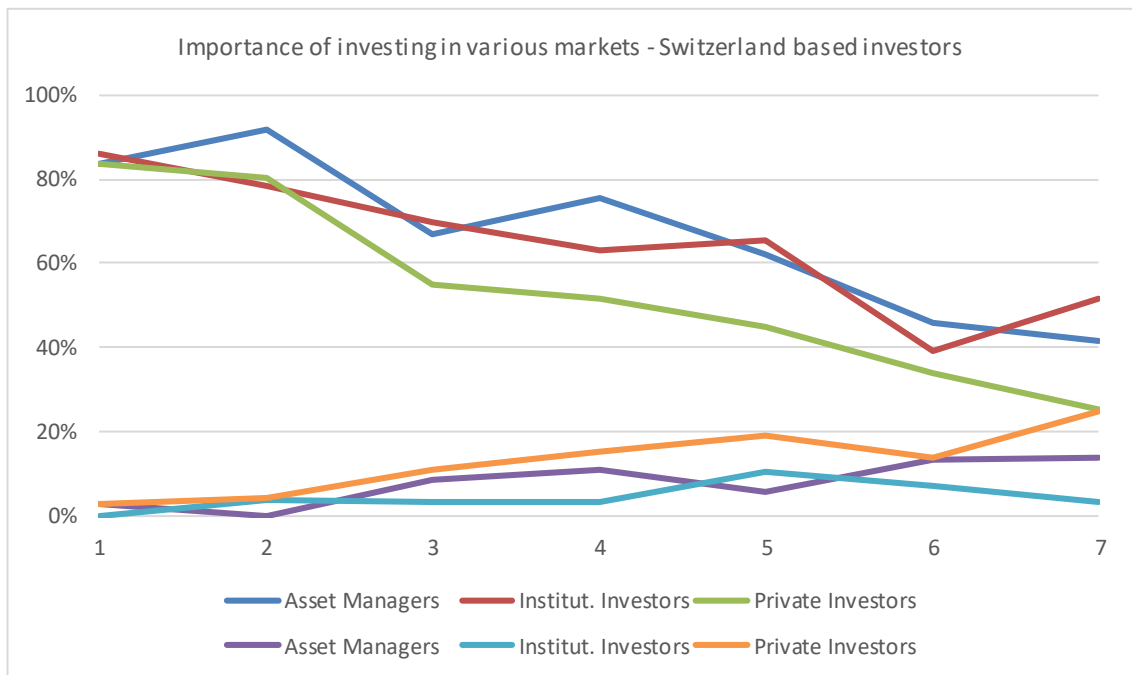
Figure 40 – The investors' opinions about certain markets – Swiss investors

Looking at the German participants only, the picture did not look as expected, as investments in emerging markets (273%) were most favourable, followed by their home market (260%). The difference was marginal and most likely explained by the smaller number of participants. It is interesting though (but assumed) that this group was placing higher emphasis on the general European market (220%) as these investments are too in their home currency.

For this question, the benchmark for superior investing was both the asset managers and the institutional investors.

		Vote for it				Vote against it		
		Asset Managers	Institut. Investors	Private Investors	Total	Asset Managers	Institut. Investors	Private Investors
1	Emerging countries	100.0%	100.0%	86.7%	273.3%	0.0%	0.0%	13.3%
2	German	100.0%	66.7%	93.3%	260.0%	0.0%	0.0%	0.0%
3	Europe	100.0%	66.7%	60.0%	220.0%	0.0%	0.0%	6.7%
4	Swiss	100.0%	66.7%	84.6%	202.6%	0.0%	33.3%	15.4%
5	United States	100.0%	66.7%	38.5%	141.0%	0.0%	33.3%	30.8%
6	Australien / NZ	100.0%	33.3%	15.4%	110.3%	0.0%	0.0%	38.5%
7	United Kingdom	100.0%	33.3%	7.7%	28.2%	0.0%	66.7%	46.2%

Table 38 – The investors' opinions about certain markets – German investors
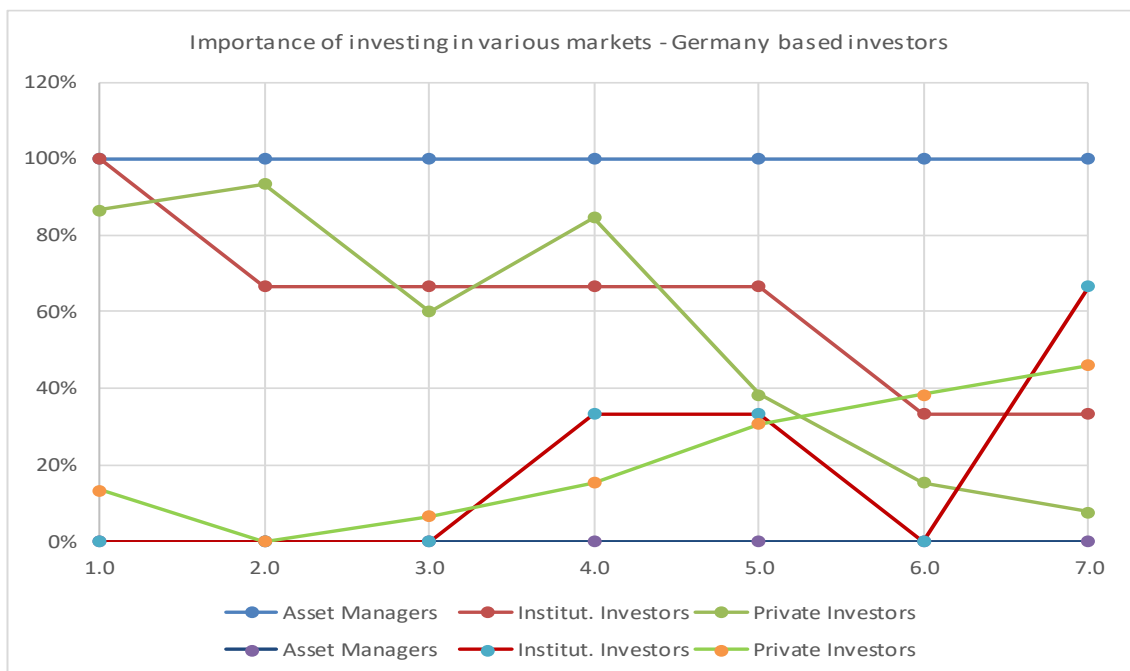
Figure 41 – The investors' opinions about certain markets – German investors

5.3.15. Importance of various investment criteria

The next set of questions sought to identify differences amongst the asset managers, institutional investors and private investors with respect to a series of seven factors identified as major investment criteria in the literature.

Investors' knowledge of a company

This question asked about the investor's knowledge of a company they wanted to invest in as being a valuable investment criterion.

The analysis unexpectedly showed that 75% of the asset managers, 84% of the institutional investors and 83% of the private investors found their knowledge of a company to be the most important investment criterion (221%). This translated to investors most likely following a single share investment strategy over funds. The issue otherwise would be, that if one buys an index like the Euro Stoxx 50 or the S&P 500, one could never have sufficient knowledge about all relevant firms represented by that index.

In addition, an outsider would most probably never have adequate knowledge of a firm that would give them a clear indication about the company's future earnings and share prices. Even employees in top management positions within public traded firms cannot foresee what is going to happen, as the share price depends on numerous other internal and external dynamics, like the success of a newly launched product, probable litigations, the state of the economy, their industry, interest rates, possible investments or divestments and so forth. Even if you were to know everything possible, obvious physical growth (expansion, merger, acquisition, revenue) does not automatically translate into profits for investors, especially when earnings are not in-line with analysts' expectations (Graham, 1949).

For this question, the benchmark for superior investing was the asset managers.

The dividend rate

This question asked about the dividend rate as being a valuable investment criterion.

The dividend rate was voted as the second most important investment criteria with a combined result of 172%. Breaking it down, 63% of the asset managers, 69% of the institutional investors and 67% of the private investors opted for it. This factor has 20% less support than the knowledge of the firm. The dividend rate is crucial as wealth can easily and truly increase if investors constantly earn and re-invest dividends stemming from either single share investments or funds (Hubble, 2013).

To illustrate this, Gwilym, et al., (2009) studied consistent dividend growth strategies, as they believe, that dividend income, and its reinvestment, result in strong equity return and therefore in increased wealth. They refer to a Barclay study cited by Bond and Brask (2005) that exemplifies if £100 had been invested in UK shares in 1899, and all dividends

paid re-invested, it would be worth £13,311 in real terms in 2006. The same £100 without re-investments of dividends would be worth just £213. Similarly, as previously stated, Bogle (2010) points to compound interest as one of most advantageous elements in investing, which in essence translates to re-investing dividends yielded.

For this question, the benchmark for superior investing was the institutional investors.

Past performance

This question asked about past performance being a valuable investment criterion.

Past performance was the third most important investment criterion (142.5) with 58% of the asset managers, 56% of the institutional investors and 75% of the private investors trusting in it. However, 20%, 19% and 8%, respectively were of the opinion that past performance was no indicator of future outcomes, which is also what most mutual funds declare (or some variation of it).

Looking at historical performance might provide an idea of how successfully a company conducted business in the past and what could happen to the price of a security, ceteris paribus. However, many academics and professionals (Graham, 1949; Ellis, 2002; Swensen, 2005; Stanyer, 2010; Indexology, 2014) declare that this criterion is not material and that it does not play a vital role for sustainable long-lasting investments. Many companies have evidenced this – one needs to look only, for example, at the share prices of Swiss blue-chip companies over the last decade (Swissquote, 2015).

For this question, the benchmark for superior investing was the institutional investors.

A low P/E ratio

This question asked about the P/E ratio as being a valuable investment criterion.

A low P/E ratio is important (124%), but most investors (50% asset managers, 52% institutional investors and 46% private investors) were neutral about it. This may be either because many investors do not understand this ratio, or others are largely indifferent to it.

Calculating a company's P/E ratio, it is supposed to tell investors how many years that company has to produce current earnings to arrive at its current market share value. In other words, generally, the lower a P/E ratio, the less expensive and more attractive the stock, the higher the P/E value, the more expensive it is.

The price-earnings ratio has been a long-time measure and indicator by financial analysts, who trust that a low P/E ratio tends to be followed by fast growth in a share price, or that sectors or markets with a high P/E ratio are overheated. For instance, the long-term price-earning average of the S&P 500 is 17; and when it reaches ≥ 19, analysts tend to believe that the market is over-priced and under-priced at ≤ 15 (Allen, 2015).

As the above is widely argued, I am listing two examples that show that the P/E ratio is not the only truth when it comes to choosing an investment. As of May 15, 2015, Netflix showed a P/E ratio of 159 (Nasdaq, 2015), which would be a clear indicator that this share price is highly inflated and investors should stay away. Yet, they do not, and trading volumes are still very high (as of 2017). IBM on the other hand, had a P/E ratio of 10 while trading volumes tend to stay the same. Hence, every investor should jump in and buy, but they do not as multiple other factors need to be taken into consideration when buying a share e.g. the industry, sector, investment in R&D, management, growth potential and so forth.

Therefore, while the P/E ratio is an easily understood metric for investors to form an opinion about a stock, one need to be cautious of its shortcomings. No single ratio can tell investors all they need to know about a stock (Siegel, 2014).

For this question, the benchmark for superior investing was the institutional investors.

The industry the company is in and the size of the firm

These questions asked about the industry of the company and about the size of the firm (large-cap) as being a valuable investment criterion.

In the middle of the investment criteria ranking was the industry the company is in, with 91% (36% of the asset managers, 75% of the institutional investors and 58% of the private investors) and the importance as to whether a company is a large enterprise, (measured

by market capitalization) with 80% (31%, 48% and 53%, respectively). With both criteria, it is interesting to see that the asset managers in particular (33%, 28%) disagreed with the statement.

These results certainly leave room for interpretation, as the questions did not relate to possible investment strategies, for example. If an investor only focuses on small-capitalized firms then the first criterion has no merit. Likewise, if investors are only focusing on certain industries, then the industry criterion is highly important.

Thus, both criteria are important if one has, along with other principles, superior knowledge of an industry (against Graham, 1949) or fully comprehends large-cap companies and its respective rewards and risks.

For this question, the benchmark for superior investing was the asset managers.

Passive or active managed funds

These questions asked about the importance of active vs. passive managed funds as being valuable investment criterion.

When it comes to investing in either passive or active managed funds, the answers are generally neutral with a plus on the passive side (27%) and a minus on the active side (-3.9%). Only 39% of the asset managers, 31% of the institutional investors and 25% of the private investors voted for active managed funds and 33%, 30% and 33%, respectively, for passive products.

There is a long-lasting and on-going debate as to which method of fund investing is more sensible. It should only be the 'customer investor' for whom the active vs. passive choice needs to make sense. On the one hand, there are numerous retail and investment banks, asset managers, and other organizations constructing active managed funds to be sold to professional and private investors, with a promise, that these products would be special and outperform others and the market (Balling, et al., 2008).

On the other hand, there is a vast number of academics and experts (Ellis 2002; Swensen, 2002; Zweig, 2006; Bogle, 2007; Goldie and Murray, 2010) who have found that only a

very limited number of fund managers, if any - were it possible to consider all time periods and managers - who actually outperform the market in the long-run.

Therefore, amongst other reasons, the number of ETFs available (Aggarwal and Schofield, 2012) as well as the money invested in ETFs and other indexing products keeps increasing fast (Oyedele, 2015). The literature holds, that one of the main reasons why active managed funds still form the larger portion (vs. passive indexing) are the fees that banks, asset and fund managers can charge their clients for such products.

Typically, an active fund costs 3 to 5% in 'issuing fees', 1 to 3% per annum for managing the fund and at times another 1.5 to 2% of the final amount when selling it. This is in contrast to ETFs, for example, which only cost 0.2 to 0.6% for the management fee. As a result, the general fund manager has not only to beat the market, hence an ETF, but has to be over and above the market in order to recover all expenses. In other words, an active fund manager needs to be around 2.7% better than the market average when holding a respective fund for five years, and around 3.7% when holding a fund for three years. This seems to be impossible as several studies mentioned above have found. Ellis (2002) illustrates the logical reason behind this.

Imagine you had the necessary capital to employ the top experts in the investment field, such as the best analysts, the chief quant physicists and the most skilled portfolio managers who would have real-time access to Bloomberg and Reuters, and who were talking to the top-management of all significant firms around the globe. What in essence would you accomplish? You would have employed the market - because all these professionals are in fact the market. Consequently, it would be more sensible buy the market in the form of an ETF or index and to pay much less than trying to find an expensive fund manager who may beat it.

As expected, the asset managers were the investor group that favoured active products the most. As mentioned, prior, this could be due to their business model that centres on receiving commissions in form of retrocessions (kickbacks) for products they sell, as opposed to really identifying the products that most benefit the clients.

For these questions, the benchmark for superior investing was the institutional investors for passive management and the private investors for active management.

Location and social responsibility as investment criteria

These questions asked about the importance of the company invested in being Swiss and socially responsible investing as being valuable investment criteria.

The conditions whether the company invested in is Swiss (20%) or ethical aspects/green investing (-19%) are overall not important investment criteria. Yet, as expected, both criteria found more support within the private investor group. Indeed, whether the company is Swiss does not really seem to be too relevant, as a sustainable diversified portfolio rather requires investments in multiple asset classes and currencies (Brinson, Hood and Beebower (1986); Ibbotson and Kaplan, 2000).

Sustainable and responsible investing (SRI), on the other hand, finds more and more support by the general investment community (Simpson, 2014). The private investors may opt for it because of an emotional bias (they want to do something good). However, many investors, especially the professional ones, may have a real interest in investing in companies or indices that specifically exclude firms that focus on producing or trading goods such as alcohol, tobacco, weapons, pornography or on countries that disregard human rights.

For these questions, the benchmark for superior investing was the asset managers for the company being Swiss and the institutional investors for ethical aspects.

		Vote for it				Vote against it		
		Asset Managers	Institut. Investors	Private Investors	Total	Asset Managers	Institut. Investors	Private Investors
1	Knowledge of company	75.0%	84.4%	82.6%	220.7%	12.5%	6.3%	2.5%
2	Expected dividend rate	62.5%	68.8%	66.7%	171.7%	10.0%	9.4%	6.9%
3	Past performance	57.5%	56.3%	75.1%	142.5%	20.0%	18.8%	7.6%
4	Low P/E ratio	50.0%	51.6%	45.6%	123.8%	7.5%	6.5%	9.5%
5	Industry of company	35.9%	75.0%	58.2%	91.4%	33.3%	15.6%	28.7%
6	Large cap company	30.8%	48.4%	53.3%	80.0%	28.2%	9.7%	14.5%
7	Product is passive fund	32.5%	30.0%	33.3%	26.5%	32.5%	13.3%	23.5%
8	Company is Swiss	30.0%	37.5%	41.4%	20.0%	42.5%	21.9%	24.5%
9	Product is active fund	38.5%	31.3%	24.6%	-3.9%	35.9%	25.0%	37.3%
10	Ethical aspects	27.5%	15.6%	39.2%	-18.9%	40.0%	37.5%	23.7%

Table 39 – The importance of various investment criteria
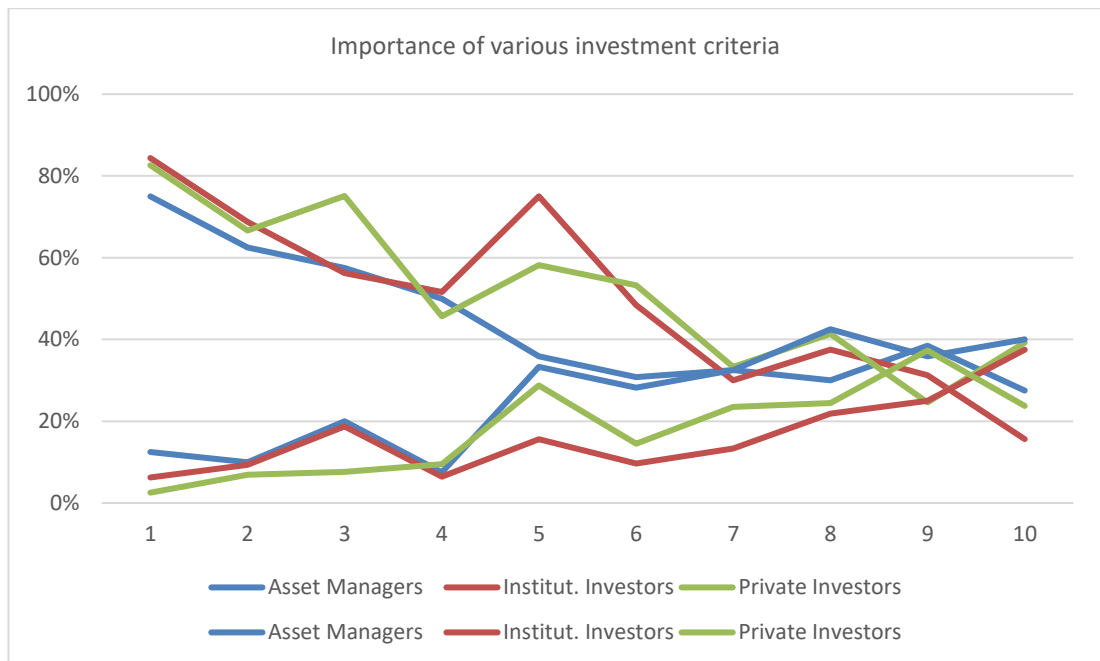
Figure 42 – The importance of various investment criteria

5.3.16. Importance of various investment strategies and applications

Finally, the last part of the initial inquiry sets out to discuss investment strategies that were applied by the three investor groups, in order to identify the differences amongst the asset managers, institutional investors and private investors and the main investment approaches by these market participants.

Asset allocation

This question asked about the asset allocation as being a valuable investment strategy / application.

The analysis showed that 87% of the asset managers, 71% of the institutional investors and 61% of the private investors favoured asset allocation as the most viable investment strategy / application (198%).

These results were expected as there is convincing evidence (Brinson, Hood and Beebower, 1986; Black and Litterman, 1991; Sharpe, 1991; Ibbotson and Kaplan, 2000; Ellis, 2002; Swensen, 2005; Ferri, 2006; Marston, 2011; Schlachter, 2013) that understanding and choosing the various asset classes (shares, government bonds, real

estate, gold, etc.) to subsequently allocate funds, is one of the prime investment activities investors should engage in and master.

The professional investors shared these views, but not all private investors did fully comprehend the notion of asset allocation. This might be the reason, why this strategy/application ranked only fifth amongst the private investors and why more than a third of them were neutral about it. However, the challenging question is, which asset classes to select for which respective risk profile.

For this question, the benchmark for superior investing was the asset managers.

Fundamental analysis

This question asked about fundamental analysis as being a valuable investment strategy.

Fundamental analysis was rated as the second most important investment strategy (175%) with 66% of the asset managers, 76% of the institutional investors and 63% of the private investors opting for it. I had suspected that (overall) investors would judge value investing or dividend investing as being more important. There is only so much you can find out about any company (balance sheet, P&L, various ratios, quality of management, other qualitative aspects, etc.) but dividends and P/E ratios, for example, of all listed companies, can be established without diving into details.

Looking at it in a more holistic way, the literature holds that fundamental analysis is one of the cornerstones of investing as it is not only companies that can be profoundly evaluated, but also industries and economies as a whole.

On a company level, there are a number of fundamental questions that require answers concerning growth potential; whether it actually generates profits, if its position is so strong that it can outperform competitors in the long-run, if it's able to repay its debts or to finance its research and development or expansion and if the management is trying to steer the company too much in their own favourable direction. On a broader scope, important aspects are the direction an entire industry is taking, the innovation power of that industry and on an even larger scale, if certain markets as a whole are worth investing (maturity, political stability/turmoil, growth potential, risk and reward, etc.).

Therefore, engaging in fundamental research most likely results in better informed investment decisions (Thomsett, 2000).

For this question, the benchmark for superior investing was the institutional investors.

Value investing

This question asked about value investing as being a valuable investment strategy.

As anticipated, value investing next to asset allocation and fundamental analysis, drew most attention (170%) with 69% of the asset managers, 72% of the institutional investors and 53% of the private investors in favour of it. It also showed the second lowest number in opposition (6%, 7% and 12%, respectively).

Value investing is at the core of many famous investors e.g. Benjamin Graham, who was also the mentor of Irving Kahn, or Philip Carret, John Templeton, Warren Buffett, David Dreman (Bernstein, 2005; Town, 2007; Lowenstein, 2008) or John Neff who over three decades at Vanguard Windsor and Gemini funds, realized a 5600% return (Rediff, 2010). Jeremy Grantham who was one of the three founders of GMO is another example of a successful value investor (author's comment).

Buying shares at a price lower than their intrinsic value increases the investor's chance of earning profits when they are sold and it makes them less likely to lose money (or a substantial amount of value) if they do not perform as anticipated.

Unlike other investment strategies, value investing is fairly easy to understand, as it does not require extensive experience in finance nor, for example, the knowledge and techniques as to how charts can be analysed and interpreted. It 'only' really requires the readiness to do some reading, an understanding of how to calculate and interpret company data, money to invest and patience.

Value investing is something most people do on a regular basis without knowing. For instance, when they know the true value of something but only buy things when they are on sale (clothing, holidays). The prime difference is that consumer goods are often on sale during the same period each year, making them quite predictable.

On the contrary, shares are not, but if one is willing to find the secret sale, shares can be bought at a bargain price too. Buying shares 'on sale' increases the investors' chance of earning profits later when they sell them and it makes them less likely to lose money if they don't perform as anticipated.

This key principle to successful value investing is called 'the margin of safety' and was first introduced by Graham (1949), who is said to be the father of value investing. He would only buy shares when they were valued at two-thirds or less of their intrinsic value. Yet, as stated within the literature review, what determines initial 'intrinsic value' remains a moot point. This was the margin of safety that he felt was essential to earn the best returns while minimizing investment risk. His two other rules were to profit from volatility and to know yourself (suppress emotions). Much of Buffett's success can be attributed to those three principles too.

Value investors like Graham or Buffett do not necessarily believe in the efficient-market hypothesis, which stipulates that share prices take all information about a company into account (Markowitz, 1952). Instead, they trust that shares are frequently overpriced, i.e. because investors have become overly excited about a new technology or company (i.e. Uber, Netflix) or under-priced, when the economy as a whole, or an industry, is performing poorly. Investors then panic and sell off their shares (great depression, internet bubble, subprime and financial crisis). Another successful value investor, as referred to by Templeton and Phillips (2008), was John Templeton, who became famous for investing at the maximum time of pessimism. When other investors thought that a certain country or company was hopeless, he was just getting interested.

The consequence of value investing was also demonstrated by Dreman (1998). He analysed stocks returns from 1970 to 1996 and found that shares with a price-earnings ratio (P/E ratio) in the bottom quintile (rather under-priced) yielded 19 percent per annum, while those in the highest quintile (rather over-priced) returned only 12.3%. Besides buying low and selling high, other typical characteristics of value investors are that they are contrarians as they do not follow the herd and they believe in a companies' recovery, as long as they are offering valuable consumer products while their fundamentals remain strong. They think about buying shares for what they actually are - a percentage of ownership in companies.

For the above reasons, it is surprising, that only half of all private investors understand value investing as a viable investment strategy.

For this question, the benchmark for superior investing was the institutional investors.

Dividend investing

This question asked about dividend investing as being a valuable investment strategy.

An investment strategy that focuses on dividend yields and its re-investment was popular amongst 59% of the asset managers, 66% of the institutional investors and 66% of the private investors.

Dividend investors value the advantage of receiving steady payments from companies they invested in and the prospect to re-invest those payments to purchase additional shares. Such companies usually enjoy the reputation of being financially healthy and stable and correspond with Grahams view, stated by Zweig (2006), that the most persuasive test of high quality companies is an uninterrupted record of dividend payments going back over many years. Moreover, those companies also often increase, not only their dividend payments, but also their share-price, adding to the positive returns for investors.

While dividend payments are not guaranteed, such companies will work hard not to disappoint their shareholders. In addition, since dividend-paying companies are typically less risky and less volatile, they offer possibilities for people who want to generate income over the long run or i.e. for investors approaching retirement to generate a superannuation income. Another benefit proves valuable even if a company's share price declines, as the dividend yield inversely corresponds with that share price. Hence, if the share price drops, the percentage of dividend yielded increases. On the negative side, investors ought to be aware and cautious about companies paying high or very high dividends as these consequently bear higher risks.

It is interesting to see that of the three investor groups, the asset managers showed the least support for dividend investing but the highest percentage (11%) in opposition, especially since knowledgeable investors would appreciate the notion of both investing

dividends and compounding interest. This could be another indication, as mentioned prior, that asset managers would rather focus on actively managing portfolios to generate profits from selling and trading assets.

For this question, the benchmark for superior investing was the institutional investors.

Growth investing

This question asked about growth investing as being a valuable investment strategy.

Growth investing ranks in the middle of all the investment strategies in question, with 56% of the asset managers, 53% of the institutional investors and 64% of the private investors voting for it.

Growth investors invest in companies with a higher than market average potential for growth. Compared to value investors, growth investors would still buy shares of a company, even if they appear expensive in terms of measures such as the P/E or P/B ratio (price to book ratio).

Buffett once concluded that there is not much difference between value and growth investing as both investment styles are joined at the hip and focus on the intrinsic values of companies. However, a Dreman and Berry (1995) study showed, that value stocks decline less with bad news but react more favourably to earnings surprises than growth stocks do. If this holds true, and since such surprises occur frequently, these differences are substantial over the long run. Nonetheless, it seems that Buffett was correct, as Skinner and Sloan (2000) evidenced, that the phenomenon described by Dreman and Berry (1995) can be explained by a large and asymmetric response to negative earnings surprises for growth stocks.

The literature holds that assessing companies regarding their growth potential is not an easy task, as one really needs to study all fundamental available information and compare it to other companies and their relevant industries.

For this question, the benchmark for superior investing was the institutional investors.

Stock picking

This question asked about stock picking as being a valuable investment strategy.

It is surprising (given the weight of contrary evidence available) that more than half of all professional investors (50% asset managers, 53% institutional investors) and 64% of the private investors believed that picking individual shares was a superior investment strategy. Likewise, only 16% of the asset managers and 14% of the private investors but 22% of the institutional investors were opposed to it.

As stated, Ellis (2002) identified that investment professionals execute 90% of all public trades at the NYSE, and that the 100 largest institutions conduct 75% of all trades. It follows, that almost every time an individual buys a share (stock picking), they are betting against the 'best and the brightest', most disciplined and rational, supplied with valuable information by thousands of analysts who are highly motivated, hard-working and very competitive. Conclusively, as of Ellis (2002), Swensen (2005) and many other academics and professionals, stock picking (or timing the market) is a mediocre investment strategy – at least if one wants to invest successfully and sustainably.

There are undoubtedly some exceptional investors such as Lynch, Buffett or Soros who take risky bets, but the vast majority of investors are ineffective at picking the right stocks. Even Robertson, one of the most successful hedge fund managers, suffered from enormous losses at the end of the 90s, due to poor stock picking (Karchmer, 2000).

For the above reasons, trying to pick the winners is very challenging. The best one would hope to achieve over the long run is 50% wins and 50% losses, resulting in continuous losses, due to the cost for trading and holding the portfolio.

For this question, the benchmark for superior investing was the institutional investors.

Active investing vs. passive investing

These questions asked about active fund management vs. passive fund management (indexing) as being valuable investment strategies.

Regarding investments in active managed funds, the support was as strong as anticipated as 60% of the asset managers, 58% of the institutional investors and 52% of the private investors opted for it. 16%, 18% and 19%, respectively were not in favour. Passive investing on the other hand enjoyed less support with only 51% of the asset managers; 55% of the institutional investors and just 40% of the private investors being in favour. 27%, 7% and 22%, respectively, were against it.

Generally, these results are not surprising as the previous numbers showed strong support for asset allocation, value or dividend investing but also for stock picking. However, active investing won over passive investing.

The literature (and experience) states that during the last decades, as described previously, the business models of many professional investors fostered active management. There was simply more money to be made through obtaining retrocessions or other forms of kick-backs (commissions), paid by the investment firms launching and managing funds. For the issuing firms, active (mutual) funds are also very lucrative, as they not only request a management fee of 1.5 to 2.5% per annum, but often a up to 20% performance fee from the achieved portfolio return. In addition, investors commonly pay a front-end load fee (sales fee) of 3.5 to 5% and regularly another 'sales fee' (back-end load) at the point of redemption.

To illustrate this, the fund issuer, Ahead Wealth Solutions AG, charges 7.61% per annum for their 'Dorico Equity Fund R' (Morningstar, 2015). This fund was incorporated in January 2015 and lost 25% in the first year, while the MSCI World index for instance gained more than 10%. To recoup this 25% will take years of stable performance if invested wisely. Another example is the 'Global Gold & Silver Mining Fund' by BFC Fund Management AG that charges a staggering 9.3% per annum and has lost 65% since 2014 (Morningstar, 2015). The latter has disappeared in the meantime, as of July 2017.

On the contrary, no fees have to be paid by obtaining and redeeming passive vehicles such as index funds or exchange traded funds (ETFs), and no money (retrocessions) is to be gained by asset managers and banks trading with such products. Consequently, it is not in the nature of an asset manager or a bank to market low cost and low-income products.

The accumulation of above-mentioned fees for active managed funds results in a total expense ratio (TER) of around 2-3% per year. As a consequence, the investors (banks, asset managers, private investors) need to perform the equivalent of the TER better than the market, hence better than the average investor. This may be possible for a year or two but usually (and as evidenced) not in the long run.

Nowadays, at least in Switzerland, generating money through retrocessions is forbidden as the high court in 2012 ruled (Giroud & Nadelhofer, 2015) that such commissions belong to the investor and not to the asset manager. Not surprisingly, it did not take long until asset managers and banks, on the one hand increased their overall management fees, but on the other hand, invented new costs to compensate for the missing revenue streams.

Therefore, the vast majority of asset managers and banks still promote active managed funds as they generate more revenue, compared to selling passive products. However, numerous studies, by both scholars and practitioners as mentioned above, paint a different picture and determine that almost no active manager outperforms the respective index in the long-run. If this holds true, the question then becomes: which type of fund would banks and asset managers recommend/market if the commission for selling active and passive funds were equivalent?

For these questions, the benchmark for superior investing was the institutional investors for passive management and the private investors for active management.

Buy and hold

This question asked about buy and hold as being a valuable investment strategy.

It is surprising that, next to passive investing, the buy and hold strategy also ranks within the bottom 30% of all investment strategies in question. Only 49% asset managers, 52% of the institutional investors and 58% of the private investors believed in it. 27%, 13% and 11%, respectively, were in opposition.

Buy and hold is a passive strategy whereby an investor buys shares, bonds, funds, etc. and holds them for a long time. Such investors typically do not worry about short-term price movements but rather focus, after a careful selection, on long-term profitability.

Many private investors unknowingly engage in this strategy, as they purchase a few shares at one time and then more or less forget about them, leaving their portfolio untouched. Typical buy and hold investors were/are Graham, Buffett, Munger, Bogle and Templeton. Glassmann (2002) cited Carett, Buffett and many others as some of the greatest investors in history, whose fortunes were made by sitting on good securities for years, rather than by active trading.

A comparison conducted by Sincera Asset Management (2011) found that CHF 100,000 invested in Swiss Market Index Total Return (SMI TR) in 1996, within a buy and hold strategy, resulted in CHF 254,000 by 2010. The same amount invested, but missing the 10 most lucrative trading days, resulted in only CHF 130,000. Conversely, missing the 10 worst trading days would have achieved an astounding CHF 470,000. However, omitting the 10 best and 10 worst trading days would have resulted in more or less the same amount as a normal buy and hold strategy would have yielded.

Likewise, Price, cited in Ellis (2002), evidenced that $1 invested in the S&P 500 that missed the 90 best trading days in the 10 years from June 30, 1989, to June 30, 1999, would have lost 22 cents and would have made only 30 cents if it missed the worst 60 days – but would have made $5.59 by staying fully invested. Conversely, sidestepping the 90 worst trading days would have yielded $42.78.

As before, the asset manager group formed the biggest group in opposition. Again, one could conclude that a simple buy and hold strategy, even if proven successful, does not support the business models of banks and asset managers.

For this question, the benchmark for superior investing was the private investors.

Technical analysis

This question asked about technical analysis as being a valuable investment strategy.

Technical analysis, often contrasted with fundamental analysis, ranked in the bottom quintile of the survey, with only 30% of the asset managers, 35% of the institutional investors and 31% of the private investors approving of it. Roughly, the same numbers did not trust that technical analysis was a viable strategy.

Fundamental analysis focuses on the real characteristics (industries, businesses, management, products/services, R&D, potential to innovate, financials, etc.) of a company to evaluate what they are worth at present and in the future. Technical analysis, on the other hand, is concerned with the emotions of the market and tries to anticipate the directions of securities by analysing statistics, such as past prices, trading volumes, buying and selling behaviours, trends and so forth. Technical analysts use charts, and numerous other tools, to detect patterns that should reveal future directions of securities.

Famous technical investors were/are Dalio, Schwartz, Sperandeo, Simons, Cohen or Seykota; while Seykota was too one of the pioneers of computerized trading. Even though some investors are successful with this strategy, most of them are not (Birinyi, 2013).

Companies may collapse for a variety of reasons, e.g. if the management or any employee has falsified the company's financial statements. This is something one cannot anticipate by the means of technical analysis. Of course, this is difficult for any investor to pick up, but at least the fundamentalists have a bigger chance of finding out prior to an investment, or at least before it is too late. Conclusively, some fundamental analysis will also fail to spot such companies (bad investments) but certainly all (due to their means of analysing and investing) all technical experts will (Lo & Hasanhodzic, 2009).

Text and news analytics for investing is a new way for analysts and investors trying to identify signals that deliver them an advantage on the stock market. The concept is to track and analyse news flows and text sentiments in large, unstructured datasets, thereby mining data in a split second for investment-related information. Usually, the goal is to incorporate findings into trading strategies and algorithms, to back-test investment theses, or to improve risk-monitoring activities. Finding such information of interest in large, textual databases is becoming easier as semantic analytics technologies mature (Rhea, 2015).

For this question, the benchmark for superior investing was the asset managers.

Value averaging

This question asked about value averaging as being a valuable investment strategy.

Value averaging was classified as the least favoured investment strategy as only 13% of the asset managers, 20% of the institutional investors and 18% of the private investors supported it. The majority of investors were neutral about it and 26%, 40% and 32%, respectively, labelled it as a poor or very poor way to invest money.

I presumed that value averaging would rank within the top third of all investment strategies and was therefore astounded by the results. I can only assume that the vast majority of investors, both private and professional, simply possessed no knowledge about it or identified too many disadvantages with this concept.

Value averaging is a method in which investors define a certain periodical growth target, therefore sporadically purchasing different quantities of additional shares, bonds, funds, etc. depending on the performance of the portfolio. For example, you start with a portfolio worth CHF 50,000 and define a growth target of CHF 500 per month. If the portfolio after one month is worth CHF 50,250, you would buy additional i.e. shares worth CHF 250 (CHF 50,500 – 50,250). Conversely, if the portfolio is worth CHF 49,600, you would buy shares for CHF 900 (CHF 50,500 – 46,600).

It works in a similar way to the dollar cost averaging strategy (DCA), but with periodical adjustments instead of steady purchases (Marschall, 2000). The main goal of value averaging is to buy more shares, bonds, funds, etc. when prices are falling and less when they are rising. By doing this, an investor's portfolio will quite closely resemble average market returns. Edleson (1991) described the simple rule of value averaging in making the value (not the market price) of your stock go up by a fixed sum each month or period.

To my understanding, there are only two downfalls to value averaging. Firstly, it can become costly in highly volatile markets and secondly, the fees for often buying smaller numbers of shares or ETFs, for example, will add up, hence decreasing the overall profit. To combat the potentially negative aspects, one could set realistic growth goals (incremental adjustments), find a custodian (broker/bank) that offers the investment products for the smallest fees, and adjust maybe quarterly instead of monthly.

For this question, the benchmark for superior investing was the asset managers.

		Vote for it				Vote against it		
		Asset Managers	Institut. Investors	Private Investors	Total	Asset Managers	Institut. Investors	Private Investors
1	Asset allocation	86.8%	71.0%	60.9%	198.4%	2.6%	12.9%	4.8%
2	Fundamental analysis	65.7%	75.9%	63.4%	175.4%	8.6%	10.3%	10.7%
3	Value investing	68.6%	72.4%	53.4%	169.8%	5.7%	6.9%	12.0%
4	Dividend investing	59.5%	65.6%	65.8%	163.7%	10.8%	6.3%	10.1%
5	Growth investing	55.6%	53.3%	63.6%	144.5%	8.3%	10.0%	9.7%
6	Stock picking	50.0%	53.1%	63.7%	115.2%	15.8%	21.9%	13.9%
7	Active investing	59.5%	57.6%	51.7%	115.3%	16.2%	18.2%	19.1%
8	Buy and hold	48.6%	51.6%	57.7%	107.1%	27.0%	12.9%	10.9%
9	Passive investing	51.4%	55.2%	40.2%	91.4%	27.0%	6.9%	21.5%
10	Technical analysis	30.6%	34.5%	30.8%	-8.9%	36.1%	37.9%	30.8%
11	Value averaging	12.9%	20.0%	17.9%	-47.1%	25.8%	40.0%	32.1%

Table 40 – The importance of various investment strategies
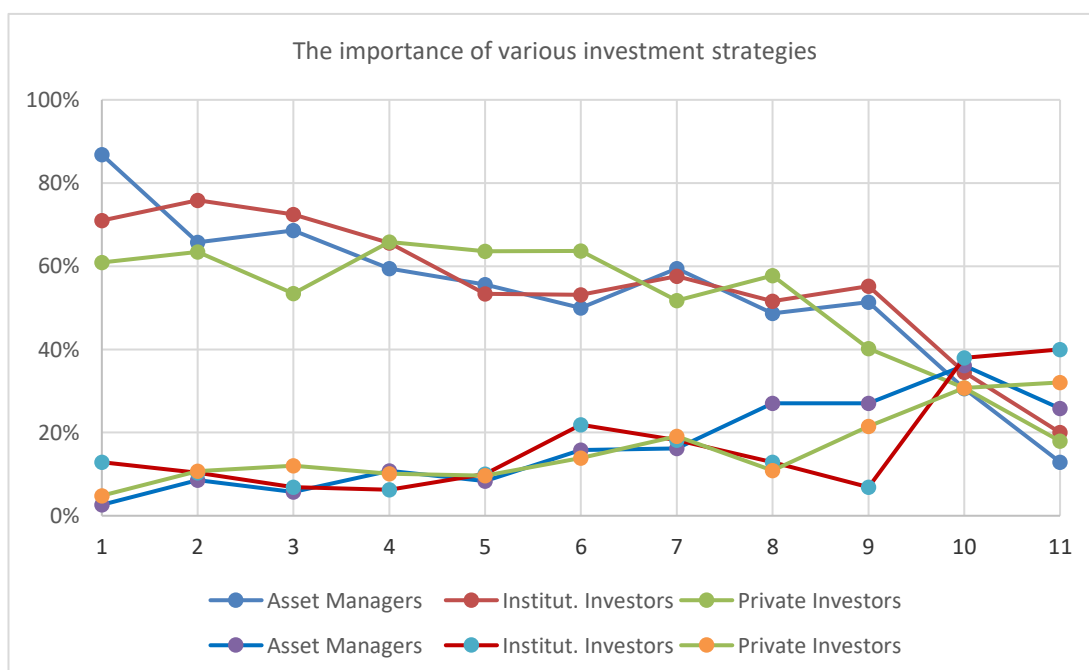
Figure 43 – The importance of various investment strategies

The first section of this descriptive analysis (frequency tables) and discussion (based on the frequency breakdown in relation to existing literature and practice), led to suggestions regarding the 'benchmark investor group' for each question. This is summarised below within the scoring table. The one-point scores are summed across all categories to provide an overall score, which is then cast as a percentage of the points available.

5.3.17. Scoring results by initial investor type

Survey question	Asset manager	Institut. investor	Private Investor
Self-rating of investment knowledge in correlation with experience	1		
How investors make their investment decisions		1	
Change of asset manager due to loss of trust or investments into own funds		1	
Risk profile that suits the investors best	1	1	1
How many products within an investor's portfolio		1	
How much of ones savings is invested			1
Investment duration		1	
Expected return		1	
Tolerance for loss		1	
I can explain what an option is	1		
I can explain what an asset class is	1		
I can explain what a coupon is	1		
I can explain what a future is		1	
I can explain the fee structure of shares	1		
I can explain what a structured procucts is	1		
I can explain what the P/E ratio is	1		
I can explain the fee structure of passive managed funds	1		
I can explain what rebalancing is	1		
I can explain the fee structure of active managed funds	1		
The importance of asset allocation	1		
The importance of the investment duration	1		
The importance of the product choice		1	
The importance of reducing TER	1		
The importance of reducing retrocessions			1
The importance of the product choice		1	
The importance of rebalacing	1		
The importance of the active versus passive choice		1	
The importance of the purchasing price	1		
The importance of re-investing dividends	1		
The importance of the bank holding the portfolio		1	
The importance of the institution issuing ETFs		1	
At 25% fee reduction, an investor would change to an online assset manager		1	
At 50% fee reduction, an investor would change to an online assset manager		1	
I now pay more attention to diversification		1	
I now rather invest for the short-term as the long-run ist uncertain	1		
I now rather invest in single shares than in funds		1	
I now rather invest without letting emotions influence my decision		1	
Consideration of investing in the asset class shares		1	
Consideration of investing in the asset class corporate bonds			1
Consideration of investing in the asset class real estate	1		
Consideration of investing in the asset class commodities		1	

Survey question	Asset manager	Institut. investor	Private Investor
Consideration of investing in the asset class gold	1		
Consideration of investing in the asset class cash			1
Consideration of investing in the asset class high yield bonds			1
Consideration of investing in the asset class government bonds			1
Consideration of investing in the asset class hedge funds			1
Investing in various markets	1	1	
An investor's knowledge of a company as an important investment criteria	1		
The dividend rate as an important investment criteria		1	
The past performance as an important investment criteria		1	
The P/E ratio as an important investment criteria		1	
The industry of the company as an important investment criteria	1		
The size of the company (large-cap) as an important investment criteria	1		
Passive fund management as an important investment criteria		1	
Active fund management as an important investment criteria			1
The company being Swiss as an important investment criteria	1		
Sustainable investing as an important investment criteria		1	
Asset allocation as an important investment strategy	1		
Fundamental analysis as an important investment strategy		1	
Value investing as an important investment strategy		1	
Dividend investing as an important investment strategy		1	
Growth investing as an important investment strategy		1	
Stock picking as an important investment strategy		1	
Acitve fund management as an important investment strategy			1
Passive fund selection as an important investment strategy		1	
Buy and hold as an important investment strategy			1
Technical analysis as an important investment strategy	1		
Value averaging as an important investment strategy	1		
Total score for superior investments in absolute numbers	28	32	11
Total score for superior investments in percent	**39.44%**	**45.07%**	**15.49%**

Table 41 – Score for superior investment acumen

6. Distinguishing private from professional investors (statistics)

6.1. Statistical analysis Research Question 1

This chapter investigates the statistical nature and dependencies amongst important variables for RQ1:

How do private and professional investors differ (if at all) in terms of their knowledge, experience, and investment approaches (investigating the first Dreyfus related categories)?

It is divided into two segments. The first one focuses on the general knowledge base and experience (independent variables Q13, 14, 15, 16) in relation to the dependent variables (primary investor groups). The second segment focuses on both the investment criteria and strategies (independent variables Q17, 18, 19, 20, 21, 24, 25, 27, 29, 30, 31, 32). Most of the broad questions have a number of subsidiary elements, as is shown in the table below.

The following table shows a list of the independent variables in discussion.

Q13	My increasing investment knowledge influences my investment decisions.
Q14-1	I now pay more attention to diversification of my financial investments.
Q14-2	I now rather invest for the short-term as the long-run is uncertain.
Q14-3	I now rather invest in Single Stocks/Shares than in Funds.
Q14-4	I now rather invest without emotions influencing my investment decisions.
Q14-5	I changed my money manager because I lost trust in them/him.
Q14-6	I changed my bank because they mostly suggested high commission / own funds.
Q15-1	I can explain Asset classes.
Q15-2	I can explain Coupons.
Q15-3	I can explain Futures.
Q15-4	I can explain Options.
Q15-5	I can explain PE/Ratio.
Q15-6	I can explain Rebalancing.
Q15-7	I can explain Structured products.
Q16-1	I can explain the fee structure of active manged funds.
Q16-2	I can explain the fee structure of passive managed funds.

Q16-3	I can explain the fee structure of shares/stocks.
Q17-1	I believe in an investment in Cash.
Q17-2	I believe in an investment in Commodities.
Q17-3	I believe in an investment in Corporate bonds.
Q17-4	I believe in an investment in Gold.
Q17-5	I believe in an investment in Government bonds.
Q17-6	I believe in an investment in Hedge funds.
Q17-7	I believe in an investment in High yield bonds.
Q17-8	I believe in an investment in Shares/stocks.
Q17-9	I believe in an investment in Real estate.
Q18-1	I believe in investing in Australia / NZ.
Q18-2	I believe in investing in Emerging markets.
Q18-3	I believe in investing in Europe (general).
Q18-4	I believe in investing in Germany.
Q18-5	I believe in investing in Switzerland.
Q18-6	I believe in investing in UK.
Q18-7	I believe in investing in USA.
Q20-1	I am a risk-averse investor whose main priority is safety.
Q20-2	I am rather risk-averse but expect an attractive return on my investment.
Q20-3	I am not risk averse nor a risk taker; I am happy if my wealth stays the same.
Q20-4	For higher potential returns, I am willing to accept higher levels of risk.
Q20-5	I am a risk taker but expect superior returns.
Q24-1	I favour Active investing.
Q24-2	I favour Asset allocation.
Q24-3	I favour Buy and hold.
Q24-4	I favour Dividend investing.
Q24-5	I favour Fundamental analysis.
Q24-6	I favour Growth investing.
Q24-7	I favour Passive investing.
Q24-8	I favour Stock picking.
Q24-9	I favour Technical analysis.
Q24-10	I favour Value averaging.
Q24-11	I favour Value investing.
Q29	I would change to an Online Asset Manager to save 25% TER.
Q30	I would change to an Online Asset Manager to save 50% TER.
Q31-1	This is an important investment criterion: Company is a large-cap.
Q31-2	This is an important investment criterion: Swiss company.
Q31-3	This is an important investment criterion: Ethical aspects.
Q31-4	This is an important investment criterion: Expected dividend.
Q31-5	This is an important investment criterion: Knowledge of company.

Q31-6	This is an important investment criterion: Past performance.
Q31-7	This is an important investment criterion: Active managed fund.
Q31-8	This is an important investment criterion: Passive managed fund.
Q31-9	This is an important investment criterion: Low PE/Ratio.
Q31-10	This is an important investment criterion: Industry the company is in.
Q32-1	This is an important outperformance criterion: Rebalancing.
Q32-2	This is an important outperformance criterion: Reducing retrocessions.
Q32-3	This is an important outperformance criterion: Re-investing dividends.
Q32-4	This is an important outperformance criterion: Active vs. passive funds.
Q32-5	This is an important outperformance criterion: the choice of Asset classes.
Q32-6	This is an important outperformance criterion: the choice of Products.
Q32-7	This is an important outperformance criterion: the bank holding the portfolio.
Q32-8	This is an important outperformance criterion: the purchasing price.
Q32-9	This is an important outperformance criterion: the duration of the investment.
Q32-10	This is an important outperformance criterion: the TER (Total expense ratio).
Q32-11	This is an important outperformance criterion: the company issuing ETFs.

Table 42 – List of statistical variables
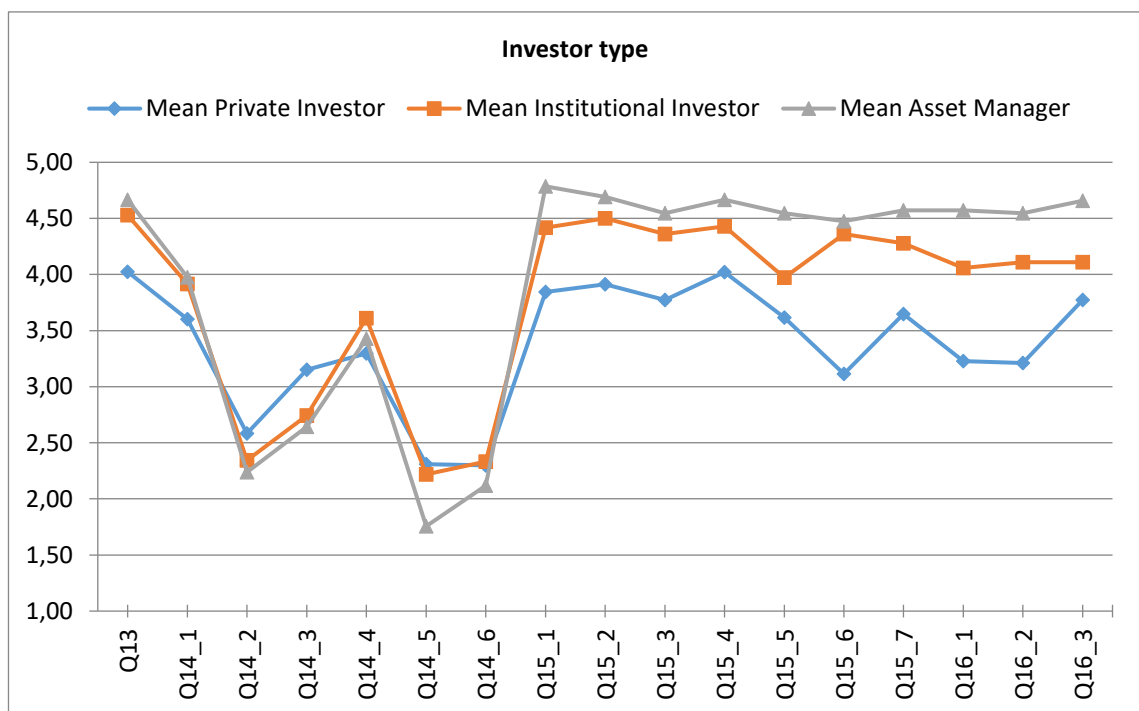
Figure 44 – Investor type vs. variables 13-16_3
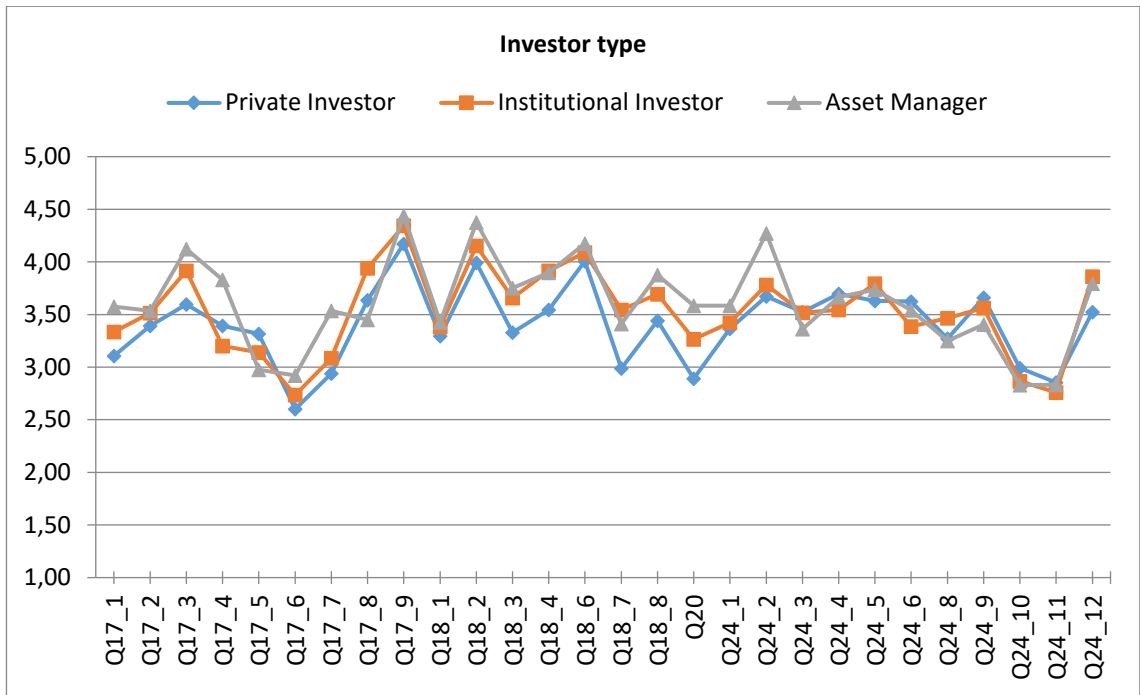
Figure 45 – Investor type vs. variables 17-24_12
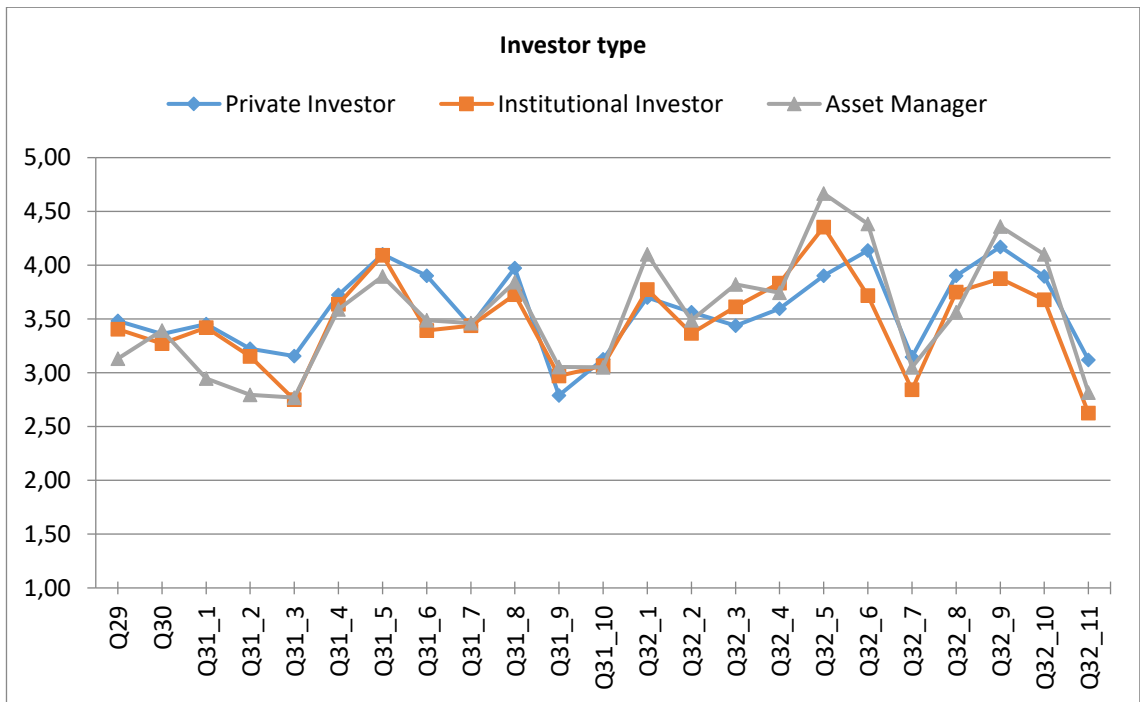
Figure 46 – Investor type vs. variables 29-32_11

6.1.1. Factor analysis – Area 1 (knowledge, expertise)

The statistical analysis is primarily conducted in SPSS and based on Field (2009) and Knapp (1979). To answer this research question, first a factor analysis is applied to questions Q14 and Q16 in order to summarize similar data, so that relationships and

patterns can be better understood and interpreted (Field, 2009). The resulting factors are used in addition to Q13 and Q15 to conduct a discriminant analysis in order to distinguish private and professional investors, based on knowledge, experience and expertise.

I used the principal component analysis as an extraction method to find a shared term for variables with high loadings on single factors and to reduce the dimension/number of variables. As Field (2005) suggests, the number of components can be determined on the basis of Eigenvalues. Thus, Eigenvalues are calculated for all components. The higher the Eigenvalue of a component, the higher is the proportion of explained variance of the original variables through this component. Components with an Eigenvalue < 1 will be dropped, as this is the usually-employed statistical threshold for the creation of factors. According to the Eigenvalues in the table below, three components should be used, which explain 69% of the variance.

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	1,757	29,288	29,288
2	1,294	21,565	50,854
3	1,117	18,623	**69,476**
4	,878	14,637	84,113
5	,664	11,068	95,181
6	,289	4,819	100,000

Table 43 – Eigenvalues factor analysis Q14

Field (2009) holds that a rotation of loadings can be useful if variables have a similar loading on different components. A rotation maximizes the high item loadings and minimizes the low item loading on the other factors. A promax rotation with Kaiser Normalization, which allows for correlated components, is applied to gain more diverse loadings and results are shown the table below. However, after the review, I decided to use only components 1 and 3 for the discriminant analysis; the pre/post-rotation loadings for component 2 were too dissimilar. Thus, variables of component 2 (Q14_1 and Q14_3) are included in their original form.

	Component		
	1	**3**	2
Rate the following statement from 'Strongly disagree - to Strongly agree' - I now pay more attention to diversification of my financial investments.			-,647
Rate the following statement from 'Strongly disagree - to Strongly agree' - I now rather invest for the short-term as the long-run is uncertain.		,630	
Rate the following statement from 'Strongly disagree - to Strongly agree' - I now rather invest in Single Stocks/Shares than in Funds.			,770
Rate the following statement from 'Strongly disagree - to Strongly agree' - I now rather invest without letting emotions influencing my investment decisions.		,641	
Rate the following statement from 'Strongly disagree - to Strongly agree' - I changed my bank/Investment manager because I lost trust in them/him.	,901		
Rate the following statement from 'Strongly disagree - to Strongly agree' - I changed my investment manager because they invested my money into their own products/in products they earn more fees from.	,894		

Table 44 – Component matrix of factor analysis Q14

The factor analysis for questions Q16_1 to Q16_3 (Appendix) displays that just one component explains 85.8% of the variance. Since the Eigenvalue of component 1 is larger than one, only this component is used in the discriminant analysis.

6.1.2. Discriminant analysis – knowledge and expertise

For the discriminant analysis, with the type of investor as the dependent variable, the following independent variables were included: component 1 and 3 from factor analysis for Q14, component 1 from factor analysis for Q16; Q13, Q14_1, Q14_3, Q15_1- Q15_7.

A discriminant analysis is applied to investigate whether private and professional investors can be distinguished by their knowledge, expertise and their investment approaches. Therefore, the independent variables are taken to predict the type of investor. Subsequently, the prediction can be compared with the true group membership.

Field (2009) says that discriminant analysis is sensitive to missing values. For this reason, only cases with complete data on the relevant variables are here taken into account.

Only 58% of the total number of 550 cases are valid. 20% of the cases show at least one missing discriminating variable and 22% of the cases have a missing group code and at the same time at least one missing discrimination variable. The ones with a missing group code are the excluded survey participants, as they have never invested in the stock market.

The test of equality of group means verifies the hypothesis that there are differences in group means for the independent variables (Field, 2009). A p-value (column 'Sig.' in the table below) of less than 0.05 means that the difference between private and professional investors is of statistical relevance and not random. In this example, the null hypothesis of equality of group means cannot be rejected for component 1 (Q14_5 and Q14_6), leading to the assumption that for all other independent variables in the analysis, there is a significant difference concerning the dependent variable of investor types in question.

	Wilks' Lambda	F	df1	df2	Sig.
My increasing knowledge and expertise in financial investments (shares, bonds, funds, etc.) over the years are influencing my investment decisions (stock/share market).	,939	20,429	1	317	,000
Factor: Q14_5 und Q14_6.	,993	2,193	1	317	,140
Rate the following statement from 'Strongly disagree - to Strongly agree' - I now pay more attention to diversification of my financial investments.	,985	4,703	1	317	,031
Rate the following statement from 'Strongly disagree - to Strongly agree' - I now rather invest in Single Stocks/Shares than in Funds.	,973	8,643	1	317	,004
Factor: Q14_2 and Q14_4.	,971	9,316	1	317	,002
I can explain what the following investment product or term is - Asset class.	,920	27,504	1	317	,000
I can explain what the following investment product or terms is – Coupon.	,932	23,228	1	317	,000
I can explain what the following investment product or term is – Futures.	,913	30,394	1	317	,000
I can explain what the following investment product or term is - Options (calls/puts).	,939	20,544	1	317	,000
I can explain what the following investment product or term is - P/E Ratio.	,934	22,500	1	317	,000
I can explain what the following investment product or term is – Rebalancing.	,830	65,065	1	317	,000
I can explain what the following investment product or term is - Structured products.	,884	41,473	1	317	,000
Factor: Q16.	,860	51,669	1	317	,000

Table 45 – Tests of equality of group means (RQ1-1)

Field (2009) explains that the Eigenvalue specifies how good the estimated prediction of the dependent variables is; here the investor types can be predicted on the basis of the analysis conducted. An Eigenvalue of 1 would constitute a perfect prediction but is clearly not feasible (normally). The table below shows an Eigenvalue of 0,314, which is not very high, but is still capable of delivering some information. All interpretations from here on ought to be seen in the context of this value.

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	,314[a]	100,0	100,0	,489
a. First 1 canonical discriminant functions were used in the analysis.				

Table 46 – Eigenvalues (RQ1-1)

Following Field (2009), another suitable tool to use in evaluating RQ1, is Wilks' Lambda (table below). This indicates, if significant, that there is a statistical relevance of the responses to the questions about knowledge and expertise in the prediction of investor types. Thus, Wilks' Lambda should be close to 0 and significant (p < .05) if there is a relevant prediction of investor types in the data. For RQ1, it is 0,761 and can be interpreted as weak.

Test of Function(s)	Wilks' Lambda	Chi-square	Df	Sig.
1	,761	84,678	13	,000

Table 47 – Wilks' Lambda (RQ1-1)

When inserting the observed values for the original variables and the factor for the components, one can predict the investors type (private or professional). The resulting value is not exactly 1 or 2 but can be assigned to one group by means of a transformation which uses the group centroids. In the table below, hence, the farther apart the means are, the less error there will be in classification (Field, 2009). With this information, it is possible to group every single respondent into either private or professional investor.

Investor	Function
	1
Private	-,277
professional	1,125

Table 48 – Functions at Group Centroids (RQ1-1)

As Knapp (1979) shows, the canonical correlation is a multivariate analysis and measures the correlation coefficient of the strength of association between two canonical variates. It analyses multiple X and multiple Y correlation(s), whereby the canonical variate (CV) is the product of the weighed sum of the variables in the analysis. Hence, it compares the effects of variables; in my case, the prediction of investor type by different independent variables.

The highest coefficient of 0.583 can be found for Q15_6, followed by the component for Q16, meaning that these variables have the greatest possibility to predict the dependent variable (type of investor). All other variables (around .0) can be interpreted as almost irrelevant to the classification of investor types. As Field (2009) shows, all values, especially negative ones, must be assumed to be all linked together to the 'functions at group centroids'.

With all individual data about the independent variables, positive values tend to generate the final function value which is positive, which means that they incline to categorize the respondent as professional (because of the positive group centroid of 1.125). Negative values of standardized canonical discriminant function coefficients decrease the final result of group centroids, meaning the lower value predict the private investors. As a result, the more someone e.g. agrees on factor 'Q14_2 and Q14_4' and the more someone can explain P/E Ratio and Coupon, and the more someone invests in single stocks/shares, the more s/he is seen as a private investor.

On the contrary, the more a respondent can explain structured products and futures, and the more individual knowledge influences investment decisions, the more that respondent is categorized as a professional investor. Besides these results, the influence of factor 16, the ability to explain the fee structure, and explaining rebalancing are most important. Thus, the more someone can explain the fees which are incurred from buying active and passive managed funds or shares/stocks and the more someone can explain rebalancing, the more (strongly) these individuals are categorized as a professional investor.

	Function 1
Factor: Q14_2 und Q14_4.	-0,262
I can explain what the following investment product or term is - P/E Ratio.	-0,232
I can explain what the following investment product or terms is - Coupon.	-0,156
Rate the following statement from 'Strongly disagree - to Strongly agree'. - I now rather invest in Single Stocks/Shares than in Funds.	-0,131
I can explain what the following investment product or terms is - Asset class.	-0,091
I can explain what the following investment product or terms is - Options (calls/puts).	-0,091
factor: Q14_5 und Q14_6.	-0,03
Rate the following statement from 'Strongly disagree - to Strongly agree' - I now pay more attention to diversification of my financial investments.	0,042
My increasing knowledge and expertise in financial investments (shares, bonds, funds, etc.) over the years are influencing my investment decisions (stock/share market).	0,1
I can explain what the following investment product or terms is - Structured products.	0,248
I can explain what the following investment product or terms is - Futures.	0,29
Factor: Q16	0,424
I can explain what the following investment product or terms is - Rebalancing.	0,583

Table 49 – Canonical Discriminant Function Coefficients (RQ1-1)

The table Classification Results illustrates that 75% of all private investors and 84% of the professional investors can be predicted accurately with only the independent variables considered. This effect is validated by the measure Phi that is significant at a value of 0.493 and shows that there is a medium accordance between the investor type and the predicted investor type (77% of the original grouped cases correctly classified).

		Investor	Predicted Group Membership		Total
			private	professional	
Original	Count	private	193	63	256
		professional	10	53	63
	%	private	75,4	24,6	100,0
		professional	15,9	84,1	100,0

Table 50 – Classification Results (RQ1-1)

		Value	Approx. Sig.
Nominal by Nominal	Phi	,493	,000
N of Valid Cases		319	

Table 51 – Symmetric Measures (RQ1-1)

6.1.3. Factor analysis – Area 2 (investment criteria, strategies)

The factor analysis for Area 2 comprised the questions Q17_1 to Q17_9. The table below shows that according to the Eigenvalue criteria, three components, which explain a total of 52,3% of the variance, should be used (though component 4 almost reaches the criterion Eigenvalue).

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	2,132	23,687	23,687
2	1,350	15,004	38,691
3	1,228	13,642	**52,333**
4	,993	11,033	63,366
5	,864	9,600	72,966
6	,810	9,004	81,971
7	,608	6,757	88,727
8	,571	6,344	95,071
9	,444	4,929	100,000

Table 52 – Total Variance Explained (RQ1-1)

As for Area 1 (knowledge, expertise), the promax rotation with Kaiser Normalization is applied to attain more diverse loadings. After review, I decided to use only component one in the corresponding table below since the other asset classes are too dissimilar in terms of their characteristics; thus Q17_6 and Q17_7 are mutual to one component. The other variables are included in the discriminant analysis in their original form.

	Component		
	1	2	3
I believe it is a good idea to invest in the following asset class – Cash.			
I believe it is a good idea to invest in the following asset class - Commodities (Oil, Wheat, Sugar, Copper…).			,781
I believe it is a good idea to invest in the following asset class - Corporate bonds.		,670	
I believe it is a good idea to invest in the following asset class – Gold.			,808
I believe it is a good idea to invest in the following asset class - Government bonds.		,778	
I believe it is a good idea to invest in the following asset class - Hedge funds.	,788		

I believe it is a good idea to invest in the following asset class - High yield bonds.	,790	
I believe it is a good idea to invest in the following asset class - Real estate (Funds).		,511
I believe it is a good idea to invest in the following asset class - Shares/stocks.		,507
Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.		

Table 53 – Pattern Matrix (factor analysis RQ1-1)

6.1.4. Discriminant analysis 2 – investment criteria and strategies

For the second discriminant analysis, with the type of investor as the dependent variable, the following independent variables were included: component 1 (Q17_6, Q17_7) of the factor analysis for Q17 and all other questions of Q17_1–5, 8, 9, Q18, Q19, Q20, Q24_1 – Q24_6, Q24_8 –Q24_12.

For the discriminant analysis I, Area 2 (investment criteria, strategies), 40% of the total cases can be used. 37% have at least one missing discriminating variable and 22% have both a missing group code and at least one missing discriminating variable. The ones with a missing group code are the excluded survey participants, as they have never invested in the stock market.

As the table below shows, the null hypothesis of equality of group means has to be rejected for several independent variables. Since there are many non-significant variables and since I cannot examine the exclusion of each single variables separately, (as it was possible for segment 1), I have to exclude them and re-conduct the analysis.

	Wilks' Lambda	F	df1	df2	Sig.
factor: Q17_6 und Q14_7	,997	,447	1	138	,505
I believe in investing in the following asset class - Corporate bonds.	,962	5,378	1	138	,022
I believe in investing in the following asset class - Government bonds.	1,000	,009	1	138	,926
I believe in investing in the following asset class - Real estate (Funds).	,994	,831	1	138	,364

I believe in investing in the following asset class - Shares/stocks.	,983	2,420	1	138	,122
I believe in investing in the following asset class - Commodities (Oil, Wheat, Sugar, Copper...).	1,000	,057	1	138	,812
I believe in investing in the following asset class – Gold.	,993	,947	1	138	,332
I believe in investing in the following market - Australia / New Zealand.	,998	,244	1	138	,622
I believe in investing in the following market - Emerging Markets (China, India, Brazil, etc.).	,996	,616	1	138	,434
I believe in investing in the following market - Europe in general.	,930	10,463	1	138	,002
I believe in investing in the following market – Germany.	,967	4,690	1	138	,032
I believe in investing in the following market – Switzerland.	,996	,622	1	138	,432
I believe in investing in the following market – UK.	,913	13,140	1	138	,000
I believe in investing in the following market – USA.	,932	10,129	1	138	,002
Would you rather invest in Active managed funds or in Passive managed funds (Index funds/ETFs).	,999	,113	1	138	,738
In terms of your financial investments (buying/holding/selling shares, bonds, funds, etc.), what risk level describes you best.	,970	4,228	1	138	,042
Rank the following investment strategy from 'Very poor' to 'Excellent' when their focus is on: - Active investing.	,997	,371	1	138	,544
Rank the following investment strategy from 'Very poor' to 'Excellent' when their focus is on: - Asset allocation.	,931	10,175	1	138	,002
Rank the following investment strategy from 'Very poor' to 'Excellent' when their focus is on: - Buy and hold.	,994	,883	1	138	,349
Rank the following investment strategy from 'Very poor' to 'Excellent' when their focus is on: - Dividend investing.	1,000	,007	1	138	,935
Rank the following investment strategy from 'Very poor' to 'Excellent' when their focus is on: - Fundamental Analysis.	,982	2,551	1	138	,112
Rank the following investment strategy from 'Very poor' to 'Excellent' when their focus is on: - Growth investing.	1,000	,032	1	138	,858
Rank the following investment strategy from 'Very poor' to 'Excellent' when their focus is on: - Passive investing.	,992	1,105	1	138	,295

Rank the following investment strategy from 'Very poor' to 'Excellent' when their focus is on: - Stock picking.	1,000	,066	1	138	,798
Rank the following investment strategy from 'Very poor' to 'Excellent' when their focus is on: - Technical analysis.	,989	1,544	1	138	,216
Rank the following investment strategy from 'Very poor' to 'Excellent' when their focus is on: - Value averaging.	,993	,949	1	138	,332
Rank the following investment strategy from 'Very poor' to 'Excellent' when their focus is on: - Value investing.	,953	6,790	1	138	,010

Table 54 – Tests of Equality of Group Means (RQ1-2)

The table for 'Tests of Equality of Group Means' is shown only once, since all variables remaining show significant results (p < .05). Likewise, the Box Test is not significant (Box's M = 47,931, F = 1,258 with p = .138). Therefore, the succeeding interpretations discuss the discriminant analysis without the non-significant variables.

As mentioned before in the first element of this analysis, the Eigenvalue of 0.469 is a satisfactory value. Though the Eigenvalue unfortunately has changed from 0.469 (without deletion) to 0.201 (with deletion), Wilks' Lambda has changed from 0.681 (without deletion) to 0.833 (with deletion). As a consequence, deleting the non-significant variables have decreased the statistical relevance of the analysis.

Investor	Function (without deletion)	Function (with deletion)
Private	-,445	-,261
Professional	1,039	,761

Table 55 – Functions at Group Centroids (RQ1-2)

When comparing both analyses (with and without deletion), separating the investor types becomes less obvious, but it is still possible. The following coefficients only include the analysis with deletion.

I believe it is a good idea to invest in the following markets – Germany.	-,120
I believe it is a good idea to invest in the following markets – USA.	-,030
I believe it is a good idea to invest in the following markets - Europe in general.	,265
Rank the following investment strategies from 'Very poor' to 'Excellent' when their focus is on - Value investing.	,278

I believe it is a good idea to invest in the following asset classes - Corporate bonds	,285
In terms of your financial investments (buying/holding/selling shares, bonds, funds, etc.), what risk profile describes you best.	,313
Rank the following investment strategies from 'Very poor' to 'Excellent' when their focus is on - Asset allocation.	,321
I believe it is a good idea to invest in the following markets – UK.	,543

Table 56 – Canonical Discriminant Function Coefficients (RQ1-2)

With values of -0.120 and -0.030, for investors considering investing in the German or US market, this has only a minor effect in predicting a partaker as a private investor, whereas investing in the UK market (0.543) leads to a strong categorization as a professional investor. Also, the more someone is a 'risk taker' (Q20), the more s/he believes in investing in Europe and in corporate bonds, and the more someone rates the investment strategies focusing on value investing and asset allocation as excellent, the more this participant is categorized as a professional investor.

In conclusion, the table below shows that 66% of private and 67% of professional investors can be predicted accurately with only the independent variables taken into account. This result is again validated by the measure Phi that is significant at a value of 0.285 and shows that there is a slight agreement between the investor type and the independent variables.

		Investor	Predicted Group Membership		Total
			Private	Professional	
Original	Count	Private	109	57	166
		Professional	19	38	57
	%	Private	65,7	34,3	100,0
		Professional	33,3	66,7	100,0

Table 57 – Classification Results (RQ1-2)

6.1.5. Discriminant analysis 3 – Area 2, investment criteria and strategies

For this third discriminant analysis, with the type of investor as the dependent variable, the following independent variables were included: Q21, Q22, Q25, Q27 - Q30, Q31, Q32.

For the discriminant analysis of Area 2, (investment criteria, strategies) 24% of the total cases can be used. 54% have at least one missing discriminating variable and 22% have both a missing group code and at least one missing discriminating variable. The ones with a missing group code are the excluded survey participants, as they have never invested in the stock market.

The test of equality of group means displays a significant difference between private and professional investors only for the question regarding the importance whether the stock is from a 'large-cap company' (large enterprise), the importance of the choice of asset classes and the current purchasing price.

As previously, it is not possible to remove single variables to test if the new model could be improved as in Area 1 (knowledge, expertise), so we have to exclude all non-significant variables from the analysis.

	Wilks' Lambda	F	df1	df2	Sig.
How long is your investment horizon?	,995	,701	1	129	,404
How much of your savings is invested in shares, bonds, funds, etc.?	,982	2,318	1	129	,130
In how many products (shares, managed funds, bonds, ETFs, etc.) are you invested in (e.g. 1 share, 1 ETF, 1 fund, etc. equals 1 product)?	,982	2,318	1	129	,130
What is your tolerance for loss in a bad year on the stock market (e.g. bear market year)?	,993	,968	1	129	,327
How do you usually make your investment decisions (buying/selling shares, bonds, funds, etc.)?	,992	1,096	1	129	,297
A bank is managing my financial investments (Shares/bonds/funds, etc.). I would - given the quality and products are the same - change to an Online-Asset Manager if I could save 25% of the usual annual asset management fee.	,995	,704	1	129	,403
I would change to an Online-Asset Manager if I - given the quality and products are the same - could save 50% of the usual annual asset management fee.	,999	,080	1	129	,778
If you buy shares/stocks, bonds, funds, etc., how important for your decisions is the following criterion - Company is a Large-Cap (Large Enterprise).	,963	4,893	1	129	**,029**
If you buy shares/stocks, bonds, funds, etc., how important for your decisions is the following criterion - Company is a Swiss company.	,976	3,131	1	129	,079

If you buy shares/stocks, bonds, funds, etc., how important for your decisions is the following criterion - Ethical aspects like sustainability or green investing.	,973	3,547	1	129	,062
If you buy shares/stocks, bonds, funds, etc., how important for your decisions is the following criterion - Expected dividend rate.	,996	,526	1	129	,470
If you buy shares/stocks, bonds, funds, etc., how important for your decisions is the following criterion - My knowledge of the company.	,999	,139	1	129	,709
If you buy shares/stocks, bonds, funds, etc., how important for your decisions is the following criterion - Past performance (profit/loss over years).	,990	1,319	1	129	,253
If you buy shares/stocks, bonds, funds, etc., how important for your decisions is the following criterion - Share/stock has a low P/E ratio.	,999	,073	1	129	,787
If you buy shares/stocks, bonds, funds, etc., how important for your decisions is the following criterion - The industry the company is in.	,998	,243	1	129	,623
If you buy shares/stocks, bonds, funds, etc., how important for your decisions is the following criterion - Product is an active managed fund.	,978	2,870	1	129	,093
If you buy shares/stocks, bonds, funds, etc., how important for your decisions is the following criterion - Product is an Index fund or an ETF.	,999	,184	1	129	,669
How important is the following factor for an investor's outperformance - Rebalancing (active portfolio management).	,997	,363	1	129	,548
How important is the following factor for an investor's outperformance - Reducing/eliminating Retrocessions (Kick-backs) to the bank/asset manager.	,993	,885	1	129	,349
How important is the following factor for an investor's outperformance - Reinvesting dividends/coupons.	,989	1,462	1	129	,229
How important is the following factor for an investor's outperformance - The choice of active or passive managed funds.	,998	,214	1	129	,644
How important is the following factor for an investor's outperformance - The choice of asset classes.	,922	10,934	1	129	**,001**
How important is the following factor for an investor's outperformance - The choice of products (shares, bonds, funds, etc.).	1,000	,034	1	129	,853
How important is the following factor for an investor's outperformance - The choice of the bank holding your portfolio (share, type of bond, type of fund, etc.).	,983	2,186	1	129	,142
How important is the following factor for an investor's outperformance - The current purchasing price.	,965	4,610	1	129	**,034**

How important is the following factor for an investor's outperformance - The duration of my investment.	1,000	,061	1	129	,806
How important is the following factor for an investor's outperformance - Total Expense Ratio (TER).	,997	,416	1	129	,520
How important is the following factor for an investor's outperformance - The financial institution issuing ETFs.	,979	2,701	1	129	,103

Table 58 – Tests of Equality of Group Means (RQ1-3)

The Eigenvalue of 0.138 (without deletion, 0.417) is unfortunately no longer an acceptable value and shows that there is only little information in the independent variables for the prediction of the investor type. The Wilks' Lambda test indicates a weak statistical relevance of the responses to the questions related in the prediction of an investor type with 0.879 and p < .001 (without deletion Wilks' Lambda was 0.706 with p = .065, thus there would not have been a significant model).

Investor	Function (without deletion)	Function (with deletion)
Private	,395	-,197
Professional	-1,041	,696

Table 59 – Functions at Group Centroids (RQ1-3)

Without deletion, a negative group centroid was obtained for the group of professional investors, but the 'deleted version' implicates negative group centroids for private investors again. As within the preceding analysis, the difference in group centroids is smaller in the new model but that is no problem for the analysis itself.

	Function
	1
If you buy shares/stocks, bonds, funds, etc., how important for your decision is the following criterion - Company is a Large-Cap (Large Enterprise).	-,410
How important is the following factor for an investor's outperformance - The current purchasing price.	-,230
How important is the following factor for an investors outperformance - The choice of asset classes.	,928

Table 60 – Canonical Discriminant Function Coefficients (RQ1-3)

The table above shows the results of the analysis. The more important the choice of asset classes is for a participant, the more strongly s/he is categorized as a professional investor.

The more important it is for a participant that a company s/he buys the stock from, is a large enterprise, and the more important the current purchasing price is, the more a respondent is categorized as private investor.

Comparing the predicted group membership of the investor type, 65% of all private investors and 72% of all professional investors can be predicted accurately. This result is validated by the measure Phi which is significant at a value of 0.310 and shows that there is an agreement between the investor type and the independent variables.

		Investor	Predicted Group Membership		Total
			Private	Professional	
Original	Count	Private	156	84	240
		Professional	19	49	68
	%	Private	65,0	35,0	100,0
		Professional	27,9	72,1	100,0

Table 61 – Classification Results (RQ1-3)

6.2. Discussion of the results for RQ1 – Statistical analysis

The following discussion concerns the analysis regarding my initial research question: 'How do private and professional investors differ (if at all) in terms of their knowledge, experience, and investment approaches (investigating the first Dreyfus related categories)'.

My hypothesis is that the more knowledgeable and experienced an investor is, the better and more cautiously s/he will invest. This, in my opinion, means passively, applying a buy-and-hold strategy with periodical rebalancing, appropriately diversified, cost-efficient and for the long-term.

In the previous descriptive analysis and discussion, I had further differentiated the professional investors between asset managers and institutional investors. Although, not pertinent to answer this research question, I would estimate, in accord with the Dreyfus model, that the private investors are either 'novice' or potentially 'advanced beginners', that asset managers are to be found in the range of 'competent' and 'proficient' and the

institutional investors within 'proficient' and 'expertise'. This, however, could not be evidenced within this statistical analysis.

By applying the discriminant analyses, the canonical correlation analysis in relation to the three groups or two types (private or professional investors), it was possible to cluster every single respondent (the ones who completed all questions), into either private or professional investors. The classification results illustrated that between 65% private investors and 84% professional investors, depending on the analysis, can be accurately predicted with only the independent variable considered. These effects were validated by the measure Phi.

6.2.1. Effect of increased knowledge on investment decisions

The analysis further showed that professional investors could also be determined by the level of agreement, that their increasing knowledge and expertise over time influences the investment decisions.

This is in line with Dreyfus (2004), and I would therefore assume that investor's knowledge and expertise evolve over time, depending on the material interest one holds for investing and on the quantity of practical influence one experiences. If increasing knowledge and expertise would not have an impact on investment decisions, an investor could not progress along Dreyfus' 5-stage learning model.

6.2.2. Risk profile and investment duration

The canonical correlation analysis also suggests that the more one invests for the short-term, the more one is a private investor. On the other hand, the more one's risk profile is that of a risk taker (willing to accept higher levels of risk for higher returns), the more that investor is classified as a professional investor. The descriptive analysis confirms these outcomes, as the private investors showed the largest percentage of short-term investors (25%); and the professional investors the highest percentage of risk takers - 69% for the asset managers, 53% for the institutional investors, against 47% for the private investors.

Concerning the private investors favor of short-term investments, if one does not require the funds in the near future, an investor ought to have a long-term view, as the short-term is more volatile. This means, if one buys a share today and holds it, for example, for one to six months or a year, the risk that the price will eventually be lower at the point of redemption is higher, than if the same investor would want to hold the product over a period of e.g. three to ten years. Thus, the volatility is lower and the chance to sell with a profit is higher. This is also the judgement of i.e. Natale (2000), Siegel (2014), Stanyer (2010) or Stammers (2015).

In regard to the professional investors accepting higher risks and therefore higher volatility, I would assume that they are more aware of the risk/return profiles of their investments, hence the asset classes and products as i.e. Schelauske (2000), Ibbotson & Kaplan (2000), Ferri (2006) or Siegel (2014) described, or the effect of diversification as Markowitz (1952) or Stammers (2015) illustrated. In conclusion, the private investors maybe not be as well informed as the professionals.

This would be in accordance with not only my hypothesis that the professional investors are more knowledgeable and experienced, but also with the Dreyfus adult acquisition model itself. I initially supposed the private investors to be found within the first or second stage (novice or advanced beginners) and the professional investors within the third to the fifth stage (competent, proficient and expert), which is weakly supported here.

6.2.3. Futures and structured products vs. PE/Ratio and Coupons

Additional significant results from the canonical correlation analysis distinguishing the professional investors were the ability to explain the mechanics of futures and structured products. Conversely, being better able to explain the PE/Ratio and coupons distinguished the private investors.

It seems that professional investors are more able to explain rather technical investment vehicles such as futures or structured products, maybe due to their daily dealings with such products. This is not surprising, especially since the prior descriptive analysis showed the same; hence, for futures i.e. 93% of the asset managers, 84% of the institutional investors and only 80% of the private investors could explain it well. The numbers for structured products were 95%, 86% and 65%.

What is rather surprising is that, according to the canonical correlation analysis, the more a respondent can explain the PE/ratio or a coupon, the more s/he is seen as a private investor. The corresponding frequency analysis however, exhibited professional investors being more capable of explaining these investment topics. Therefore, I could only assume that both the P/E ratio and coupons (with many investors holding government bonds) are themes that private investors are generally more knowledgeable about. Other investment matters, such as the ability to explain e.g. asset classes or stock options were not of statistical relevance, thus could not be used to predict the investor type.

6.2.4. Understanding rebalancing and fee structures of products

The canonical correlation analysis showed the highest coefficient of 0.583 to be found for Q15_6, followed by 0.424 for the factor for Q16. These demonstrate that the more participants could explain rebalancing and the more they could explain the fee structure of active managed funds, passive managed funds and shares, the more likely they are to be categorized as professional investors.

This is in line with the prior descriptive analysis, which showed that the majority of professional investors (88% asset managers, 89% institutional investors) could explain the notion of rebalancing well, but only half as many private investors (45%) felt confident about it. This is significant, since rebalancing too (83% asset managers, 56% institutional investors, 56% private investors) was found to be a significant factor contributing to a positive and sustainable portfolio return. The literature too holds that portfolios, especially within a buy-and hold investment strategy, require adjustment of the asset class ratios (products) according to the investor's risk profile. Otherwise, the asset classes will overtime drift away from the desired levels of risk and proportion (Steven & Wimer, 1999; Ellis 2002; Swensen, 2005; Ferri, 2006; Goldie & Murray, 2010; Stammers, 2015).

Professional investors, in this research, are more capable understand and explain the fee structure of active and passive funds, as well as for ordinary shares, than the private investors. I found the same in the earlier analysis, where especially the fees for passive funds could only be explained by 49% of the private investors; for active managed funds, half of all private investors comprehended it (vs. around 90% for the professional investors).

The literature holds that the way the investment products are structured in terms of their fees requires consideration (Malkiel, 1973; Ibbotson & Kaplan, 2000; Darst, 2003; The CFA Institute, 2010; Goldie & Murray, 2010; Siegel, 2014; Stammers, 2015). A mutual fund (active managed fund) can quickly cost 2 to 4% of the total assets per annum, which translates to that the respective fund manager must at least perform 2 to 4% better than the market average. The passive counterpart usually costs 0.2 – 0.6%, thus 6 to 10 times less (Ellis, 2002; Swensen, 2005).

The previous analysis further illustrated that reducing fees, thus the total expense ratio (TER) was for all investor groups amongst the most significant contributors to achieve a portfolio performance that is higher and more sustainable than the market average.

6.2.5. Investing in various markets

The canonical correlation analysis showed that private investors could also be identified by their investments in the German or American market, whereas the professional investors have a strong tendency towards the UK and the general European market. These results are only partly in accordance with the previous frequency analysis as i.e. 93% of the private investors vs. 76% institutional investors preferred investing in Germany, but only 39% private investors vs. 67% institutional investors would invest in the USA. For the UK and the European market, the results showed the same effects: 33% vs. 8% (UK) and 68% vs. 60%.

Both the frequency analysis and the discriminant analysis should be interpreted with caution as there were not only participants living in Switzerland within the 317 valid respondents but also around 50 respondents from 12 other countries with the majority living in Germany, followed by Australia and the UK (and country of origin/residence may be significant here).

Likewise, the literature states that investors ought to invest the largest portion of their assets in their home *currency*, and for diversification effects, the remainder in foreign currencies. If investors do the opposite, the portfolio could face a significant currency (exchange rate) risk (Ellis, 2002), Ibbotson & Kaplan, 2000). Conversely, Birchler, Volkart, Ettlin, and Hegglin (2010) indicated that the majority of Swiss stockholders only invest in the Swiss market, signifying a home bias.

6.2.6. Investing in single stock vs. funds

The statistical analysis also showed that the more an investor favours single stocks over funds, the more these participants are categorized as private investors. It follows that professional investors favour mutual or passive funds over single shares. The descriptive analysis confirmed these results as the private investors showed the largest percentage of single shares investment advocates.

Brinson, Hood & Beebower (1986) as well as Ibbotson & Kaplan (2000) state that the choice of investment products, any fund or single stocks, does not matter as much as the asset allocation mix, as the allocation across asset classes explains around 90% of the variation within a typical portfolio over time. Others, like the CFA Institute (2008) or Stammers (2015) identify investing in single stocks as one of the common mistakes that investors should avoid.

On the other hand, Natale (2000) and O'Neil (2009) believe that stock picking is the most promising investment strategy. Peter Lynch (1993) agrees and claims that one should not hold more than 5 stocks in a portfolio. He states that he would rather spend all his time fundamentally analysing only a handful of companies to the extent that he understands them exceptionally well, than holding many stocks or funds from companies he cannot learn enough about. Similarly, advocates of technical analysis, i.e. Bensignor (2000) or Faith (2007) would also rather invest in single stocks.

6.2.7. Investing in the asset class corporate bonds

The analysis also shows that professional investors could be predicted by their interest to invest in the corporate bonds asset class. This result is also in line with the prior frequency analysis, as corporate bonds were, after shares/stocks, the second most favoured asset class with 85% asset managers, 80% institutional investors and 60% private investors voting for it.

Other asset classes such as real estate, gold, high-yield bonds or hedge funds (factor 3) showed no significant statistical relevance in predicting the investor type. As mentioned earlier, the literature is divergent concerning the use of corporate bonds. While they could be seen as an attractive investment that often delivers high coupons (stable and

predictable income stream), and since they move inversely with interest rates, becoming less attractive when interest rates rise, and more attractive when interest rates fall (Green, 2008), they also bear risks of which some investors may not be aware of (Swensen, 2005).

6.2.8. Further criteria for outperforming the benchmark indices

As with the asset allocation results as an important investment strategy / application described above, the canonical correlation analysis also determined that 'the choice of the asset classes contributing to a positive portfolio return that is higher than the benchmark', ranked highest, and identified the professional investors. The earlier frequency analysis revealed 100% for the asset managers, 85% for the institutional investors and just 63% for the private investors.

On the contrary, the more important it is for a participant that a company of which s/he buys the stock is a large enterprise (-0.410), and the more important the current purchasing price (-0.230), the more a respondent is categorized as a private investor. Here, the frequency analysis showed choice of a large-capitalization company as an investment criterion was more important for the private investors (53%), than for the asset managers (31%) and for the institutional investors (48%). The same is true for the purchasing price as 68% private investors, 69% of the institutional investors but only 57% of all asset managers found it important or very important.

For the investments in large enterprises (vs. i.e. small caps), the literature shows that this criterion is relevant for a multiple of investment strategies, especially if it serves as a diversification function (Ferri, 2006; Goldie & Murray, 2010). The purchasing price on the other hand is immaterial for long-term investors (Ibbotson & Kaplan, 2000; Swensen, 2005; Stanyer, (2010). However, this result confirms the discussion above, where the canonical correlation analysis revealed that the private investors are more focused on the short-term.

In any case, the longer one wants to invest, the more irrelevant the current purchasing price becomes; or as Malkiel (1973) and Schelauske (2001) propose: a practical solution to mitigate purchasing prices is to split the investment into different stages in order to flatten the average buying price, similar to the value averaging strategy (Edleson, 1991; Marshall, 2000).

6.2.9. Investment strategies: value investing and asset allocation

Additional strong prediction could be derived from the notions of value investing and asset allocation. The canonical correlation analysis revealed that the more one agrees that those are superior investment strategies, the more one was categorized as a professional investor. Among 11 possible investment strategies, the frequency analysis too showed the strongest support for asset allocation and value investing (Table 39 - combined value for and against it: 198%, 170% vs. -9%, -47% for the two least favoured strategies).

The literature regarding the most promising investment strategy is highly diverse. As previously illustrated, there is, however, an agreement that asset allocation is a superior method of investing (Brinson, Hood & Beebower, 1986; Surz, Stevens & Wimer, 1999; Ibbotson & Kaplan 2000 or Darst, (2003). Many investment experts would probably also agree, arguing that value investing has been one of the most successful investment strategies in the past (Graham, 1949; Town, 2007; Marks, 2011; Sander, 2012). In addition, the history evidences that there were and still are many practitioners, e.g. Kahn, Carret, Templeton, Buffet, Dreman, Neff or Grantham, who trust in value investing and built their companies and wealth based on its principles (Bernstein, 2005; Town, 2007; Lowenstein, 2008; Rediff, 2010).

Other investors and writers like Fisher (1958, 2003), Hakansson (1971) and Hunt (2005) would trust that growth investing is the most promising investment strategy. On the opposite spectrum are the technical analysts e.g. Bensignor (2000), Faith (2007) and O'Neil (2009), who believe in the value of 'market and investor emotions', trying to anticipate the directions of securities by analysing statistics, such as past prices, trading volumes, buying and selling behaviours or trend analysis.

The general literature holds that retail investors should probably not engage in technical analysis nor in hedge fund investing as Amenc, Martellini & Vaissie (2003), Ineichern (2007) and Schwager (2014) advocate, since the risks of miss-timing the market or choosing the wrong hedge funds are too high (Sharp, 1991; Ellis, 2002; Swensen, 2005).

6.3.   Summary of Research Question 1

The canonical correlation analysis exemplified that the level of knowledge and agreement of specific investment matters (independent variables) leads to categorizing survey respondents into either private or professional investors.

The private investors tend to show the following characteristics in terms of investment approaches / behavior, they: invest for the short-term and in single stocks rather than in funds; have the ability to explain the mechanics of coupons and the notion of the PE/Ratio; favour investing in the German and the US market as well as in large corporations; trust that the purchase price is an important investment criterion.

The characteristics of professional investors are that they (compared to private investors): demonstrate that increasing investment knowledge and experience influences investment decisions; understand that diversification is vital; have the ability to explain the notion of asset classes, and the mechanics of futures, structured products and stock options; can explain the important concept of rebalancing as well as the fee structure of shares, active managed funds and passive managed funds; portray a willingness to accept higher risks for potential higher returns and prefer to invest in corporate bonds; favour investing in the UK and the general European market; favour asset allocation and value investing as superior investment strategies (applications); understand that the right selection of asset classes supports higher portfolio returns.

As stated earlier, the test of equality of group means evidenced that private and professional investors can be differentiated by knowledge regarding asset classes, coupons, futures, PE/Ratio or structured products. However, the Wilks' Lambda test showed a slightly different result. The indicator almost fully agreed with the test of equality group means but displayed a weak correlation with the notion of the options. This leads to the conclusion that both, private and professional investors have a similar understanding regarding this financial topic. The same is true for changing the money manager because of loss of trust/ investing in 'own' products, as well as for the notion of diversification. Hence, according to Wilks' Lambda, it is statistically not possible that these variables can predict the type of investor.

Nevertheless, for the investment topics listed above, the prior frequency analysis exposed the same effects as the canonical correlations analysis, except for the questions regarding

the markets in which one would want to invest. This discrepancy may be attributed to the origin of the participants, as the country the respondents are living in would most likely influence the base currency of one's portfolios.

One question sought to determine whether investors increasingly invested without letting emotions influence their investment decisions. I was of the opinion that especially the professional investors would leave emotions aside when investing but the analysis revealed that 42% of the asset managers, 37% institutional investors and 56% of all private investors' investment decisions (incl. neutrals) were influenced by their emotions. Omitting neutrals, the least emotional group was the institutional investors with 9% vs. 26% and 24% for the other two groups. On the positive side, almost two-thirds of the professional investors agreed or strongly agreed that emotions should be suppressed when investing in the stock market.

Two other questions focused on the participant's self-rating of financial investment knowledge and how many years' experience they possessed in stock market investing.

The descriptive analysis showed that when considering the self-rating of knowledge at 1 to 3 years' experience by private investors only, nearly 30% displayed an average or good investment knowledge, which could lead to the conclusion that they either overestimate themselves (Darst, 2003) or that even with little actual experience, investors can obtain the necessary knowledge to actively influence positive investment outcomes. When contrasting 1-10 years' experience, the level of knowledge was roughly evenly distributed amongst the three investor groups, but looking at greater than 10 years' experience, the results showed a direct and positive correlation between years of experience and self-rating of financial investment knowledge.

It follows, in-line with the Dreyfus skill acquisition model, that investors with a longer experience in investing, most probably have superior knowledge regarding the topic at hand.

When asked about the factors that contribute to a higher and more sustainable portfolio performance, the next two criteria (after the choice of asset classes and the investment duration) were the choice of products and reducing the TER (total expense ratio).

The three least important criteria were the institutions issuing ETFs or holding one's portfolio, as well as reducing retrocessions.

Many authors i.e. Ellis (2002), Swensen (2005), Stanyer (2010) or Stammers (2015) evidence that 'cost control' is eminent in a positive and sustainable performance. Therefore, as this analysis demonstrated, reducing the total expense ratio (TER) seems to be a crucial and rewarding concept for any investor. On the contrary, reducing retrocessions did not seem to be as important, which supports my assumption that there are money managers who still favour selling products for which they receive commissions, even though this practice was abolished (at least in Switzerland) in 2012 (Giroud & Nadelhofer, 2015).

In accordance with the above, the descriptive analysis further revealed that 41% of the asset managers, 56% institutional investors and 55% all private investors would change to an online asset manager if they could save 25% of the management fee (given that the products and the quality of services are the same). For the group that disagreed, the saving rate in question was increased from 25% to 50%, and subsequently another 52% of the asset managers, 57% institutional investors and 55% additional private investors would contemplate a change. It appears that, for most investors, there is an obvious awareness of the impact of fees on investment return, hence reducing the TER.

Concerning the long-lasting and on-going debate regarding active and passive managed funds, the descriptive analysis showed that for the 'importance as an investment criterion' a slight plus (26.5% - negative answers subtracted from the positive ones) for investing in passive managed funds but a minus (-3.9%) for their active counterparts. Merely 38% of the asset managers, 31% of the institutional investors and 25% of the private investors voted for active managed funds.

This is in line with the literature, as many academics and experts like Ellis (2002), Swensen (2005), Zweig (2006), Bogle (2010), Goldie and Murray (2010) or Stammers (2015), have statistically demonstrated (within rather small and selective samples) that only a very limited number of fund managers, if any, actually beat the market in the long-run.

Within the asset classes themselves (as opposed to the criteria that contribute to a more sustainable portfolio performance described above), the canonical correlation analysis discovered that professional investors favour investing in corporate bonds. The descriptive analysis on the other hand revealed that shares/stocks, corporate bonds and real estate were the most favoured ones; high yield bonds, government bonds and hedge funds the least favoured. The largest discrepancies between the investor groups were with hedge funds, high yield bonds and corporate bonds. In all cases, there were one-fifth fewer private investors trusting in those asset classes. As established by others - Ibbotson and Kaplan (2000) or Darst (2003), and as Markowitz (1995) already concluded - an appropriate mix of asset classes is a deciding factor for the success of a portfolio.

When re-investing dividends to achieve a performance that is higher and more sustainable than the market average, the statistical analysis showed that 70% of the asset managers found it important, while only 50% of the institutional and 48% of the private investors saw it the same way. These were rather unexpected results (but in-line with the descriptives), as re-investing dividends (or coupons) evidently leads to higher profit over the years as every additional incremental investment into ones' portfolio has the chance to earn profits (Gwilym, et al.,2009; Swensen, 2005; Bogle, 2007), particularly so if one considers the notion and advantages of compounding interest (Bogle, 2007; Gwilym, et al., 2009; Clare, Seaton and Thomas, 2009).

Regarding investment strategies, the canonical analysis showed that the professional investors can be identified by their aspiration for asset allocation and value investing. Fundamental analysis was third in the top three (out of 11 strategies) and dividend investing was ranked fourth – according to the descriptive analysis. The most unfavoured strategies were passive investing, technical analysis and value averaging. The biggest discrepancies between the investors groups were found in asset allocation as a strategy / application (+ 25% for the professional investors), fundamental analysis (+ 13%) and stock picking, which the private investors favoured more by 14%. The descriptive analysis showed the same effect regarding stock picking (stocks over funds) and asset allocation.

The most surprising result was that value averaging ranked last. There is unfortunately little literature about value averaging available, thus, one could believe that many private and professional investors are unaware of it.

Finally, the descriptive analysis showed the difference between both the investors' expected return and their tolerance for loss. Around 70% of the asset managers, 69% of the institutional investors and 49% of all private investors expected an average portfolio return of 4-8%. 10% of all asset managers and 8% private investors, but none of the institutional investors were eager to achieve 12 to ≥ 30%. On the contrary, 29% asset managers, 37% institutional investors and 27% private investors were willing to lose 5-10% in a bad year. Interestingly, some investors (5%, 17% and 11%) were prepared to lose 50% or more in an unfortunate investment year.

The descriptive and canonical correlation analysis, its discussions and the corresponding literature, clearly show how private and professional investors differ in terms of their knowledge, experience, and investment approaches – my RQ1.

On the other hand, my first hypothesis, that the more knowledgeable and experienced an investor is, the more cautiously and with greater superiority s/he will invest, could not be fully confirmed. However, there are strong indicators within both the descriptive and the canonical correlation analysis that informed and experienced investors would rather invest passively and choose asset allocation or value investing over technical analysis or stock picking. They further believe in the notion of rebalancing portfolios and in keeping the total expense ratio (TER) as small as possible. However, as it is not fully supported, the null hypothesis must be rejected.

The analysis also exposed that from a knowledge and expertise point of view, with 45% of the available summary score for better (more appropriate) answers, the institutional investors are the leading investor group, followed by the asset managers with 39% and the private investors with 14%. Compared to the Dreyfus skill acquisition model, it confirms my assumption that private investors are either 'novice' or potentially 'advanced beginners', that asset managers are rather within the range of 'competent' and 'proficient' and institutional investors within 'proficient' and 'expert'.

7. **Distinguishing experts from informed and uninformed investors**

7.1. **Chapter overview – Research question 2**

This chapter provides an explanation of my reasons and motives for profiling the survey respondents into three alternative investor groups. Here, the focus is on the five Dreyfus-related categories, rather than the investor types (private investor, asset manager, institutional investor). The chapter details the process and the various steps to do this. The evidence presented here seeks to answer RQ2:

Is it possible to determine probable differences in the investment approaches discernible between those now characterized as investment experts and those characterized as informed or uninformed investors (examining the second Dreyfus related categories)?

As with RQ1, my null hypothesis is that the more knowledgeable and experienced an investor is, the more cautiously s/he will invest and the superior their level of portfolio diversification, their investment criteria and their strategies.

In relation to the Dreyfus model, I would thus (a priori) expect that the uninformed investors (UNIs) are either 'novice' or potentially 'advanced beginners', that informed investors (INIs) are to be rather found in the area of 'competent' and 'proficient' and the experts (EXPs) within 'proficient' and 'expertise'. It follows, of course, that the expectation is that these categories might map onto the three original investor types, related to the size of their investment portfolios and investment experience.

Where percentages are displayed in the following sections, they are always in order from 'uninformed investors', to 'informed investors' to 'experts'.

7.2.   Profiling investors

7.2.1.   Motives for profiling the investors

The previous chapter details how private and professional investors' knowledge and expertise differ and how these differences affect their investment decisions. Also identified and characterized were individuals who might be expert investors; this permits their investment behaviours to be analysed, to assist investors more widely. This final step of identification and characterization would find answers to RQ2 and RQ3.

I hypothesized that the professional investors, including asset managers and the institutional investors, understood how financial investments (stock markets) work better than the private investors. Ultimately, this is their profession and to get there they most likely had to undergo some variety of formal or informal investment education or training and/or possess a certain expertise.

However, after working with my data extensively, I came to understand that this differentiation (based solely on the initial investor groups/types) was not accurate enough. There were individuals within the private investor group who were potentially more knowledgeable and astute investors than the asset managers or the institutional investors.

As a consequence, I needed to establish a method to profile the participants in order to determine to which of the Dreyfus categories they might be assigned, in terms of their investment acumen (knowledge, criteria, strategies, etc.) and experience. Therefore, in addition to the initial investor types (private investors, asset managers, institutional investors), I established three further investor expertise groups: the uniformed investors (UNI), the informed investors (INI) and the experts (EXP), based on collapsing the full range of Dreyfus categories to map onto a further set of three groups of investors.

The primary goal then became to understand both the investment expertise and behaviour of the expert group and the possible differences in the investment approaches known between those characterized as investment experts and those characterized as informed or uninformed investors. As for my initial research question (RQ1), I again seek to relate these additional investor groups to the Dreyfus skill acquisition model and the various stages of skill attainment.

My aim is to understand:

- The differences among the three groups in regard to what qualifies some as experts.

- How participants were educated and qualified and what expertise they possess.

- What their mind-set was towards diversification, investment vehicles, asset classes, markets, or how any other factors concerning a sustainable above-market performance affected their approach.

- What investment criteria they used and which investment strategies they applied.

- How the experts compared amongst themselves in relation to the profiling and survey questions.

- The spread and presence of the experts within the original three types of investor (asset managers, private investors and institutional investors).

- If, and how experts' investment acumen and behaviour differed between global investors and Swiss investors.

7.2.2. Approach to profiling the investors

The method for profiling the investors into expertise groups was a five-step process:

1. The identification of relevant profiling questions to cluster investors into the new groups, inferring from the analysis and results of Research Question 1.

2. The development of a uniform scoring system that allocates 0 - 5 scores to the various profiling questions.

3. A method to account for missing answers/values.

4. A method to apply a maximum score to identify the uniformed investors and a minimum score to identify the experts, by this means also identifying the informed investors.

5. The actual assessment of the investor expertise groups by running the profiling questions (answers) against the scoring system in order to allocate all participants to one of the three investor expertise groups.

7.2.3. Identifying profiling questions to cluster investors

32 blocks of questions, with a total of 88 questions and sub-questions, were posed to the respondents. 24 of the questions were single answer choice questions while eight blocks of questions each consisted of up to 11 sub-questions each. In order to profile the participants (along the Dreyfus model) into the three relevant investor groups (UNI, INI, EXP), I analysed the 88 questions in relation to education, qualification, experience and the ability to explain various investment terms, investment criteria and investment strategies.

A first examination revealed 16 profiling questions with a total number of 83 possible answers. I then ran the scoring system against the profiling questions and started to conduct a first analysis. However, I recognized that some of the questions I used were not entirely designed with this process in mind, and that I may have omitted some questions that were of significance for profiling.

I screened my battery of questions again. This led to the inclusion of a further three questions, giving 21 profiling questions with a new total number of 126 possible answers. These included questions (see table below) were selected as significant, as I was able to affirm their concerns and importance as substantiated by the results and answers in response to RQ1 (literature, descriptive and discriminant analysis of the questionnaire).

7.2.4. Profiling questions

Q9	How many years' experience do you have investing in the stock market
Q10	How do you rate your financial investment knowledge
Q14_1	I now pay more attention to diversification of my financial investments
Q14_2	I now invest for the long run as the short time is uncertain
Q14_4	I now invest without emotions influencing my investment decisions
Q15_1	I can explain what an asset class is
Q15_2	I can explain what a coupon is
Q15_3	I can explain what a futures is
Q15_4	I can explain what an option is
Q15_5	I can explain what the P/E Ratio is
Q15_6	I can explain what rebalancing is
Q15_7	I can explain what a structured product is
Q16_1	I can explain what fees are incurred from trading active managed funds
Q16_2	I can explain what fees are incurred from trading passive managed funds
Q16_3	I can explain what fees are incurred from trading shares/stocks
Q32_1	For above market return, how important is the rebalancing process
Q32_2	For above market return, how important is it to reduce retrocessions
Q32_3	For above market return, how important is it to re-invest dividends
Q32_5	For above market return, how important is the choice of asset classes
Q32_9	For above market return, how important is the duration of my investment
Q32_10	For above market return, how important is the total expense ratio (TER)

Table 62 – 21 Selected profiling questions

7.2.5. Method for allocating scores to profiling questions

After identifying the profiling questions, I developed a scoring system that allocated a score from 0 to 5 for all 21 profiling questions and their 126 answer choices.

For instance, if someone stated 1 to 3 years' experience in investing in the stock market, one would score 1; 3 to 6 years' experience scored a 2; 6 to 10 experience scored a 3 etc. Or, if the investor strongly agreed that they could confidently explain i.e. asset classes, coupons or the P/E ratio, they would score the maximum, a 5; if the opposite was the case only a 1. Likewise, if a participant strongly agreed with the notion that reducing TER or retrocessions was important to achieve above market returns, they would score a 5 vs. a score of 1 if a they were of the opposite belief.

7.2.6. Method for accounting for missing answers

Once I had defined the 21 profiling questions and the scoring table, I ran the answers of the questionnaire against all 550 participants. This procedure left 426 participants for further analysis, as 124 of the initial 550 respondents had never invested in shares, bonds, funds, or other investment vehicles and could therefore be excluded.

Among the remaining 426 respondents, not all of them had answered all of the questions or they had (sometimes) indicated 'I don't know'. This was expected as participants were not forced to answer a question before they could go on to the next one. The reason for this decision was that if a respondent were unable to answer a given question, I would rather have him/her move on to the next one, instead of the system forcing an answer that could have resulted in this person terminating the survey altogether, or in a haphazard answer that would generate erroneous data.

In total, 330 out of the 426 participants replied to every single profiling question. Thus, my primary intuitive idea was to use those 330 to differentiate between the EXPs, the INIs and the UNIs. Some of the part respondents had, however, only missed one or a few answers. In fact, 18 participants replied to 20 out of 21 questions, 2 to 19, another 2 to 18 questions and finally 22 to 15 investor profiling questions.

As a consequence of seeking only '100% responses', this might have excluded some investors from analysis who could have qualified potentially as experts, solely because they had not answered one or a few profiling questions. Therefore, a minimum threshold of 15 profiling questions answered became the cut-off for a participant to be included in the analysis. This increased the total to 374 participants to be analysed. To take those with missing values into consideration, the method of substitution by the mean for missing values was used, to enable inclusion in the examination.

Accordingly, as all profiling questions received the same answer values, therefore the same minimum and maximum scores, the calculated arithmetic mean scores from all the complete answered profiling questions (330 respondents) was then applied to substitute for a given respondent's missing values/answers. As a result, 9 partial respondents relocated from the uniformed investor to the informed investor group, and 5 participants

relocated to the expert category. All other partial respondents (30) remained in their preliminary group, before substitution of mean values.

The answers, which could be considered an indication of the investment acumen of these participants, could now offer valuable information for the remaining research questions and therefore contribute to the outcome of this thesis.

Participants	Without averages	Investor group	With averages	Investor group
R_1Y48xMG22bdUdYF	40	UNI	44	UNI
R_4TId1vBldJMW5ff	41	UNI	43	UNI
R_7258QMAx3isZAYB	52	UNI	57	INI
R_ctDwWoRsLlvamVL	47	UNI	49	UNI
R_5zoCaRvc8x8pelL	68	INI	71	INI
R_8BTq5olx8fmpafj	79	INI	83	INI
R_b2fwWooZ8uDY1rT	69	INI	72	INI
R_5bUFEgG22zWRVxr	56	INI	65	INI
R_bDSr7gYaZwKboJ7	79	INI	83	INI
R_79EOUnmVRUyy9BH	61	INI	64	INI
R_d0ZlGgoe4I2DE0d	57	INI	60	INI
R_9EtEdhKMO38gPWt	68	INI	71	INI
R_1zxuGxap4eeXsEJ	53	UNI	56	INI
R_egqNXaDnFi5M5YF	67	INI	78	INI
R_8kxfEPuZNRJw5Fz	61	INI	64	INI
R_cw1kg3JfISQ3Oe1	89	INI	93	INI
R_6K9U8CBR4bQwx4V	87	INI	91	INI
R_d5NRrnACWxex3bD	83	INI	87	INI
R_51pazvZiPP6ysVD	63	INI	63	INI
R_6xOsEJG7CudWBWR	68	INI	71	INI
R_6gNaVc8eeZCDCLj	72	INI	76	INI
R_0SNYry7JTVb8q0t	90	INI	95	EXP
R_9zRplKmhyl5lwaN	58	INI	81	INI
R_2i7VsLxLQIMDgFv	57	INI	80	INI
R_3kOUzri4hLhOdJr	58	INI	81	INI
R_5tq6QUNIxEoqeRn	58	INI	81	INI
R_9SJHgLDfVzEu4cJ	57	INI	80	INI
R_ex2O1HXKenZPFaJ	67	INI	94	EXP
R_cZ6viNZrzfdyZFj	53	UNI	74	INI

R_cXTpBXm1rGK8R2B	50	UNI	70	INI
R_cAv3Q9sMMGxaKVv	58	INI	81	INI
R_4PoaA8BFdvYQ9Jb	53	UNI	74	INI
R_9QWFl1vC51yE2JD	51	UNI	71	INI
R_ePDfqZN8aS9NjJr	25	UNI	35	UNI
R_6opSJBEn6YjBSE5	44	UNI	62	INI
R_6hd5pIpMRNRYgGp	36	UNI	50	UNI
R_8G1Eu5nU2JNu9AV	51	UNI	71	INI
R_eYaISOr7Z3RIOkB	58	INI	81	INI
R_d0EJhIatacvwj5z	70	INI	98	EXP
R_9nujuUxRWj9XJVX	65	INI	91	INI
R_207bLQtAWEXV52J	68	INI	95	EXP
R_eDrV5Ff8W8OgoYd	69	INI	97	EXP
R_7W1R1m9yttbqLk1	39	UNI	55	INI
R_6DrcYdIYTCDtLbD	28	UNI	39	UNI

Table 63 – Scoring results with/without applying averages for missing values

7.2.7. Method for applying scores to define the level of expertise

With the particular interested in the experts' investment acumen and philosophies about investing, an appropriate method needed to be capable of distinguishing between uniformed investors, informed investors and experts.

As previously stated, most of the survey questions, and in particular the profiling questions, allowed for a score from 0 to 5, i.e. a 'strongly disagree' scored 1, 'disagree' 2, 'neutral' 3, 'agree' 4 and 'strongly agree' 5. 'I don't know' answers received a 0.

In order to evaluate the uninformed investors, it would have been logical (in the extreme) to have only allowed the answers that scored a 1 to be included, and conversely, a 5 for the experts. After testing of this idea, I realized that no participants would be in either one of these two groups, as no person scored the minimum or maximum marks (21 or 105).

The solution seemed to permit a range of responses to define each category (uniformed, informed and expert). Opting for a central value as a marker, this led to a maximum score of 2.5 across all profiling questions for the uniformed investor group, therefore the answers ranging between 'strongly disagree' and 'neutral'; and a minimum score of 4.5

for the expert group, hence answers ranged between 'agree' and 'strongly agree'. It follows that the scores between 2.6 and 4.4 bracketed the informed investor group (see table below).

By applying these maximum and minimum scores, a small group of experts (EXPs) was obtained for further analysis and discussion, and a group of investors that did not exhibit extensive knowledge or expertise (UNIs).

Nr.	Scoring table for uninformed investors and experts		Score	Max UNI	Min EXP
1	How many years' experience do you have investing in the stock market	1 - 3	1		
	How many years' experience do you have investing in the stock market	3 - 6	2		
	How many years' experience do you have investing in the stock market	6 - 10	3	2.5	4.5
	How many years' experience do you have investing in the stock market	10 - 15	4		
	How many years' experience do you have investing in the stock market	15 - 20+	5		
	How many years' experience do you have investing in the stock market	None	0		
2	How do you rate your financial investment knowledge	No knowledge	1		
	How do you rate your financial investment knowledge	Basic knowledge	2		
	How do you rate your financial investment knowledge	Average knowledge	3	2.5	4.5
	How do you rate your financial investment knowledge	Good knowledge	4		
	How do you rate your financial investment knowledge	Excellent knowledge	5		
	How do you rate your financial investment knowledge	I don't know	0		
3	I now pay more attention to diversification of my financial investments	Strongly disagree	1		
	I now pay more attention to diversification of my financial investments	Disagree	2		
	I now pay more attention to diversification of my financial investments	Neutral	3	2.5	4.5
	I now pay more attention to diversification of my financial investments	Agree	4		
	I now pay more attention to diversification of my financial investments	Strongly agree	5		
	I now pay more attention to diversification of my financial investments	I don't know	0		
4	I now invest for the long run as the short time is uncertain	Strongly disagree	1		
	I now invest for the long run as the short time is uncertain	Disagree	2		
	I now invest for the long run as the short time is uncertain	Neutral	3	2.5	4.5
	I now invest for the long run as the short time is uncertain	Agree	4		
	I now invest for the long run as the short time is uncertain	Strongly agree	5		
	I now invest for the long run as the short time is uncertain	I don't know	0		
5	I now invest without emotions influencing my investment decisions	Strongly disagree	1		
	I now invest without emotions influencing my investment decisions	Disagree	2		
	I now invest without emotions influencing my investment decisions	Neutral	3	2.5	4.5
	I now invest without emotions influencing my investment decisions	Agree	4		
	I now invest without emotions influencing my investment decisions	Strongly agree	5		
	I now invest without emotions influencing my investment decisions	I don't know	0		
6	I can explain what an asset class is	Strongly disagree	1		
	I can explain what an asset class is	Disagree	2		
	I can explain what an asset class is	Neutral	3	2.5	4.5
	I can explain what an asset class is	Agree	4		
	I can explain what an asset class is	Strongly agree	5		
	I can explain what an asset class is	I don't know	0		
7	I can explain what a coupon is	Strongly disagree	1		
	I can explain what a coupon is	Disagree	2		
	I can explain what a coupon is	Neutral	3	2.5	4.5
	I can explain what a coupon is	Agree	4		
	I can explain what a coupon is	Strongly agree	5		
	I can explain what a coupon is	I don't know	0		

Nr.	Scoring table for uninformed investors and experts		Score	Max UNI	Min EXP
8	I can explain what futures are	Strongly disagree	1		
	I can explain what futures are	Disagree	2		
	I can explain what futures are	Neutral	3	2.5	4.5
	I can explain what futures are	Agree	4		
	I can explain what futures are	Strongly agree	5		
	I can explain what futures are	I don't know	0		
9	I can explain what options are	Strongly disagree	1		
	I can explain what options are	Disagree	2		
	I can explain what options are	Neutral	3	2.5	4.5
	I can explain what options are	Agree	4		
	I can explain what options are	Strongly agree	5		
	I can explain what options are	I don't know	0		
10	I can explain what the P/E Ratio is	Strongly disagree	1		
	I can explain what the P/E Ratio is	Disagree	2		
	I can explain what the P/E Ratio is	Neutral	3	2.5	4.5
	I can explain what the P/E Ratio is	Agree	4		
	I can explain what the P/E Ratio is	Strongly agree	5		
	I can explain what the P/E Ratio is	I don't know	0		
11	I can explain what rebalancing is	Strongly disagree	1		
	I can explain what rebalancing is	Disagree	2		
	I can explain what rebalancing is	Neutral	3	2.5	4.5
	I can explain what rebalancing is	Agree	4		
	I can explain what rebalancing is	Strongly agree	5		
	I can explain what rebalancing is	I don't know	0		
12	I can explain what structured products are	Strongly disagree	1		
	I can explain what structured products are	Disagree	2		
	I can explain what structured products are	Neutral	3	2.5	4.5
	I can explain what structured products are	Agree	4		
	I can explain what structured products are	Strongly agree	5		
	I can explain what structured products are	I don't know	0		
13	I can explain the fees incurred for trading active funds	Strongly disagree	1		
	I can explain the fees incurred for trading active funds	Disagree	2		
	I can explain the fees incurred for trading active funds	Neutral	3	2.5	4.5
	I can explain the fees incurred for trading active funds	Agree	4		
	I can explain the fees incurred for trading active funds	Strongly agree	5		
	I can explain the fees incurred for trading active funds	I don't know	0		
14	I can explain the fees incurred for trading passive funds	Strongly disagree	1		
	I can explain the fees incurred for trading passive funds	Disagree	2		
	I can explain the fees incurred for trading passive funds	Neutral	3	2.5	4.5
	I can explain the fees incurred for trading passive funds	Agree	4		
	I can explain the fees incurred for trading passive funds	Strongly agree	5		
	I can explain the fees incurred for trading passive funds	I don't know	0		

Nr.	Scoring table for uninformed investors and experts		Score	Max UNI	Min EXP
15	I can explain the fees incurred for trading shares/stocks	Strongly disagree	1		
	I can explain the fees incurred for trading shares/stocks	Disagree	2		
	I can explain the fees incurred for trading shares/stocks	Neutral	3	2.5	4.5
	I can explain the fees incurred for trading shares/stocks	Agree	4		
	I can explain the fees incurred for trading shares/stocks	Strongly agree	5		
	I can explain the fees incurred for trading shares/stocks	I don't know	0		
16	For above market return, the rebalancing process is	Very unimportant	1		
	For above market return, the rebalancing process is	Unimportant	2		
	For above market return, the rebalancing process is	Neutral	3	2.5	4.5
	For above market return, the rebalancing process is	Important	4		
	For above market return, the rebalancing process is	Very important	5		
	For above market return, the rebalancing process is	I don't know	0		
17	For above market return, reducing retrocessions is	Very unimportant	1		
	For above market return, reducing retrocessions is	Unimportant	2		
	For above market return, reducing retrocessions is	Neutral	3	2.5	4.5
	For above market return, reducing retrocessions is	Important	4		
	For above market return, reducing retrocessions is	Very important	5		
	For above market return, reducing retrocessions is	I don't know	0		
18	For above market return, re-invest dividends is	Very unimportant	1		
	For above market return, re-invest dividends is	Unimportant	2		
	For above market return, re-invest dividends is	Neutral	3	2.5	4.5
	For above market return, re-invest dividends is	Important	4		
	For above market return, re-invest dividends is	Very important	5		
	For above market return, re-invest dividends is	I don't know	0		
19	For above market return, the choice of asset classes is	Very unimportant	1		
	For above market return, the choice of asset classes is	Unimportant	2		
	For above market return, the choice of asset classes is	Neutral	3	2.5	4.5
	For above market return, the choice of asset classes is	Important	4		
	For above market return, the choice of asset classes is	Very important	5		
	For above market return, the choice of asset classes is	I don't know	0		
20	For above market return, the investment duration is	Very unimportant	1		
	For above market return, the investment duration is	Unimportant	2		
	For above market return, the investment duration is	Neutral	3	2.5	4.5
	For above market return, the investment duration is	Important	4		
	For above market return, the investment duration is	Very important	5		
	For above market return, the investment duration is	I don't know	0		
21	For above market return, the total expense ratio is	Very unimportant	1		
	For above market return, the total expense ratio is	Unimportant	2		
	For above market return, the total expense ratio is	Neutral	3	2.5	4.5
	For above market return, the total expense ratio is	Important	4		
	For above market return, the total expense ratio is	Very important	5		
	For above market return, the total expense ratio is	I don't know	0		
	Minimum score to be an expert / Maximum score to be an uninformed investor			**53**	**94**

Table 64 – Scoring table to apply a maximum/minimum score for UNIs/EXPs

7.2.8.   Running the profiling questions against the participants' answers

After defining the profiling questions and allocating the score boundaries between the three groups (Expert, Informed, Uninformed), taking those who have at least answered 15+ of the profiling questions, and after accounting for missing values, I ran the profiling questions and answers across these remaining 374 investors (see addendum).

As a result, the participants who scored between 23 and 53 were the 'uninformed' investors (orange) with 9.36%, while 80.75% scored 54 to 93 points and were therefore categorized as 'informed' investors (blue), with the remaining 9.89%, who scored between 94 and 103 points, classified as the experts (green).
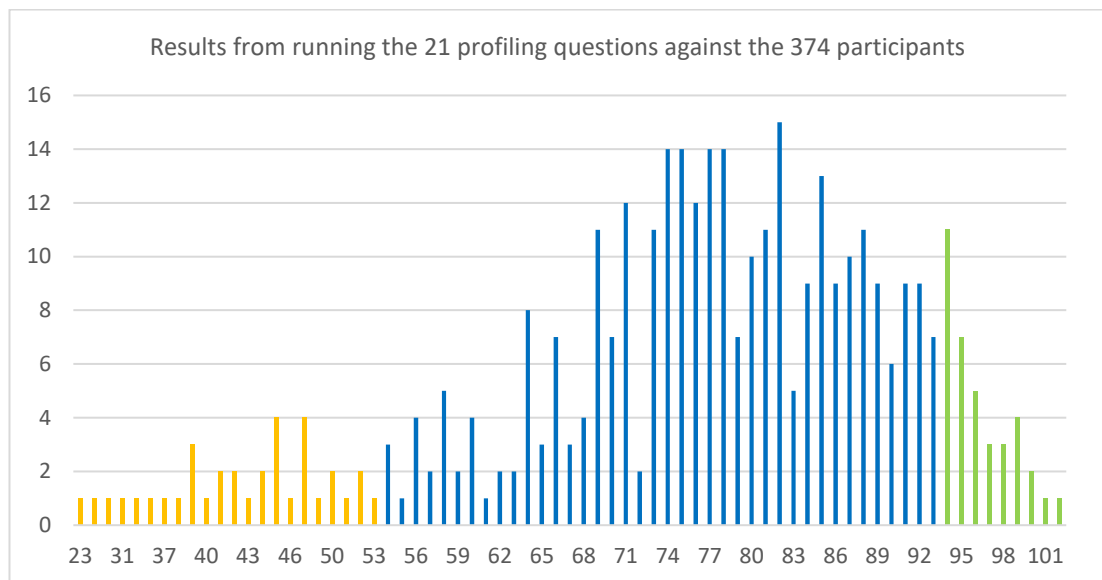
Figure 47 – Distribution of participants' scores across UNIs, INIs, EXPs

The pie chart below shows that of the 374 included respondents, who qualified for the final analysis, 35 were uninformed investors, 302 were informed investors and 37 participants were categorized as experts.
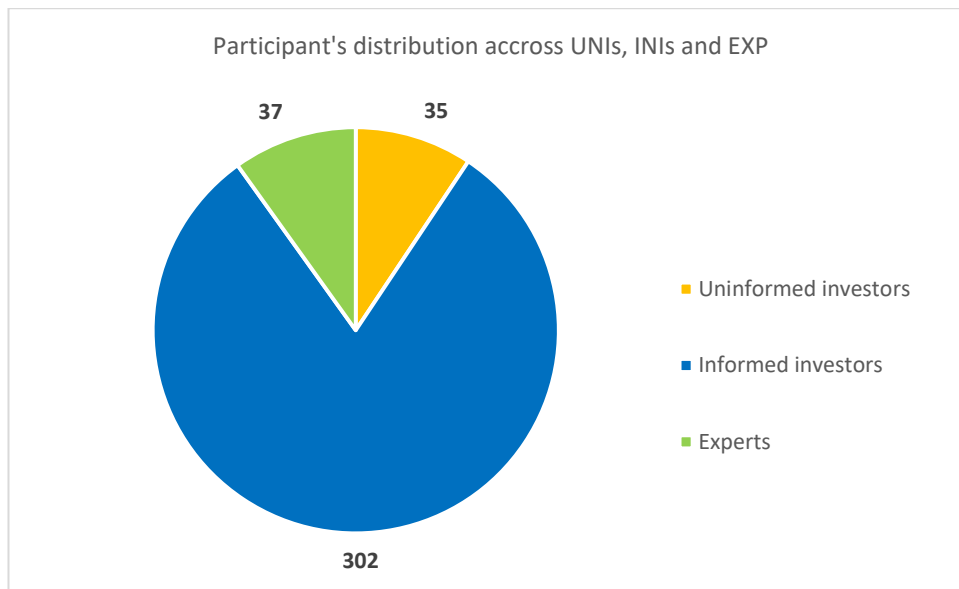
Figure 48 – Participants' distribution across the supplementary investor groups

The focus was essentially on the differences in investment acumen and behaviour amongst the UNIs, INIs and EXPs for the second research question, and predominantly on the 'experts' to answer the third research question, regarding the characteristics and investment conduct of experts.

The probable reason why there were only around 9% uninformed investors identified within the 374 participants could be found in the initial target respondents to this survey. Hence, the primary target individuals most likely did not represent the uninformed investor, as the survey was addressed to former and current work colleagues, as well as to members of the social media and business platforms XING and LinkedIn. Moreover, specifically targeted were asset managers working independently for banks or for institutional investors (professional investors), rather than private investors. Certainly, if a greater maximum score were applied as the upper limit for the 'uniformed investors,' a much larger group of UNIs than the 35 participants included would be generated. Further thoughts on the classification of respondents using their scores appears below.

7.2.9. Alternative means for distinguishing UNIs, INIs and EXPs

To distinguish the three investor groups, alternatively a mean score could be used and 1 or 2 standard deviations as boundaries. In essence, by applying one standard deviation, the mean score was 63, with a maximum score of 42 for the uniformed investors and a minimum score of 84 for the experts, resulting in 16 UNIs, 229 INIs and 129 EXPs.

Applying two standard deviations would have yielded a maximum score of 33 for the uninformed investors and a minimum score of 93 for the experts, and resulted in only 5 UNIs, 325 INIs and 44 EXPs.

This was rejected, as by applying one standard deviation, more than one third of all respondents would be 'experts'. This proportion seemed too great; it would have resulted in a less refined analysis of the 'most expert' participants' investment behaviour. By applying two standard deviations there would be an appropriate number of experts, but only a handful of uninformed investors. Again, the ability to adequately discriminate at the other end of the spectrum would be lost.

The non-normal distribution of the data is significant. Any alternative to the procedure used, such as ChiMerge (Kerber, 1992) or Holte's (1993) 1R algorithm, which are both supervised methods for the partitioning of data, also require judgmental input. More recent algorithms are better suited to very large data-sets and data mining applications (see Dougherty, Kohavi and Sahami, 1995).

Garcıa, Luengo, Saez, Lopez, and Herrera (2013) provide a current and comprehensive overview of available methods and their effectiveness. They report that of the 30 methods studied 'many classic discretizers are usually the best performing ones'. This is the case of ChiMerge, MDLP, Zeta, Distance, and Chi2' (p. 744). The categorization (discretization) procedure applied here, given the nature (distribution, number of cases and skewness, lack of training data) of the original data set, conforms to their principle of finding the most suitable discretizer taking into consideration some basic characteristic of the data sets' (p. 747).

7.3.   Research method

Because the entire analysis compares the three different profiles 'uninformed investors', 'informed investors' and 'experts', calculation of bivariate statistics for all the questions of interest was facilitated. Furthermore, for most questions and because of the ordinal characteristics of the data, Cramer's V could also be computed and interpreted (Fisher, 1925). By applying the Pearson-χ^2-Test (Pearson, 1900), evaluation of how likely it is that any observed difference between the investor groups arose by chance, is made.

Therefore, the computation and interpretation of the observed vs. the expected frequencies follows. The difference between both frequencies resembles the total error of this statistical model.

		Investor Profile		
Highest Education	Experts	Informed Investors	Uninformed Investors	Total
Bachelor (BA/BS)	1	28	9	38
Compulsory school	0	2	0	2
Doctorate (PHD/DBA)	4	19	2	25
Total	5	49	11	65

Table 65 – Bivariate example for observed frequency

$$\text{model}_{ij} = \frac{row\ sum_i\ *\ column\ sum_j}{n}$$

The table below illustrates the expected frequency for this example. For holders of a bachelor degree within the experts' category, the computed result was 2.92.

		Investor Profile		
Highest Education	Experts	Informed Investors	Uninformed Investors	Total
Bachelor (BA/BS)	2.92	28.65	6.43	38
Compulsory school	0.15	1.51	0.34	2
Doctorate (PHD/DBA)	1.92	18.85	4.23	25
Total	5	49	11	65

Table 66 – Bivariate example for expected frequency

The value for χ^2 is then calculated as follows:

$$\chi^2 = \frac{(1 - 2.92)^2}{2.92} + \frac{(28 - 28.65)^2}{28.65} + \cdots$$

The computed value (expected frequency) for χ^2 can then be tested against the critical value for χ^2 for a certain level of significance.

Field (2009) explains that such a statistic is only an approximative measure, as its reliability depends on the size of the sample, hence with large sample sizes, the χ^2-Test is straightforward. Small sample sized however (below 5 responses in each cell), results in inaccurate estimations. This has been considered within this analysis by either the use of the Fisher-Exact-Test or the Likelihood Ratio (LR) method, as suggested for χ^2 (Field, 2009).

$$L\chi^2 = 2 \sum observed_{ij} * \ln \left(\frac{observed_{ij}}{model_{ij}} \right)$$

Because a χ^2-Result and its significance on its own are no indicators for the strength or direction of its relationship, the statistical correlations measures such as ϕ (-1 to +1) or 'Cramer's V (only positive values for the strength of a relationship, i.e. 0.2 very week, 0.4 week, 0.6 middle, 0.8 strong and 1 very strong) can be applied.

$$V = \sqrt{\frac{\chi^2}{n * (k_{i,j} - 1)}}$$

It follows that in the interpretation of a bivariate statistic is only noteworthy if the test of significance shows a p value < 0.5. Thus, if there is no significant relationship for my survey questions/answers observed then this answer/result has no statistical value. In that case, a meaningful relationship could not be established. For this research questions, here the comparison is of the three different investor groups, the column percentages are /the relevant ones. However, the row percentages are also presented for completeness.

7.4.   Analysis and discussion for Research Question 2

For the following analysis, a bivariate table is presented for every question or block of question that shows the computed χ^2 value and, when feasible, the values of the Fisher Exact test and the Likelihood Ratio method. The discussion refers the analysis as well as to the prior research question.

7.4.1. Education

Label	χ2	p (Chi)	Fisher Exact	p(L-Chi2)	Cramer V
What is the highest level of education you have completed?	24.535	0.078			0.181

Table 67 – Statistical analysis - Education

With a P-value of 0.078 and a Cramer's V of 0.181, the analysis could not reveal a significant relationship regarding the highest level of education within the three investor groups. Thus, an investor with a PhD does not necessarily show superior investment acumen. There is no significant relationship between the level of education and the expertise of uniformed investors, the informed investors and the experts.

However, when looking at the bivariate analysis, it is interesting to see that only 3% of the experts indicated a bachelor degree as their highest education level, while the number increased to 9% for the informed investors and to 26% (> 8 times more) for the uninformed investors. Conversely, the number of PhDs/DBAs was twice as high for the EXPs when compared to the INIs, and 70% higher in relation to the UNIs. Similar, were the results when the highest level of education was a university or master degree: 49% for the experts, 43% for the informed investors and merely 23% for the uninformed investors. There seems to be a (but not statistically significant) relationship between the level of education and membership of a given investor group, which could be indicated by the respective p-value and the Cramer's V.

7.4.2. Qualifications

Since the χ^2-analysis for multiple answers was not possible within SPSS, Stata software (14.2) was used. As there was no obvious correlation between the answer categories, Cramer's V could not be computed for this question.

Label	χ^2	p (Chi)	Fisher Exact	p(L- χ^2)	Cramer V
Qualifications	44.378	0.001		0.002	

Table 68 – Statistical analysis – Financial qualification

With a p-value of 0.001, the p(L-χ^2) of 0.002, these results are significant.

The analysis clearly displays a rather big discrepancy regarding the level of qualification between the experts and the informed investors. The uninformed investors (save one) do not hold any of the finance or investment management related credentials. When looking at the (presumably) most prestigious designation in the field (Jaffe, 2010), 143% more EXP vs. the INIs hold a CFA. Inversely, the EXP showed the smallest number of 'non-qualification' too (45%).

| | | | **Profile** | | | |
			Experts	Informed Investors	Uninformed Investors	Total
Qualifi-cations	Chartered Financial Analyst (CFA)	Count	6	20	0	26
		Row %	23.10%	76.90%	0.00%	100.00%
		Col %	15.80%	6.50%	0.00%	
	Certified Financial Planner (CFP)	Count	2	4	0	6
		Row %	33.30%	66.70%	0.00%	100.00%
		Col %	5.30%	1.30%	0.00%	
	Master of Finance (or similar)	Count	8	49	1	58
		Row %	13.80%	84.50%	1.70%	100.00%
		Col %	21.10%	15.90%	2.90%	
	Master of Investment Management (or similar)	Count	3	3	0	6
		Row %	50.00%	50.00%	0.00%	100.00%
		Col %	7.90%	1.00%	0.00%	
	None of the above	Count	17	217	34	268
		Row %	6.30%	81.00%	12.70%	100.00%
		Col %	44.70%	70.20%	97.10%	
	Professionally Qualified Accountant (e.g. CPA)	Count	2	16	0	18
		Row %	11.10%	88.90%	0.00%	100.00%
		Col %	5.30%	5.20%	0.00%	
Total		Count	38	309	35	382

Table 69 – Financial qualification

To focus more on the analysis and discussion, I moved the presentation of the remaining computed results (> 60 tables) to the appendix.

7.4.3. Income, experience and knowledge

For the questions regarding annual income, years of experience in investing and the self-rating of investment knowledge, the analysis shows significant results, with weak to medium associations between the variables.

Label	χ2	p (Chi)	Fisher Exact	p(L- χ2)	Cramer V
Indicate your annual income range in CHF / US$	51.059	0.000			0.261
Years' experience	60.782	0.000			0.285
Investment knowledge	253.652	0.000	0.000	0.000	0.585

Table 70 – Statistical analysis – Income, experience, knowledge

The results show that the experts overall achieve the highest income levels, with no clear indication of difference between the other two investor groups. Years of experience, on the other hand, shows increasing levels from UNIs to INIs to EXPs. While the uninformed investors indicated 0 to 3 years investment experience, 58% of the informed investors and 89% of the experts are managing money for more than 10 years; 43% of the experts even more than 20 years (vs. 18% and 0% for the other groups).

These results serve to confirm the initial assumption that the UNIs are rather found within the Dreyfus categories 'novice' or 'advanced beginners', the INIs in the area of 'competent' and 'proficient' and the EXPs within 'proficient' and 'expertise'. This is also in-line with individuals' self-rating of investment knowledge, which 'matches' with the categories. Experts affirm themselves as having good to excellent knowledge, informed investors estimate their knowledge as average or good and the uniformed investors as basic or non-existent. Of course, such self-ratings must be treated with caution, as the response is subject to status bias, and people tend to overestimate their investment knowledge (Darst, 2003; Pompian, 2006).

7.4.4. Proportion of savings invested

This question probed what proportion of an *individual's* disposable income (money not needed for current expenditure) is vested in investment products such as shares, bonds, funds, commodities and other asset classes.

Label	χ²	p (χ²)	Fisher Exact	p(L- χ²)	Cramer V
How much of your savings is invested in shares, bonds, funds, etc.	66.210	0.000			0.311

Table 71 – Statistical analysis – Proportion of savings invested

This result is significant and shows a week to medium correlation amongst the variables. It can therefore be concluded that the experts tend to invest more of their disposable income than the other two groups.

In fact, 72% of the EXPs invested more than half of their funds vs. 44% for the INIs and 14% for the UNIs. 58% the experts (vs. 30% and 3%) invested more than 60%, and still half of all EXP more than 70% (vs. 21% and 0%). Even at the 80% investment level, more than 30% EXP are to be found vs. 12% UNIs.

Interestingly, between the investor groups previously considered, the canonical correlations analysis did not show significant levels (p-value 0.982, Cramer's V 0.130). That would indicate that the professional investors do not tend to invest more of their available funds than the private investors do. Yet the *weighting* amongst the current three investor expertise groups is different, hence the different effect.

7.4.5. Investment duration

The time to an investor's 'investment horizon' is considered significant by many, with a long-term perspective being seen as preferable to a short time horizon (though, of course, some contest this view).

Label	χ²	p (χ²)	Fisher Exact	p(L- χ²)	Cramer V
How long is your investment horizon?	19.796	0.071			0.164

Table 72 – Statistical analysis – Investment duration

The analysis shows a p value of 0.071 and is therefore not significant. Nonetheless, the largest portion of both informed investors (24%) and the uninformed investors would invest for 7-10 years (35%), while the largest group among the experts choose 10 – 15 years (28%).

Interestingly, 45% of the EXPs, 20% of the UNIs and 26% of the INIs show an investment horizons of more than 10 years; at the other end of the scale, 11%, of UNIs 12% of INIs and 9% EXPs would only invest for maximum two years.

7.4.6. Annual expected return and tolerance for loss

These questions asked about desires for rates of return to one's investment portfolio and the inventors' tolerance for loss in an unfortunate stock market year. At their heart is a view of acceptable levels of risk for investors.

Label	χ^2	p (χ^2)	Fisher Exact	p(L-χ^2)	Cramer V
What is the annual return you expect on your financial investments	22.527	0.429			0.183
What is your tolerance for loss in a bad year on the stock market	7.148	0.929		0.976	0.105

Table 73 – Statistical analysis – Expected return and tolerance for loss

Neither question showed a significant relationship relating to the profiles. However, the absolute numbers reveal that 66% of the experts and 56% of the informed investors expect a return of 4-8%, which is line-line with the long-term average (Pictet, 2015; Stammers, 2015). The uninformed investors are more cautious. When it comes to risk tolerance, the results are contrary: all three investor groups show a high tolerance for loss - 29% of the EXPs, 30% of the INIs and 38% of the UNIs tolerate a portfolio loss of up to 10% in a bad year. 44%, 48% and 33% are willing to accept 15-25% loss and even 12%, 5% and 5% would tolerate losing 25-50% in an unlucky period. This is greater than data relating to expectations of returns would suggest. Most commentators would argue that the risk of losses on the scale investors in general said they would tolerate, would only occur in higher rate of return (risky) investments.

7.4.7. Development of an investor's risk profile

This question examined whether the respondents have developed a risk profile, either by themselves, by a third party, or not at all.

Label	χ²	p (χ²)	Fisher Exact	p(L- χ²)	Cramer V
Who has ever developed a risk profile for you?	26.825	0.001			0.193

Table 74 – Statistical analysis – Development of a risk profile

The result is significant but shows only a weak association amongst the variables. However, it can be said that amongst all three groups, either the investor him/herself has developed their own risk profile or not at all.

Only the experts show a clear tendency, as compared to the other two groups: they have, more usually, developed a risk profile for themselves (43% vs. 26% and 6%). It is perhaps surprising that 66% of the uniformed investors, 30% of the informed investors and 31% of the experts have never worried about their risk profile.

7.4.8. Ability to explain investment concepts and products

Participants' ability to understand and explain seven important investment concepts and products form the area of interest here; the supposition was that experts would be better able to explain the more complex/esoteric terms.

Label	χ²	p (χ²)	Fisher Exact	p(L- χ²)	Cramer V
I can explain asset class	214.081	0.000			0.536
I can explain coupons	131.291	0.000			0.421
I can explain futures	157.286	0.000			0.459
I can explain options (calls/puts)	128.264	0.000			0.415
I can explain the P/E Ratio	163.717	0.000			0.468
I can explain rebalancing	180.701	0.000			0.493
I can explain structured products	176.798	0.000			0.487

Table 75 – Statistical analysis – Ability to explain investment concepts

All of these results are significant with medium associations among the variables. The results throughout this set of questions are the same: the experts agree or strongly agree whether they are able to explain the investment topic, whereas the other two investor groups answers were generally between 'I cannot explain' and 'neutral'.

100% of the experts strongly agree that they can explain asset classes but only 37% of the informed investors and 3% of the uninformed investors agree at the same level. Analysis associated with RQ1 (canonical correlation analysis) previously showed a similar effect, as the more a respondent was able to explain the notion of asset classes the more, s/he was classified as a professional investor. Taken together, the results of both analyses suggest the initial supposition is correct. Again, the previous examination (RQ1) showed that the professional investors comprehend rebalancing very well, and in this current analysis 95% of the EXPs (vs. 23% INIs, 0% UNIs) are able to explain this concept, providing further support for the supposition.

Furthermore, the previous canonical correlation analysis showed that the more one could explain coupons or the P/E ratio, the more one was classified as a private investor. This is odd, as it might be imagined that professional investors would be able to explain these basic concepts very well. More in line with expectations, though, the more one could explain rather technical terms like options, futures and structured products, the more a respondent was likely to be categorized as a professional investor. Clearly, this second three-type respondent analysis shows that the experts did display a superior understanding of the investment topics and products in question, compared to the other two investor groups.

7.4.9. Ability to explain the fee structures of vehicles

As fees can have a major impact on investment performance, this topic was subject to specific investigation.

Label	χ^2	p (χ^2)	Fisher Exact	p(L- χ^2)	Cramer V
I can explain the fee structure of active managed funds	234.968	0.000			0.560
I can explain the fee structure of passive mang. funds	228.914	0.000			0.553
I can explain the fee structure of shares/stocks	182.142	0.000			0.494

Table 76 – Statistical analysis – Ability to explain fee structures

All three analyses are significant with a medium correlation among the variables. 100% of the experts agree or strongly agree that they can explain the fee structure of all investment vehicles in question. Nonetheless, it is interesting to see that the informed investors are also quite knowledgeable in this regard, as 45% understand the fee structure

of active managed funds, 59% of passive managed funds and 83% of shares/stocks. The UNIs only positive result is 28% with shares/stocks.

One could assume that the fee composition of active managed funds is indeed difficult to comprehend, especially since many funds, even though they publish their total expense ratio (TER), are still secretive about other charges, not included in the TER, i.e. front-end load fees (purchase or entry fee) or exit fee (back-end load) at the point of redemption.

7.4.10. Significant investment perceptions

Five questions addressed the importance of selected investment topics that have a (more or less) vital role when investing.

Label	χ^2	p (χ^2)	Fisher Exact	p(L-χ^2)	Cramer V
I pay more attention to diversification of my financial investments	24.670	0.002			0.183
I rather invest for long-term as the short-term is uncertain	6.810	0.339	0.308	0.237	0.106
I rather invest in single stocks/shares than in Funds	18.214	0.020			0.158
I rather invest without emotions influencing my investment decisions	22.421	0.004	0.003		0.175
I changed my bank/Investment manage because I lost trust in them/him/her	12.769	0.120	0.085	0.102	0.134

Table 77 – Statistical analysis – Significant investment perceptions

Overall, three (diversification, funds over shares, omit emotions) of the five criteria tested showed significant but weak correlations. The investment duration (0.339) and the change of asset manager or bank (0.120) are statistically irrelevant.

76% of the experts agree or strongly agree that spreading the assets over different asset classes or products is an important investment concept. It is satisfactory to see that two thirds of the informed investors (65%) but also almost half of the uniformed investors trust in the notion of diversification.

When looking at investments in funds vs. single shares/stocks, 51% of the experts agree that funds are the more sensible means (vs. 37% INIs and 28% UNIs). Similarly, results

in relation to the initial research question revealed the same as the canonical correlation analysis, showing that the more one invests in funds over shares, the more one is categorized as a professional investor.

78% of the EXPs but only 45% of the INIs and 39% of the UNIs aspire to invest without being influenced by their emotions. Pompian (2006), the CFA Institute (2008), Stanyer (2010), Robbins (2014), Siegel (2014) or Stammers (2015) established that one should always suppress emotions when investing, which was also identified within the previous research question.

The χ^2-Test could not demonstrate statistical significance regarding investment duration. However, it may be noteworthy that the majority of the experts (62%) and half of the informed investors preferred investing for the long-term, rather than the short-term as it is more volatile. The previous two-group canonical correlation analysis revealed the same: professional investors are more focused on the long-term than private investors.

7.4.11. Investments in various asset classes

These nine questions asked the investors if they would invest in certain asset classes, which covered a spectrum of associated risks.

Label	χ^2	p (χ^2)	Fisher Exact	p(L- χ^2)	Cramer V
I would invest in - Cash	13.081	0.109	0.117	0.165	0.134
I would invest in - Commodities (Oil, Wheat etc.)	4.191	0.840	0.879	0.846	0.077
I would invest in - Corporate bonds	21.167	0.007	0.012	0.016	0.172
I would invest in - Gold	13.609	0.093	0.102	0.095	0.137
I would invest in - Government bonds	20.286	0.009			0.168
I would invest in - Hedge funds	25.268	0.001			0.191
I would invest in - High yield bonds	42.982	0.000			0.247
I would invest in - Real estate (Funds)	17.760	0.023	0.018	0.018	0.157
I would invest in - Shares/stocks	46.759	0.000	0.000	0.000	0.255

Table 78 – Statistical analysis – Investment in various asset classes

Corporate bonds, government bonds, hedge funds, high yield bonds, real estate and shares/stocks show significant results with rather weak Cramer's V.

The experts (97%) and the informed investors (88%) but also the uninformed investors (68%) showed a high agreement to invest in shares/stocks. I would assume that regarding the UNIs, this is the asset class of which these investors are most aware. For the corporate bonds, the EXPs and the INIs agreed to a significant extent (77%, 65%), while the different groups all agree to a similar extent in real estate investments (59%, 61% and 67%).

The results for commodities and government bonds are also equally distributed amongst the three investors groups, while government bonds are more favoured by the UNIs (55%) rather than by the INIs (45%) and the EXPs (36%).

7.4.12. Factors that contribute to an outperformance of market benchmarks

The quest for higher but sustainable performance that out-performs the market benchmarks in the various asset classes is a major goal for investing. Nine questions examined aspects of market performance and investment approach.

Label	χ^2	p (χ^2)	Fisher Exact	p(L- χ^2)	Cramer V
Rebalancing	25,751	0,001	0,003	0,005	0,203
Reducing/eliminating Retrocessions (Kick-backs)	13,896	0,085	0,089	0,103	0,149
Reinvesting dividends/coupons	18,052	0,021	0,044	0,040	0,167
The choice of active or passive managed funds	22,084	0,005	0,016	0,005	0,188
The choice of asset classes	33,443	0,000	0,001	0,000	0,230
The choice of products (shares, bonds, funds, etc.)	9,145	0,330	0,221	0,466	0,118
The current purchasing price	16,084	0,041	0,180	0,301	0,155
The duration of my investment	17,184	0,028	0,054	0,066	0,160
Total Expense Ratio (TER)	39,078	0,000	0,001	0,000	0,251

Table 79 – Statistical analysis – Benchmark outperformance factors

Statistically significant results were computed for portfolio rebalancing, the choice of asset classes and the total expense ratio (TER).

The total expense ratio with a p-value of 0.000 and a Cramer's V of 0.251 found the stronger support with the experts, followed by the choice of asset classes with a p-value of 0.000 and a Cramer's V of 0.230, and rebalancing with a p-value of 0.001 and a Cramer's V of 0.203.

Similarly, the experts classified the choice of active or passive managed funds and re-investing dividends as important contributors to achieving superior returns.

The two other investor groups support these notions to a lesser degree. These results are largely in-line with relevant literature (i.e. Brinson, Hood, & Beebower, 1986; Surz, Stevens, & Wimer, 1999; Ibbotson & Kaplan 2000; Swensen, 2005; Goldie and Murray, 2010; Stammers, 2015) and the previous analysis regarding the knowledge and expertise differences between professional investors and private investors.

Interestingly, the uninformed investors (and not the experts) were the strongest advocates (70%) for reducing retrocessions, while, controversially, reducing TER was important or very important for 91% of the experts. One could conclude that reducing the overall cost seems to be imperative, but not necessarily on the back of the retrocessions (fees).
The same was also evidenced before with the professional investors rather supporting the reduction of TER than foregoing commissions when selling third party investment products (authors assumption).

Another noticeable result was that the choice between active and passive managed funds was also important in achieving a higher and sustainable return than the market average. The EXPs and the INIs in particular understand the additional cost active management demands, and that active fund managers may find it challenging to achieve superior to market average returns, as many academics and practitioners evidenced (Ellis, 2002; Swensen, 2005; Zweig, 2006; Bogle, 2007; Goldie and Murray, 2010 or Stammers, 2015).

The product choice itself was not of statistical significance, but when looking at the absolute numbers or computed percentages, it achieved amongst the highest results for a sustainable outperformance.

7.4.13. Importance of various investment criteria

Nine questions concerned the importance of major investment criteria potentially of relevance to respondents. The criteria were selected from a range found in the literature, which were believed to be significant.

Label	χ^2	p (χ^2)	Fisher Exact	p(L-χ^2)	Cramer V
Company is a Swiss company	6.668	0.573	0.672	0.538	0.098
Ethical aspects like sustainability or green investing	15.636	0.048	0.044	0.037	0.149
Importance decisions-Expected dividend rate	5.780	0.672	0.519	0.798	0.091
My knowledge of the company	13.514	0.095	0.124	0.178	0.139
Past performance (profit/loss over years)	25.578	0.001	0.003	0.008	0.191
Share/stock has a low P/E ratio	12.715	0.122	0.111	0.080	0.140
The industry the company is in	9.702	0.287	0.304	0.184	0.118
Product is an active managed fund	13.308	0.102	0.061	0.091	0.144
Product is an Index fund or an ETF	17.709	0.024	0.028	0.077	0.165

Table 80 – Statistical analysis – Importance of various investment criteria

The analysis exposed statistically significant results for ethical investment criteria such as sustainability or green investing, for past performance and for the choice of the product being an index fund or an exchange traded fund (ETF. Informed investors viewed ethical aspects as highly relevant (82% vs. 0% for the EXPs) while the uninformed investors classified past performance (price movements) of investment products as very important (40% vs. 9% for the EXPs). The experts, on the other hand, trust that selecting an index / ETF as an investment vehicle is vital (24%), vs. the actively managed counterpart (35%).

The next three criteria the experts favour more than the other two groups are knowledge of the company (40%), the industry the company is in (28%) and the dividend rate (24%).

Past performance, even though statistically significant (81% UNIs) should not be of concern to investors with a long investment horizon (i.e. Ibbotson & Kaplan, 2000; Ellis, 2002). However, if one for instance believes in stock picking or technical analysis, then this criterion becomes a vital deciding factor.

7.4.14. Importance of various investment strategies

These questions evaluated the importance of various investment strategies.

Label	Chi2	p (Chi)	Fisher Exact	p(L-Chi2)	Cramer V
Active investing	9.990	0.266	0.231	0.234	0.129

Asset allocation	43.146	0.000	0.000	0.000	0.280
Buy and hold	10.971	0.203	0.273	0.362	0.134
Dividend investing	7.568	0.477	0.427	0.412	0.111
Fundamental analysis	16.778	0.033	0.176	0.094	0.177
Growth investing	9.575	0.296	0.413	0.459	0.130
Passive investing	28.004	0.000	0.001	0.006	0.224
Stock picking	11.957	0.153	0.124	0.165	0.138
Technical analysis	16.877	0.031	0.012	0.047	0.176
Value averaging	16.739	0.033	0.043	0.078	0.199
Value investing	17.471	0.026	0.154	0.159	0.185

Table 81 – Statistical analysis – Importance of various investment strategies

Significant results between investment strategies / applications and the profiles were established for asset allocation, fundamental analysis, passive investing, technical analysis, value averaging and value investing. However, the association within the variables is weak.

Asset allocation (0.000; 0.280), especially for the experts, has proven to be the most valuable investment strategy / applications. The INIs classified it as good and the UNIs as 'satisfactory'. This is in line with the previous analysis (RQ1), where the professional investors ranked asset allocation as the most favoured. Positively, the experts view passive investing (0.000; 0.224) as the superior strategy to implement and manage an investment portfolio, vs. active investing which did not show satisfactory significance levels.

Most experts and informed investors view fundamental analysis as 'excellent' and 'good', while the majority of the uniformed investors have also selected 'good'. The latter should be treated with caution as only a few UNIs answered this question. The prior analysis also showed that fundamental analysis is amongst the top ranked investment strategies.

The literature shows that fundamental analysis (determining the health and performance of an underlying company or industry) is the root for succeeding in investment strategies such as value or growth investing. Fundamental analysis is often contrasted with technical analysis, which within the prior research question did not find merit but was classified *here* as relevant with a p-value of 0.031 and a Cramer's V of 0.176 (weak).

Value investing, as expected and also evidenced within the first canonical correlation analysis, was also ranked amongst to superior investment strategies (0.026; 0.185), while growth investing, as a sort of counterpart to value investing, did not show significant results.

The last significant investment strategy was that of value averaging (0.033, 0.199), which is in contrast with the prior analysis (RQ1), where neither the asset managers, nor the institutional investors or the private investors classified it as an important. This leads to the conclusion that there are indeed investment experts that are knowledgeable about it. The descriptive analysis could not reveal the same.

7.5.   Summary of Research Question 2

The initial part of this chapter described my motivation to profile all asset managers, institutional asset managers and private investors into the three additional skills-related investor groups: uniformed investors, informed investors and experts.

It illustrated the five-step profiling process from: the identification of relevant profiling questions to cluster/categorize investors; the development of a scoring system; methods to account for missing values and to select a maximum score to identify the uniformed investors and a minimum score to identify the experts; to apply the scores for the investor types to then categorize them running the profiling questions.

As a result, from the original 550 survey respondents, 374 participants qualified for the final analysis; 35 were uninformed investors (UNIs), 302 were informed investors (INIs) and 37 participants were classified as experts (EXP).

The EXPs are better educated as, for instance, the number of PhDs is twice as high as with the INIs and 70% higher in relation to the UNIs. The same is true when comparing a university degree as the highest level of education.

When looking at qualifications, the UNIs do not hold any of the professional credentials featured in questions, whereas more than half of the EXPs have either passed the CFA, Master of Finance, Investment Management or other relevant qualification.

Experience in investing also showed statistically significant results and increasing levels from uninformed investors to informed investors to the experts. Almost 90% of the experts have managed wealth for more than 10 years, and over 40% for more than 20 years.

In the self-rating of participants own investment knowledge, the EXPs affirm themselves with good (proficient) to excellent knowledge (expertise), while the informed investors estimate their knowledge as average (advanced beginner) or good (competent) and the uniformed investors saw themselves as basic (novice) or non-existent.

The experts tend to have more of their disposable income invested than the other two groups, as almost three-quarters have invested more than half of their funds; a third of EXPs indeed have more than 80% of disposable income invested, compared with only 13% of the informed investors. Also, even though the above analysis did not identify the investment duration as statistically relevant, the major groups of the EXPs (28%) invest for 10-15 years, with 45% for more than 15 years.

The experts can also statistically be classified by their ability to explain important investment topics such as asset classes, coupons, futures, options, the P/E ratio, rebalancing or structured products. The same is true for understanding and explaining the fee structure of active managed funds, passive managed funds and shares. The INIs and UNIs answered these question between 'I cannot explain' and 'neutral', showing major differences here.

As established within for RQ1, this analysis also illustrated (76% EXP, 65% INIs and 65% UNIs) the importance of the concept of diversification (spreading the investments throughout appropriate asset classes and products). Investing in funds rather than shares is favoured by half of the expert investors, while three-quarters of them (compared to 45% of INIs and 39% of UNIs) are trying to negate emotions when investing.

For investment duration, the majority of the experts and half of the informed investors focus on the long-term contrasting with lower duration for UNIs; this shows a tendency, but not one that reaches statistically significant levels. On the other hand, statistically significant results were derived for different asset classes, i.e. corporate bonds, government bonds, hedge funds, high yield bonds, real estate and shares/stocks.

The latter was favoured by almost all EXPs, many INIs and two-thirds of the UNIs. The outcomes for the other asset classes were similar, with the experts showing the highest levels of agreement; they were always more cohesive than the informed investors and the uniformed investors.

When the investors were asked about important factors that contribute to a higher and more sustainable outperformance than market benchmarks, the analysis revealed significant results for portfolio rebalancing, re-investing dividends and coupons, the choice between active or passive managed funds, the choice of asset classes, the choice of products, the current purchasing price and the duration of the investment.

The analysis further exposed statistically significant results for the ethical investment criteria such as sustainability or green investing, which was especially true for the informed investors (82% vs. 0% for the experts).

The most valuable investment strategies / applications identified by the experts were asset allocation, fundamental analysis, passive and value investing; this was also the outcome of the prior analysis for RQ1. However, it is surprising that, contrary to the out-turn for RQ1, value averaging was found to have statistical significance – despite.

In contrast to RQ1, my null hypothesis for RQ2 is supported, since statistical evidence shows that the experts more than the informed or uninformed investors, with increasing knowledge and experience, did indeed exhibit superior investment acumen. The EXPs choose to invest diversely in passive instruments and for the long-term, while applying a cost-effective form of a buy-and hold strategy.

8.   The characteristics and investment behaviours of experts

8.1.   Chapter overview – Research question 3

This chapter presents the results and analyses to answer RQ3:

How to characterize the investment experts and their investment behaviours, criteria and strategies in an attempt to examine the Dreyfus model category concerning expertise?

My hypothesis is that the experts would show preferences for passive investing and re-investing (dividends, coupons, disposable income), maintaining appropriately diversified portfolios, cost-efficiency awareness and a long-term perspective.

8.2.   Analysis and discussion focusing on the experts

The discussion topics here draw on evidence presented in the analyses for RQ1 and RQ2. Additional or particularly relevant literature only will be cited to support arguments relating specifically to the 37 identified 'experts'.

8.2.1.   Gender distribution within profiled investors

Of the 374 participants, 62 investors were female and 312 were male; a ratio of around 1 to 5. However, only 2 females (3.2% of the sample) were classified into the expert group, while males numbered 35 (11.2%,). Within the informed investors, the female to male ratio was about 1 to 5 and 1 to 3 amongst the uninformed investors. Given the small absolute numbers in the more extreme groups, no particular inference can be drawn from this, though it might reflect a male gender bias in terms of both seniority and longevity in the industry.

Gender	All investors	Experts only	in %
Female	62	2	3.2%
Male	312	35	11.2%
Total	374	37	9.9%

Table 82 – Gender distribution within profiled investors
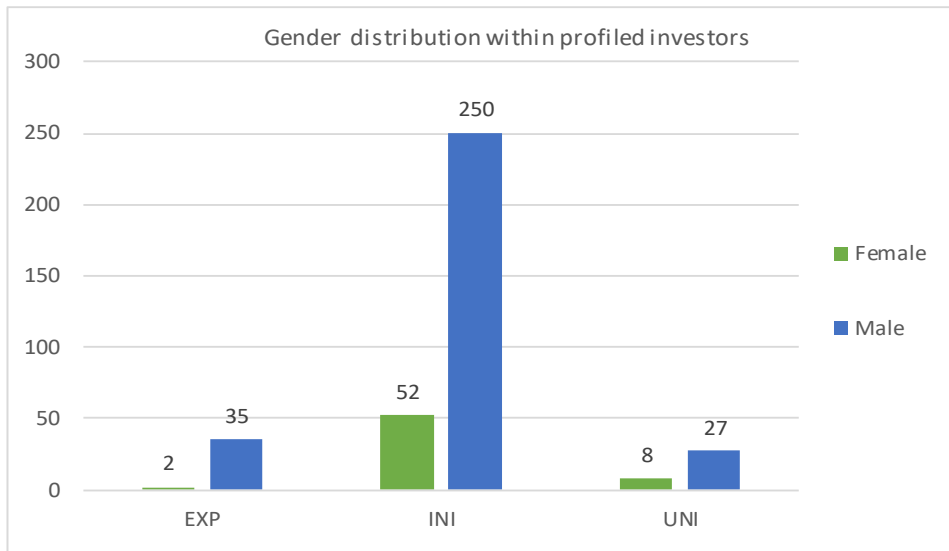
Figure 49 – Gender distribution within the profiled investors

8.2.2. Original investor types within the profiled investors

As expected, almost all uniformed investors (UNIs) were private investors. However, there was also one institutional investor who qualified as uninformed. The more surprising aspect is that a quarter of all experts were in fact private investors. This group were now vital for answering the third research question. The initial assumption was that professional investors would only be found within the experts; experts would come from asset managers and institutional investors.

Likewise, it was interesting to realize that 49 professional investors (almost two-thirds of the asset managers and institutional investors) only 'qualified' as informed investors.
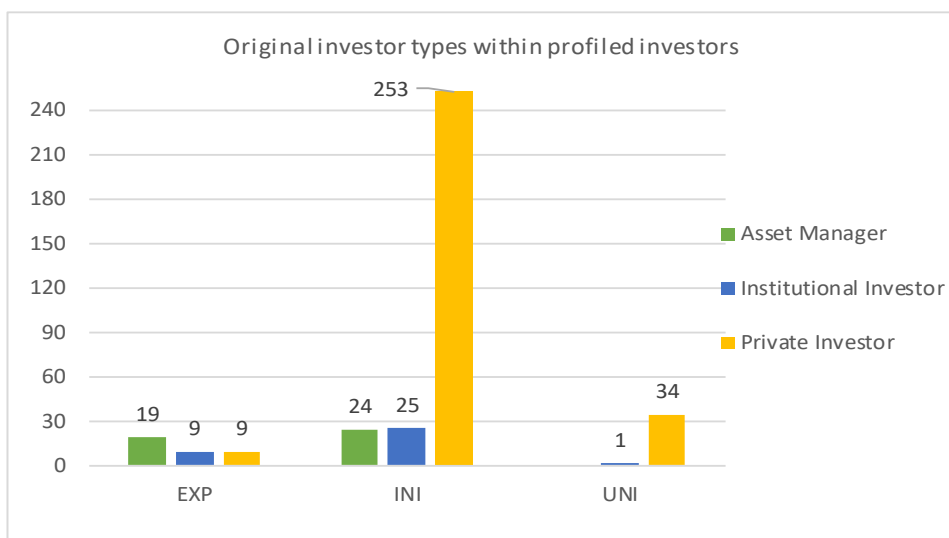
Figure 50 – Original investor types within the profiled investors

8.2.3. The experts by age groups

Around half of all the experts were between 35 and 44 years old, and over three-quarters were between 35 and 54. The average expert investor was 42.7 years old.
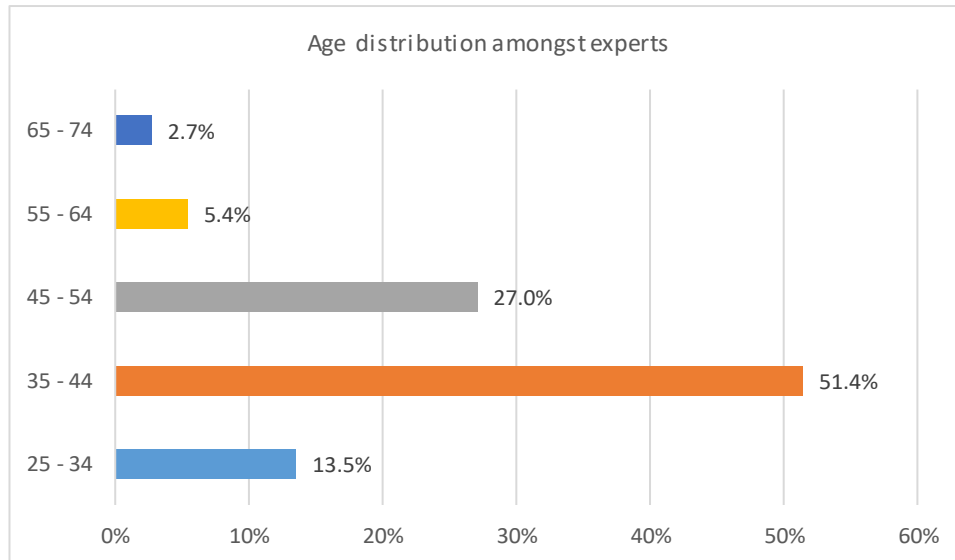
Figure 51 – The age distribution amongst the experts

8.2.4. The experts' level of education

As assumed, almost half of all experts held a university degree, followed by those holding degrees either from universities of applied sciences or from the Swiss federal organization. A further four experts had completed a doctoral degree. Almost all (33 of 37) experts were highly educated.
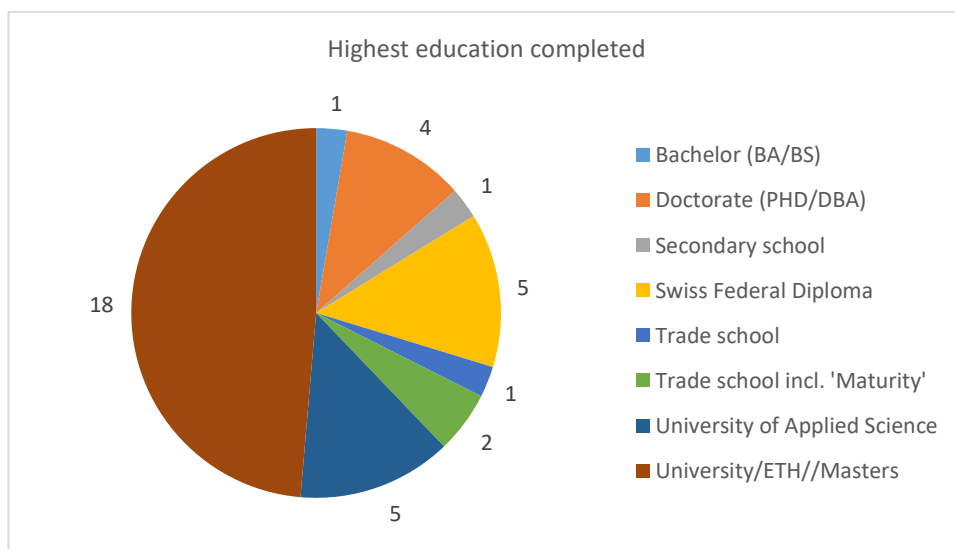
Figure 52 – The experts' highest level of education completed

8.2.5. The experts' level of qualification

A reasonable expectation might be that almost all experts held some of the qualifications included in the survey. The list could not contain all existing possibilities, but definitely the most likely ones, as drawn from Jaffe (2010). Furthermore, the questions had the ending 'or similar' attached. Hence, the participants would have chosen the qualification that was closest to the ones they held. For this reason, it was surprising that almost half of all experts *did not* possess a significant financial or investment related qualification.

Assuming that most of those without relevant qualifications were private investors, it was a surprise that the analysis showed, that over half of them had actually undertaken relevant postgraduate courses. In fact, it was the asset manager group that showed the highest number of non-qualifications, as 3 out of 5 did not own any designation. Within the institutional investors, the ratio was 1 out of 5.

It was also an asset manager who qualified as an expert, but with only secondary school as the highest level of education and with no financial or investment management related qualification. This asset manager is male, from Germany, between 45 and 54 years old, with more than 20 years' experience in investing, who would rather invest in active managed funds than in passive ones. He holds between 16 to 20 products in his portfolio and desires an annual return of 6 to 8%. This perspective, given in detail here, shows a marked deviation from the hypothesized preference of investment experts in general, a priori.

One of the most notable findings was that the highest proportion of CFA holders (which as Jaffe (2010) observes, is one of the most difficult and prestigious designations to achieve), was found not only within the professional investor groups. While almost half of all institutional experts held a CFA, twice the proportion of private experts than asset manager experts held the same. This again confirms the previous statement that there was obviously an undervaluation of the private investors in relation to the notion of financial investing.
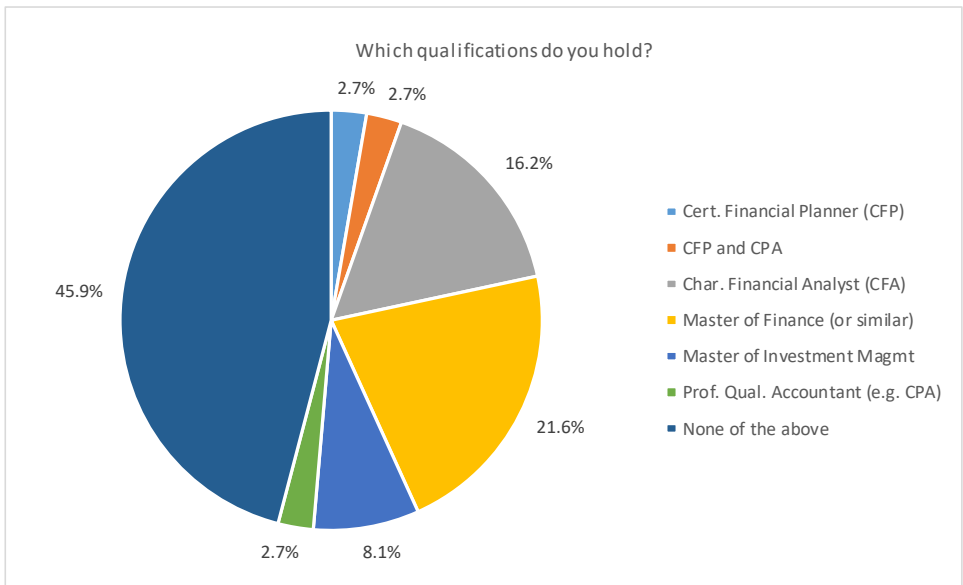
Figure 53 – The 37 experts' qualifications
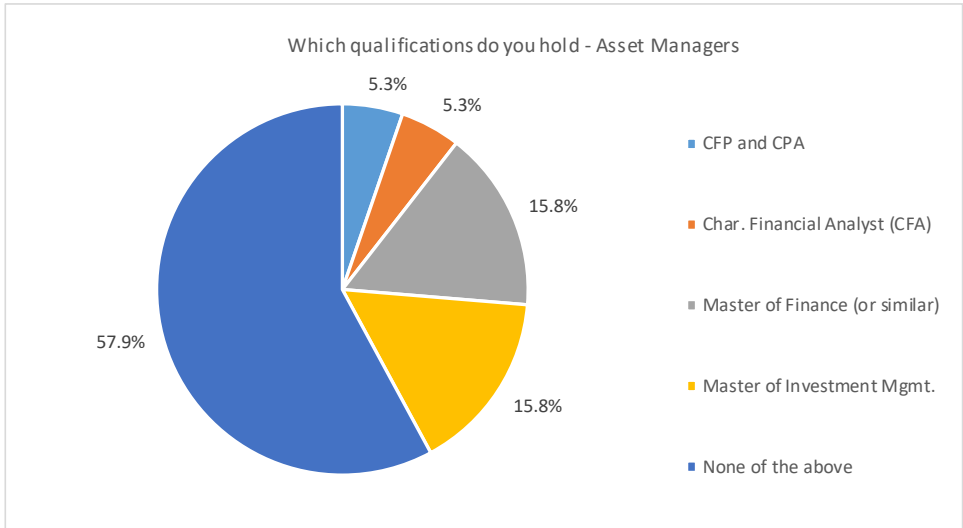
Figure 54 – The 19 asset managers experts' qualifications
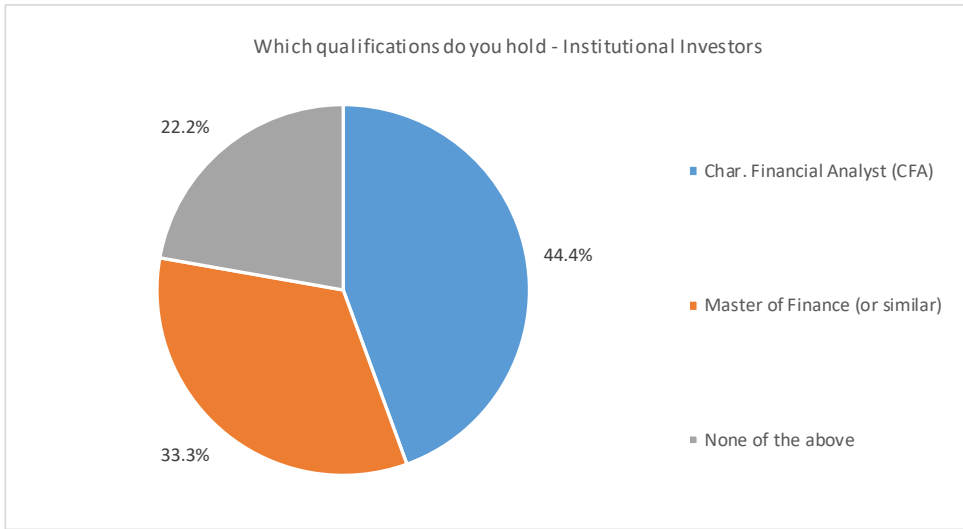
Figure 55 – The 9 institutional investors experts' qualifications
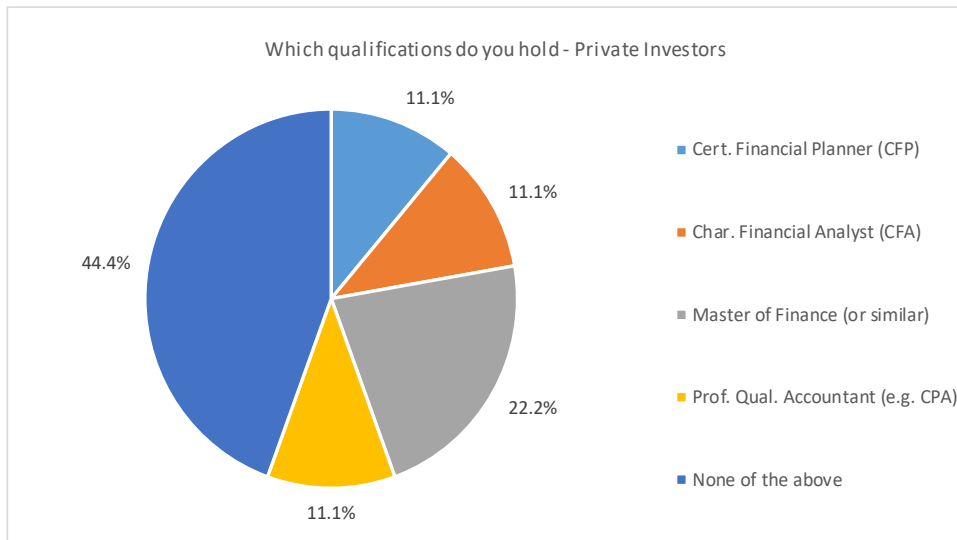
Figure 56 – The 9 private investors experts' qualifications

8.2.6. The experts' level of income

The experts seemed to be working in well paid positions, as 30 were generating an income of more than CHF 140,000 (£112,000). The average salary amid the experts amounted to > CHF 202,702 (£165,000). The average Swiss salary was CHF 77,124 (£61,000) in 2014 (BSF Admin, 2016).
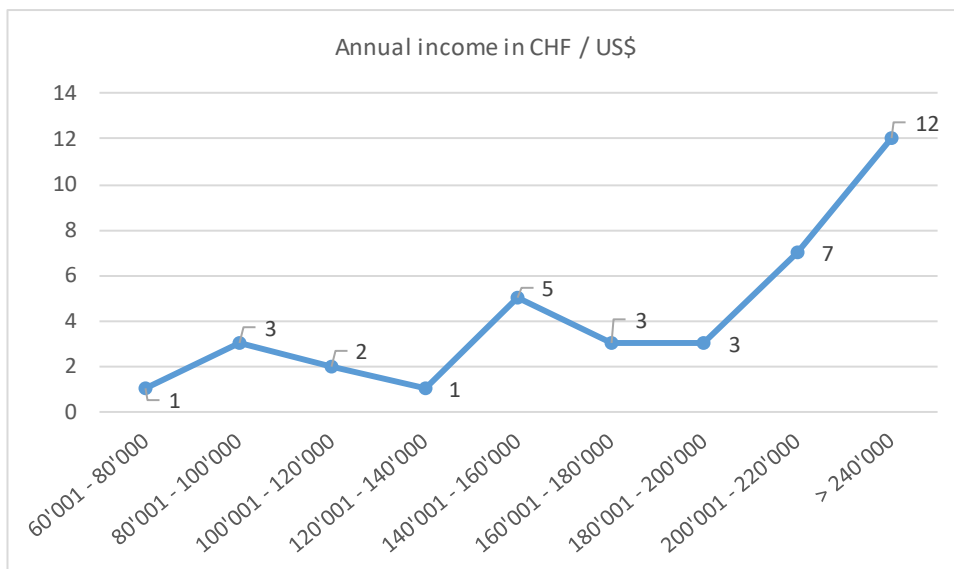
Figure 57 – The experts' annual income

8.2.7. The experts' level of experience

As expected, the experts also distinguished themselves by their number of years' experience in investing as none of them exhibited less than 6, while 23 exhibited more than 15 years. The average experience was > 16 years.
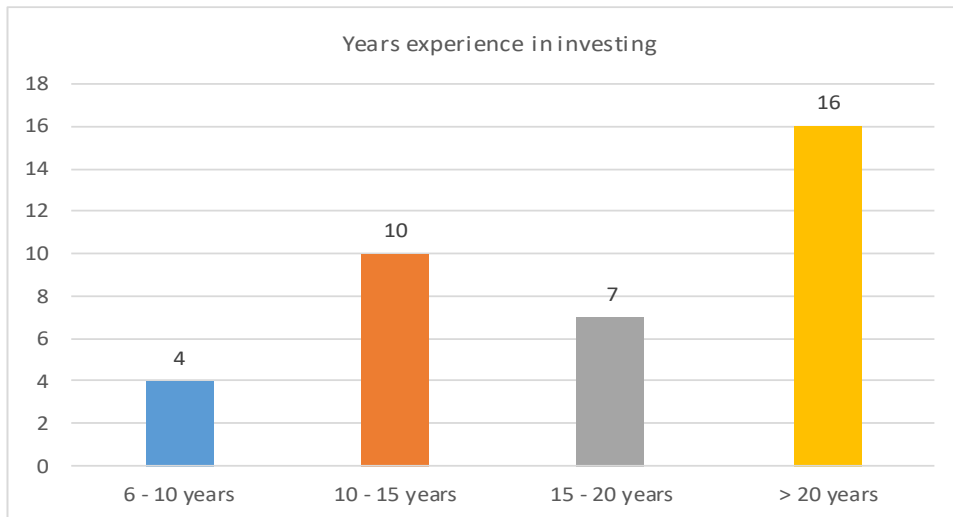
Figure 58 – The experts' experience in investing (years)

8.2.8. The experts' opinion of the importance of diversification

More than three quarters of all experts (28) stipulated that investing in a diversified portfolio was imperative, but 3 disagreed or strongly disagreed. These investors in disagreement were probably 'stock pickers', with a short investment horizon (given that they were categorized as experts).
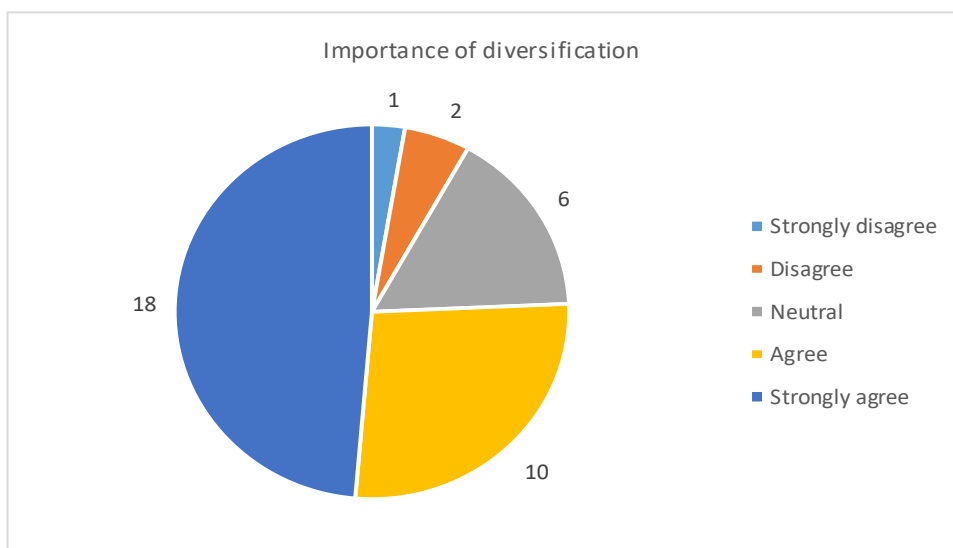
Figure 59 – The experts' opinion of the importance of diversification

Further analysis confirmed that most investors who did assert that diversification is 'unimportant' were indeed 'stock pickers' (five, including neutrals) but contrary to expectation, they had an investment horizon of four years or more (which is not necessarily seen as 'short term').
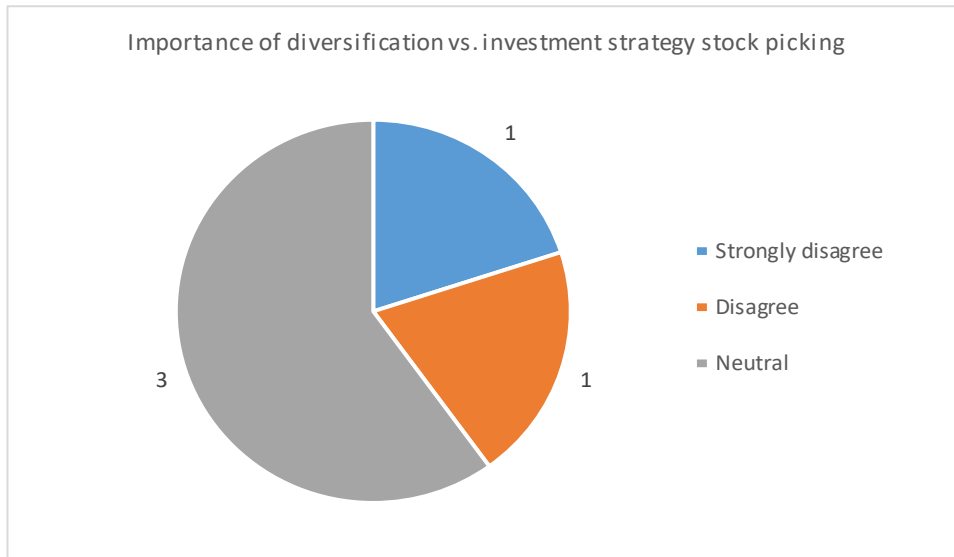
Figure 60 – The experts' opinion of diversification vs. stock picking

8.2.9. The experts' opinion of investing for the long-term

26 of all experts would prefer to invest for the long-term; only 7 (around a fifth) disagreed and exhibited a short(er)-term investment horizon. This again may have been because they were stock pickers, or are trying to time the market, or believe in technical analysis, or they simply needed the funds in the near future. However, no expert strongly disagreed with the notion of long-term investment horizons.
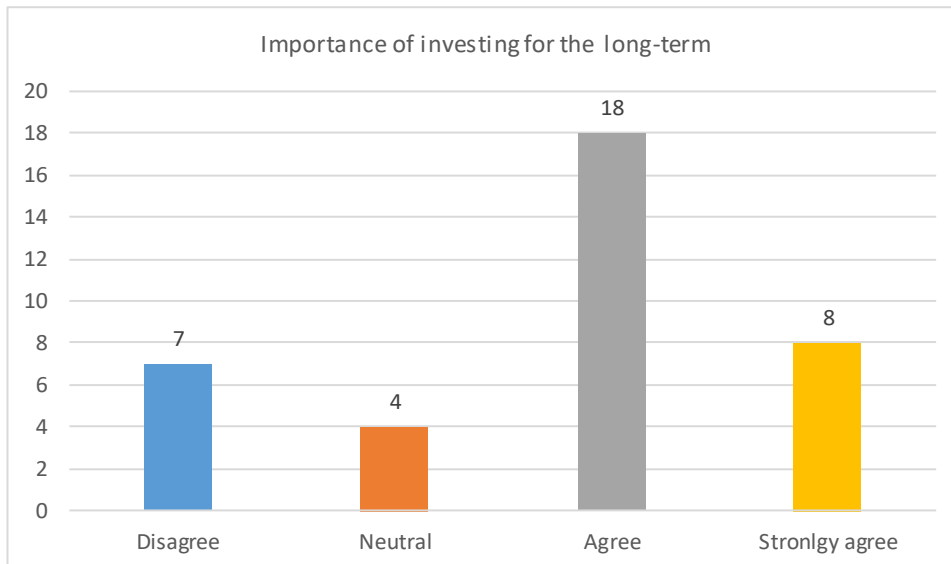
Figure 61 – The experts' opinion of investing for the long-term

8.2.10. The experts' opinion of investing in single shares over funds

This question revealed that more than half of all experts prefer investing in funds over single shares, with over a third of the reverse belief. Again, it may be that the latter are 'stock-pickers'.
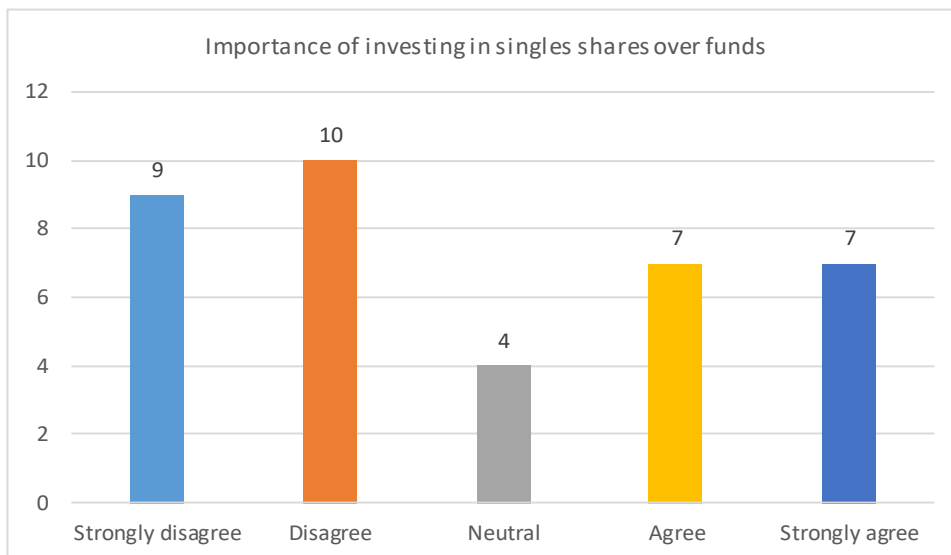
Figure 62 – The experts' opinion of investing in single shares over funds

8.2.11. The experts' opinion of investing without emotions

It is interesting to note that two investors disagreed or strongly disagreed when asked if they would rather invest without letting emotions influence their investment decisions.

Another 6 were neutral about this. On the other hand, there were (fortunately, from the prior expectation) 29 experts (four-fifths) who were, like the CFA Institute (2008) or Stammers (2015), of the opinion that emotions had no place when it comes to investing.
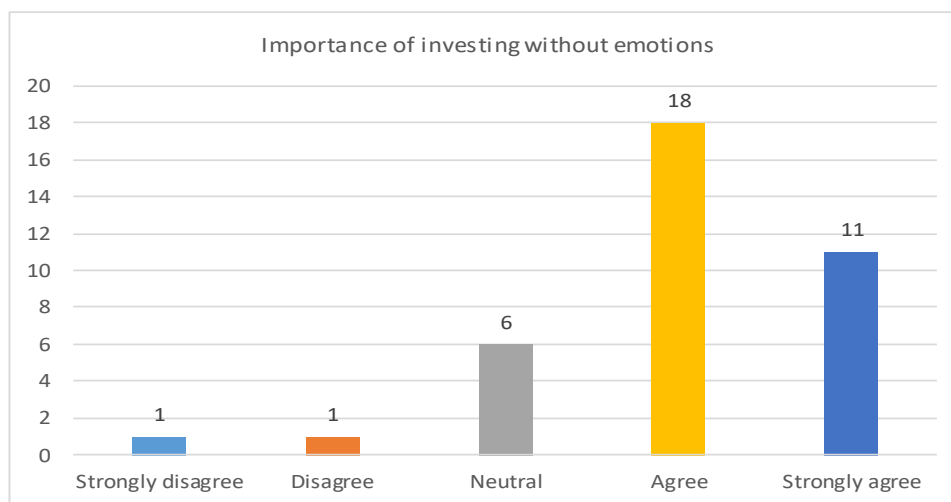
Figure 63 – The experts' opinion of investing without emotions

8.2.12. The experts' opinion of active vs. passive managed funds

The prior assumption was that the experts would favour passive managed funds, but it was surprising that the number doing this was almost double (21 vs. 11) those who did not. It seems that, even though half of the experts were asset managers who would probably support active fund management due to their 'commission-based' business model, when it came down to what truly works best in relation to their own investments, passive managed funds such as ETFs are their first choice.

This is in stark contrast to the initial analysis (RQ1) where the asset managers were equally fond of both approaches and the institutional investors and the private investors only somewhat (+8%, +18%) in favour of passive funds. What also was surprising was that five experts (being the experts) did not have a firm opinion on it.
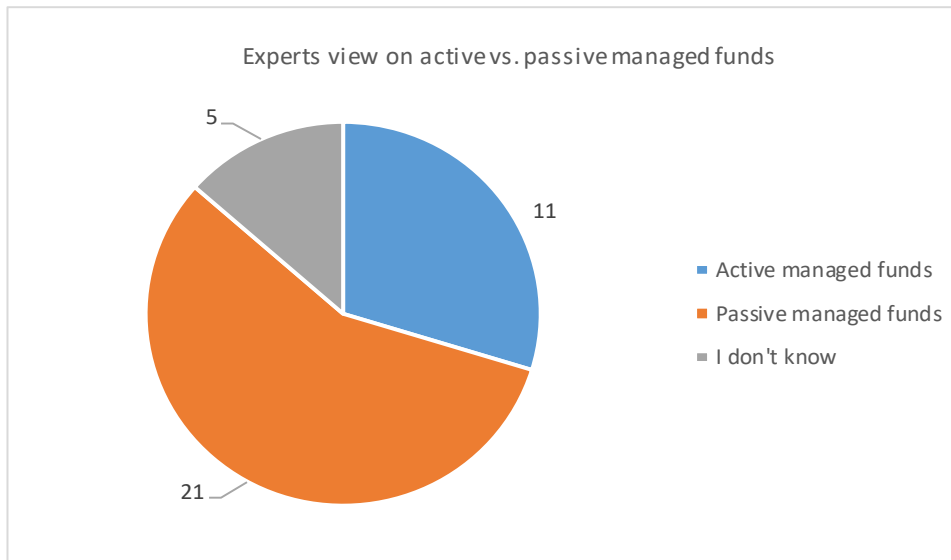
Figure 64 – The experts' opinion of active vs. passive managed funds

8.2.13. The experts' investment duration

As expected, and in line with the previous questions regarding the importance to invest for the long-term, 25 (almost three-quarters) of the 36 experts invested for more than 7 years, 16 (almost a half) for over 10 years and 6 (a fifth) for more than 15 years. Applying 17.5 years for the group over 15 years, the average investment duration was 9.5 years.
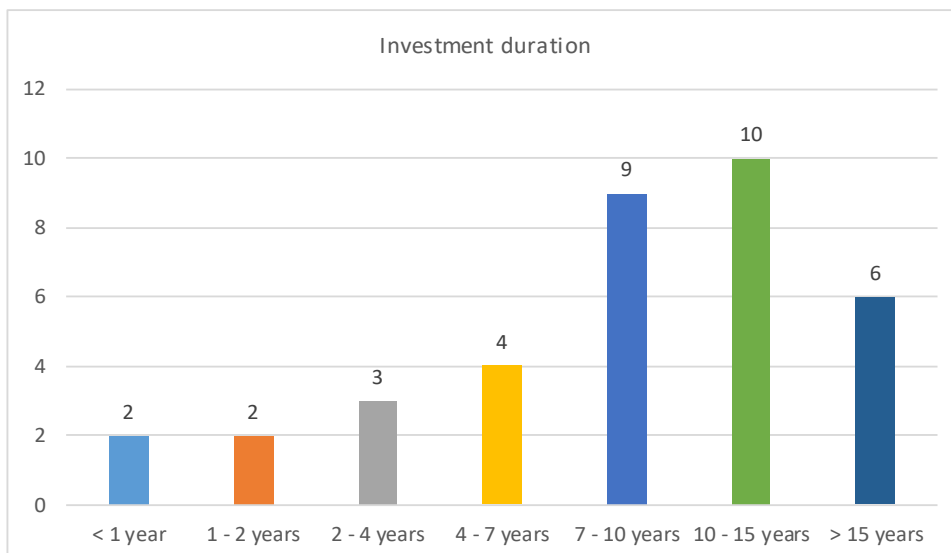
Figure 65 – The experts' investment duration

8.2.14. The experts' proportion of savings invested

26 experts had more than 50% of their disposable money invested, half more than 70%, a third over 80% and 6 more than 90%. The average was 59%.
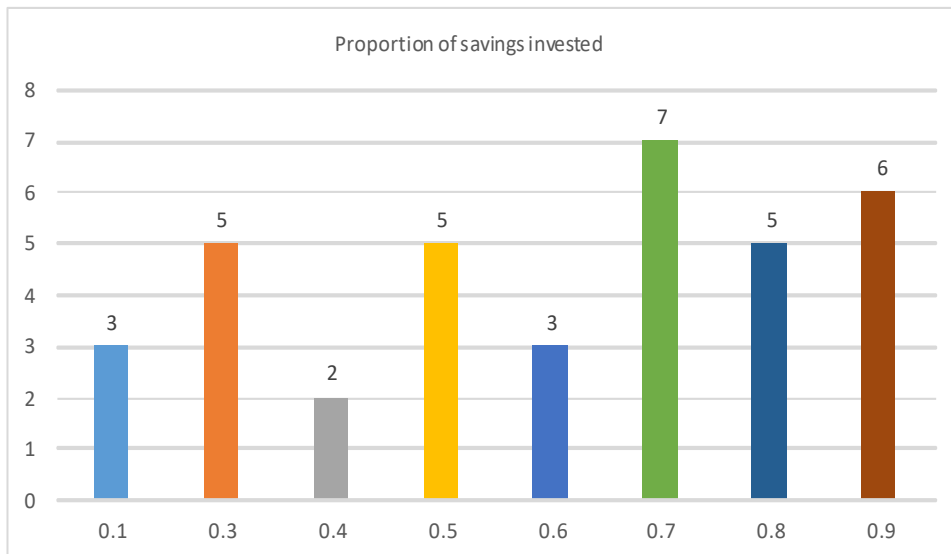
Figure 66 – The experts' proportion of savings invested

8.2.15. The experts' development of a risk profile

25 of all experts had either developed a risk profile themselves or through a third party, supporting this essential notion when investing. One third had never worried about it.
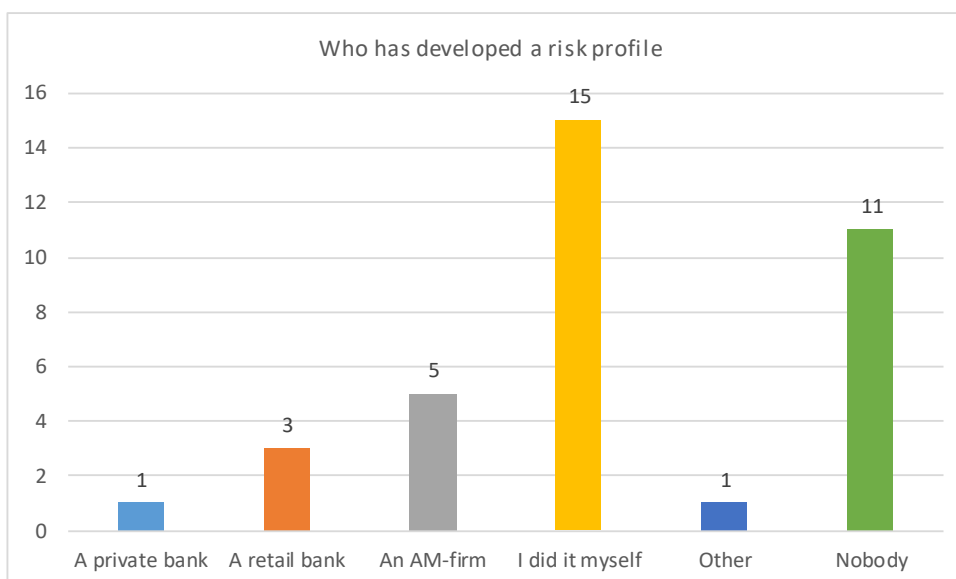
Figure 67 – The experts' development of a risk profile

8.2.16. The experts' product diversification

Experts were well diversified as more than two-thirds invested in more than 8 products, 20 in over 12, and 5 managed 16 to 20 products within their portfolio. It is thought-provoking to see that 8 experts (a quarter) hold more than 20 products.

Also interesting is that nine experts were content to only hold seven or fewer products within their portfolios, probably trusting in stock picking or single shares. The average was 13.4, which if chosen across the relevant asset classes, is probably a 'fair distribution' of funds.
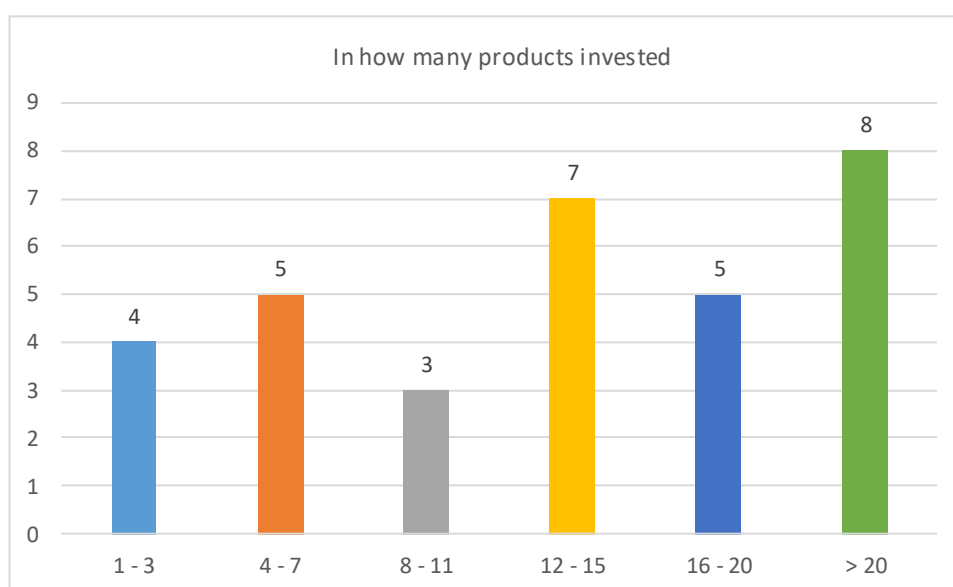
Figure 68 – The experts' product diversification

8.2.17. The experts' expected annual return

The experts portrayed a realistic view regarding the annual return they desired to achieve from their investments. Three were happy with a 1 to 4% return but two thirds of the experts wanted to generate 4 to 8%, and another seven between 8% and 10%. The average anticipated return was 7.2%, which was in line with the long-term average on equity investment (Pictet, 2015; Stammers, 2015).
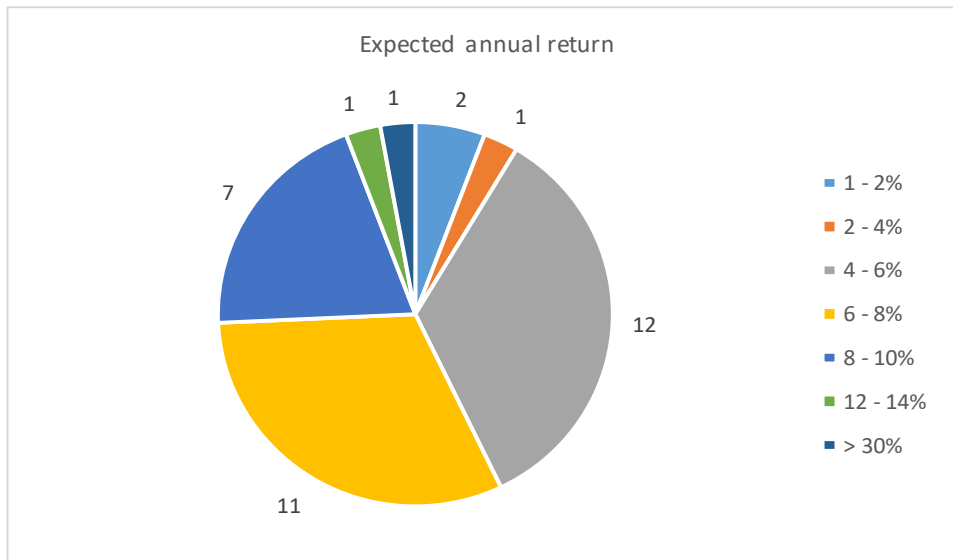
Figure 69 – The experts' expected annual return

8.2.18. The experts' readiness to change to an online asset manager

20 out of 35 of the experts would change to an online asset manager if they could save 25% of the management fee, given that the quality and products were the same as their current provider. Omitting the experts who already agreed, another four would change, if savings of 50% could be achieved, while the number of experts who disagreed at 25% savings reduced.

It seems there is an evident understanding amongst the experts, that any kind of fees, when too high, lower the return to an investor's portfolio, especially considering the effect of compounding interest. Therefore, the lower the TER (for the same products/quality), the more profitable the investments.
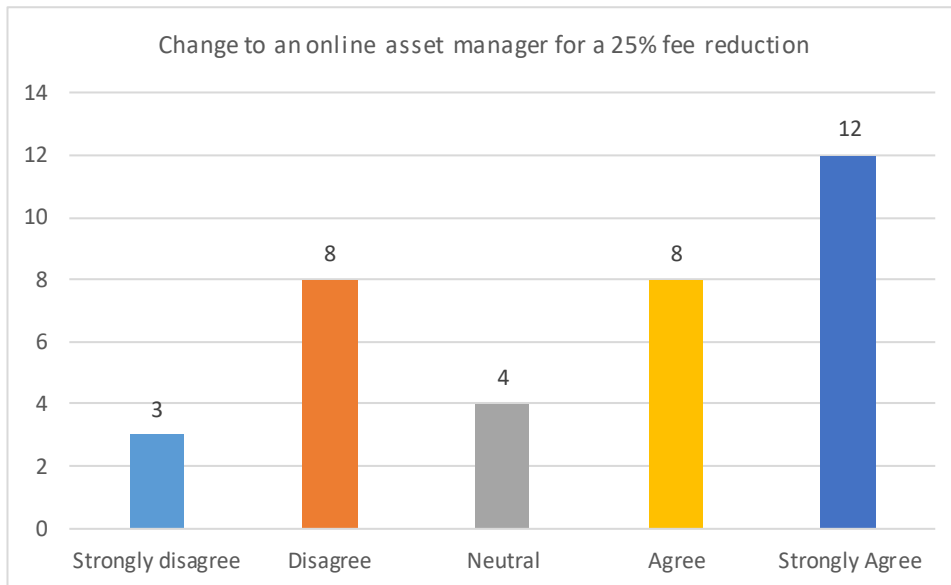
Figure 70 – Change to an online asset manager for a 25% fee reduction
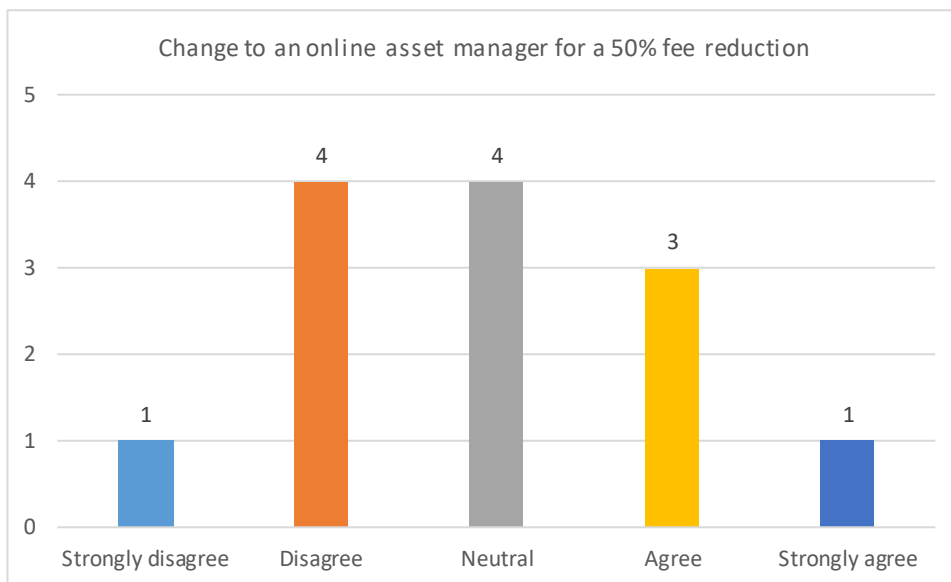
Figure 71 – Change to an online asset manager for a 50% fee reduction

8.2.19. The experts' view on investing in various asset classes

The asset class 'shares/stocks (equities)' enjoyed the greatest investment support amongst the experts (34), followed by corporate bonds (27), commodities (22), high yield bonds (20), real estate (20) and gold (18). The preliminary analysis of the Asset Managers, Institutional Investors and Private Investors showed both real estate and gold with higher priorities.

Government bonds were less important than cash, as the environment for them is consistently unfavourable (low coupons, high potential for interest rates hikes and therefore principal losses – as of 2017). Equally not surprising is that nearly two thirds of the experts stayed away from hedge funds, as they are extremely costly, and most often do not deliver positive returns.

Asset classes	Agree	Strongly Agree	Total	Percent
Shares/stocks	6	28	34	91.9%
Corporate bonds	14	13	27	73.0%
Commodities	15	7	22	61.1%
High yield bonds	6	14	20	55.6%
Real estate	10	10	20	55.6%
Gold	10	8	18	50.0%
Cash	7	10	17	45.9%
Hedge funds	8	6	14	38.9%
Government bonds	6	7	13	35.1%

Table 83 – The experts' view of various asset classes

8.2.20. The experts' view on investing in various markets

Most investors (31) lived in Switzerland and therefore had a natural tendency towards Swiss companies and their base currency. However, emerging countries and the USA seemed to be equally important markets (31). It is interesting that the experts placed more faith in them than in Germany (27), Europe in general (25) or the UK (18).

Investment markets	Agree	Strongly Agree	Total	Percent
Switzerland	15	16	31	83.8%
Emerging markets	12	19	31	83.8%
USA	16	15	31	83.8%
Germany	11	16	27	75.0%
Europe in general	17	8	25	67.6%
UK	11	7	18	48.6%
Australia / New Zealand	11	7	18	48.6%

Table 84 – The experts' view on various markets (36/37 participants)

8.2.21. The experts' outperformance criteria

For the 33 experts that answered these questions, the asset allocation (31), the products (30), the investment duration (30) and the total expense ratio (TER; 29) were the most

significant contributors for a performance - that is, higher and more sustainable than the market average.

Looking at the highest 'strongly agree' numbers, asset allocation and investment duration, as well as TER, were the clear leaders. The experts also understood and appreciated the notion and importance of rebalancing (27), in order to constantly monitor / keep in check the asset class ratios within their portfolio.

Two-thirds of all the experts classified re-investing dividends and the choice between an active managed fund and its passive counterpart as significant. The latter is most likely linked to reducing TER, but accords also with their general recognition that active managed funds are suboptimal investment vehicles.

Reducing retrocessions only found support from two-thirds of the experts. As already exemplified in responses to RQ2, they welcome minimizing overall cost (TER, 33) but not on the basis of reduced retrocessions.

A subsequent analysis by initial investor types revealed, that it was the institutional investors who did not worry too much about retrocessions. Five even argued it to be unimportant. The experts within the private investors and the asset manager group were more sanguine about it.

More than half of the experts considered the purchasing price as important, while the particular firm issuing an ETF, as well as the bank holding the portfolio, were rated last.

Outperformance criteria	Agree	Strongly Agree	Total	Percent
Asset class choice	9	22	31	93.9%
Poduct choice	17	13	30	90.9%
Investment duration	13	17	30	90.9%
Total expense ratio	13	16	29	87.9%
Rebalancing	12	15	27	81.8%
Active/passive funds	11	11	22	66.7%
Re-Investing dividends	13	9	22	66.7%
Reducing retrocessions	9	11	20	60.6%
Purchasing price	11	8	19	57.6%
ETF issuer	6	4	10	30.3%
Choice of bank	5	2	7	21.2%

Table 85 – The experts' outperformance criteria
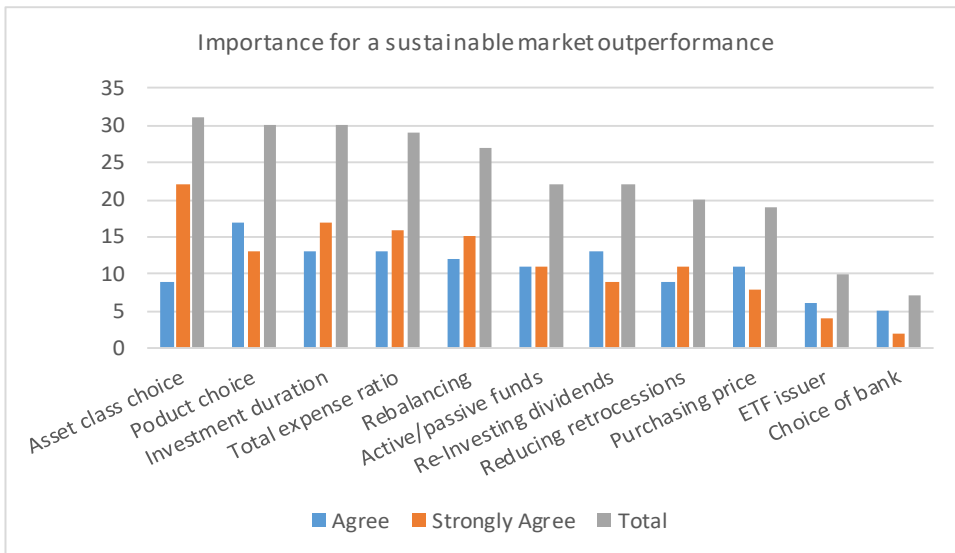
Figure 72 – The experts' outperformance criteria
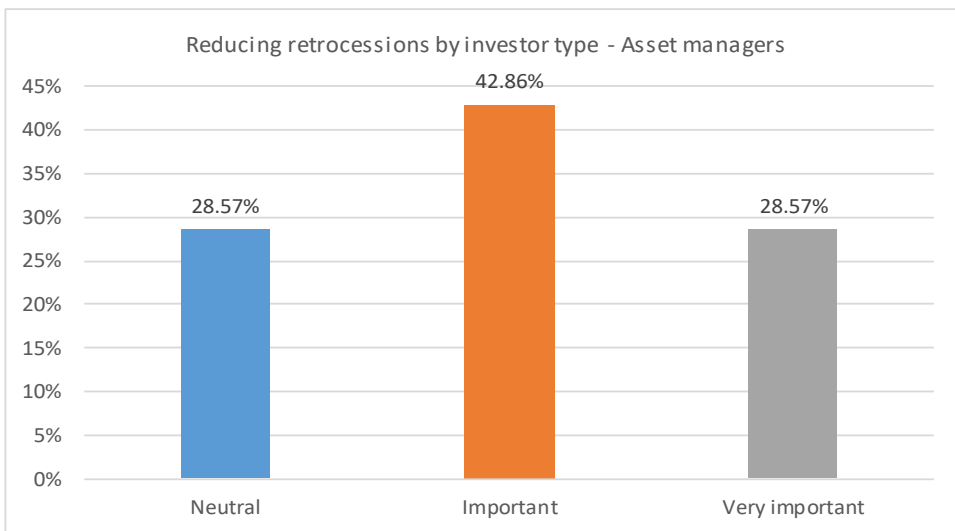
Figure 73 – The experts' outperformance criteria – Asset managers
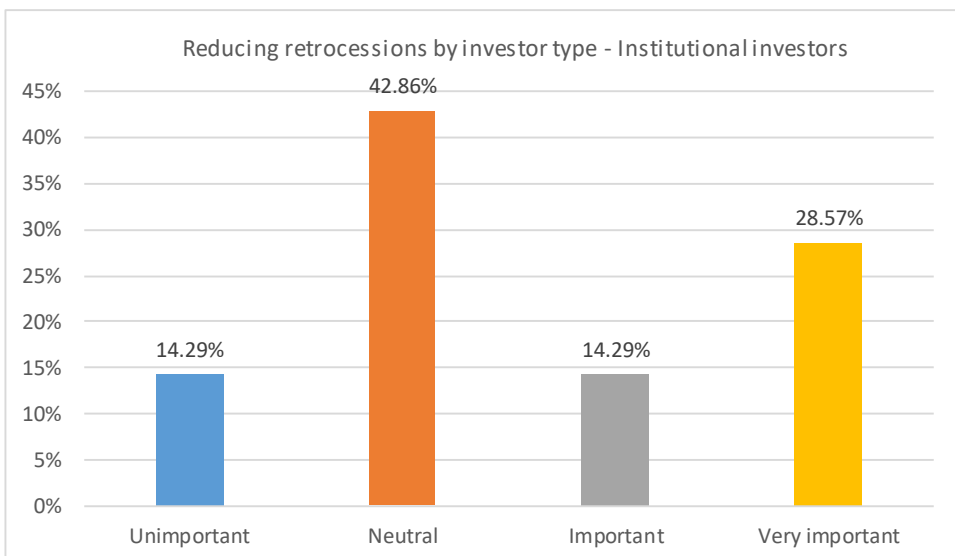
Figure 74 – The experts' outperformance criteria – Institutional investors
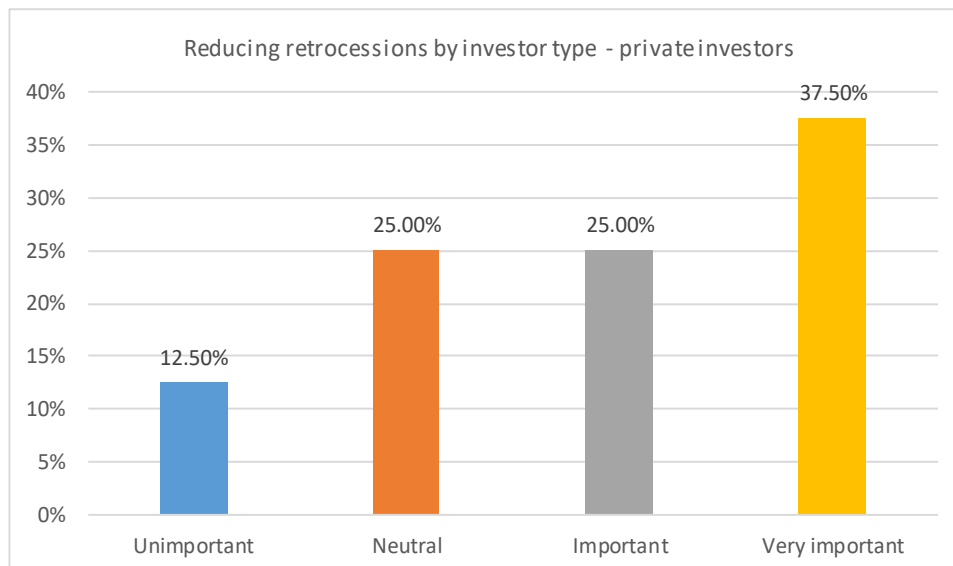
Figure 75 – The experts' outperformance criteria – Private investors

8.2.22. The experts' investment criteria

It is thought provoking to see that the majority of the 33 experts (who answered these questions) invested in companies they knew (27). Likewise, the industry the company is in (21) seems to play an important role for an investor's investment decision.

Equally important is the size of the company, the expected dividend rate and the P/E ratio (20). It is surprising though, that half of the experts (17) considered the historical performance of a share price to be an important or very important investment criterion. As evidenced previously, passive managed funds outweighed active managed funds. Yet, when only taking the 'strongly agreed' answers into consideration, then passive managed funds became the third most important investment criterion and active managed funds the second last.

The company being Swiss was only important for 12 of the 37 experts. Yet, if neglecting the non-Swiss experts (UK and Germany who might exhibit a tendency to their home companies), the number increased to 15, and when including the experts who were neutral about it, to 25. However, there were 8 for whom 'Swissness' is insignificant. Ethical characteristics (such as green investing and sustainability) were the least favoured investment criterion.

Investment criteria	Agree	Strongly Agree	Total	Percent
Company knowlege	14	13	27	81.8%
The industry	12	9	21	63.6%
Large-cap	18	2	20	60.6%
Expected dividend	12	8	20	60.6%
Low P/E ratio	18	2	20	60.6%
Past performance	14	3	17	51.5%
Passive fund	8	8	16	48.5%
Active fund	12	1	13	39.4%
Swiss company	11	1	12	36.4%
Ethical aspects	5	0	5	15.2%

Table 86 – The experts' investment criteria
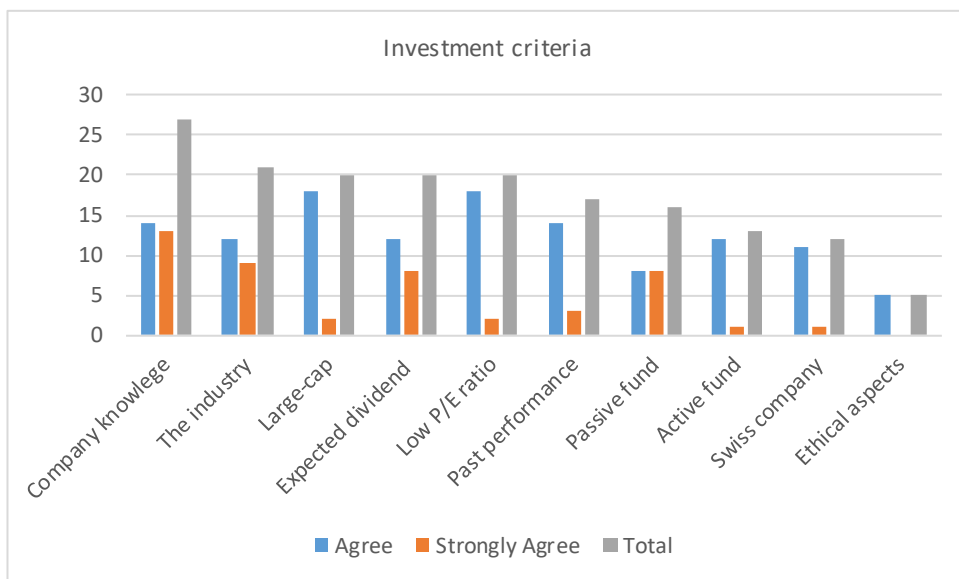
Figure 76 – The experts' investment criteria
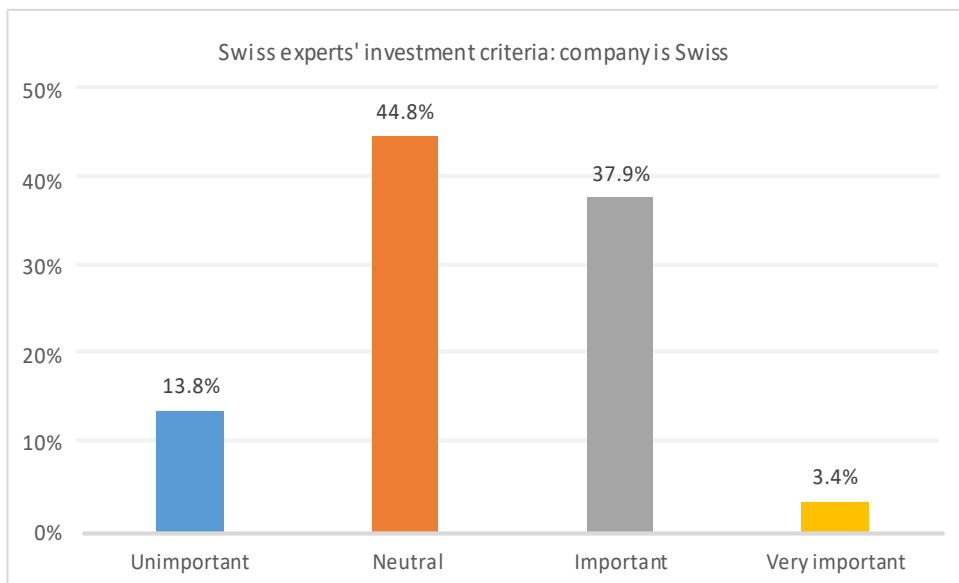
Figure 77 – The Swiss experts' investment criteria: company is Swiss

8.2.23. The experts' investment strategies

The 35 experts' (only 34 on two questions) top three investment strategies / applications were asset allocation (in fact rather an investment *policy*; 27), value investing (25) and fundamental analysis (25). Thereafter, came dividend investing, growth investing and buy and hold, with 21 or 22 experts in favour.

Passive investing and active investing found the same support, but when solely looking at those rating the two strategies as excellent, passive investing became the second ranked investment strategy. The approaches that do not play significant roles were stock picking (14), technical analysis (12) and value averaging (10).

Investment strategies	Good	Excellent	Total	Percent
Asset allocation	9	18	27	77.1%
Value investing	17	8	25	71.4%
Fundamental analyis	16	9	25	71.4%
Dividend investing	16	6	22	62.9%
Growth investing	17	4	21	61.8%
Buy and hold	16	5	21	60.0%
Passive investing	7	10	17	50.0%
Active investing	12	5	17	48.6%
Stock picking	10	4	14	41.2%
Technical analysis	10	2	12	34.3%
Value averaging	9	1	10	28.6%

Table 87 – The experts' investment strategies
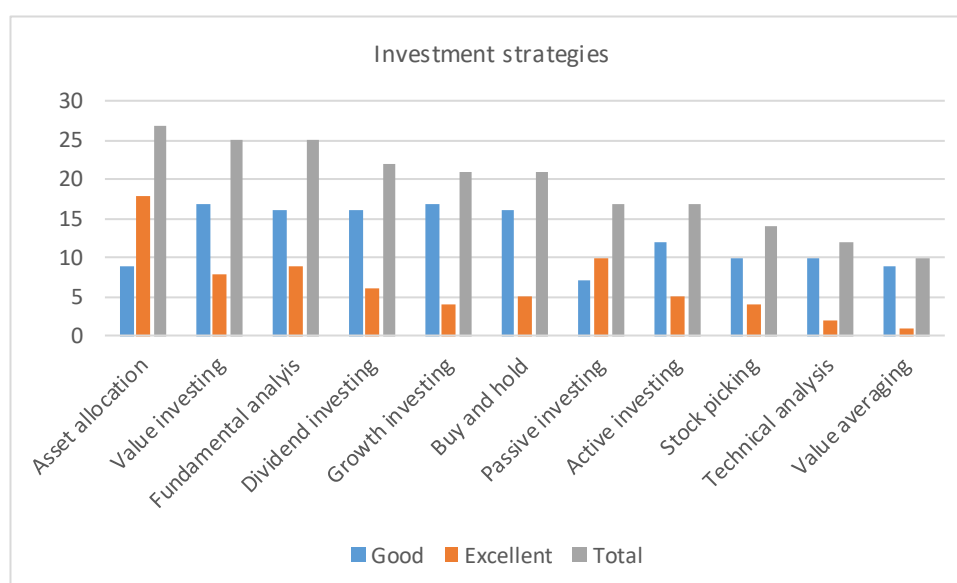
Figure 78 – The experts' investment strategies

8.3.   Characteristics of the experts

The following summary displays the experts' profile and investment acumen and therefore answers the first part of RQ3, characterizing the experts.

Characteristics / investment behaviour	Results
Age	On average 42,7 years old; 78% between 35 and 54 years
Education	86% are highly educated (university, university of applied science, Swiss federal diploma)
Qualification	56% engaged in finance related courses; asset managers showed he lowest numbers, institutional investors with 80% the highest
Income	On average CHF 202'000; > 80% earn above CHF 140'000; 50% more than CHF 200'000
Experience	On average 16 years; 62% more than 15 years
View on diversification	76% stipulate that investing in a diversified portfolio is paramount
Diversification	The average portofolio contains 13 products; 72% invest in more than 8 products; 63% in more than 12 and 41% in 16 to 20+ products
View on investment duration	70% invest for the long-run
Investment duration	On avgearage 9.5 years; 70% invest for more than 7 years; 45% for over 10 years
View on funds vs. single shares	51% prefer investments in funds
View on active vs. passive investing	57% prefer passive manged funds; only 32% active manged funds
View on emotions	78% state that emotions have no place when it comes to investing
Change to an online asset manager	Given the quallity and products are the same, 57% would change at 25% savings (management fee); another 20% at 50% savings
Risk profile	70% have either developed a risk profile themselves or through a third party
Savings invested	On average 59%. 72% have more than 50% of their disposible income invested; 50% more than 70% and 30% more than 80%
Expected return	On average 7.2; 66% expect an annual return between 4 and 8%; 20% between 8 and 10%
Asset classes (top five)	Shares (92%); corporate bonds (73%); commoditites (61%); high yield bonds (56%); Real estate (56%)
Market preference (top five)	Switzerland (84%); Emerging markets (84%); USA (84%), Germany (75%); Europe in general (68%)
Outperformance criteria (top five)	Asset class choice (94%); product choice (91%);); investment duration (91%); TER (88%); rebalacing (82%)
Investment criteria (top five)	Knowledge of company (82%); the industry (64%); large-cap (61%); expected dividend (61%); low P/E ratio (61%)
Investment strategies (top five)	Asset allocation (77%); value investing (71%); fundamental analysis (71%); dividend investing (63%); growth investing (62%)

Table 88 – The experts' characteristics / investment behaviour

8.4.   Summary of Research Question 3

Almost a quarter of the private investors were classified as experts, while more than half of the asset managers and institutional investors only qualified as informed investors.

The investment experts were mostly male, on average 43 years old, highly educated (University degree, Swiss Federal Diploma, PhD/DBA), with more than 16 years of investment experience and an income of over CHF 202,000 (£165,000).

More than half of the private investors also held a finance or investment related qualification, while the asset managers formed the group with the least number of such credentials; but as expected, the institutional investors had the highest proportion (4/5). The analysis revealed that if you were to work as an, or for an institutional investor, mastering the CFA would most likely be beneficial (half of the experts hold a CFA).

Most of the experts had either developed a risk profile themselves or by a third party. They desire an average return on their portfolio of 4 to 8%, while they would tolerate up to 25% loss in an unfortunate investment year (such as 2008). 26 of the experts had more than 50% of their disposable money invested, and 11 more than 80%.

The important notion of diversification, of spreading the funds and risk over various asset classes, products and currencies, was supported by more than three quarters of the experts as two thirds of the experts were invested in more than 12 products. The same was true for the investment duration as not only 25 of the experts prefer to invest for the long-term (> 7 years) but also since the average investment duration was almost 10 years.

Furthermore, the analysis revealed that more than half of the experts favour investing in funds over single shares/stocks, while the debate concerning whether to invest in active or passive manged funds was clearly answered by the experts, as two thirds were in favour of passive vehicles. Similarly, the overall cost for investing, hence the total expense ratio (TER), seems to be a vital factor for the experts as almost 20 of the experts would change to an online asset manager if they could save 25% to 50% of the management fee.

There was no clear tendency as to which markets investors prefer since all (Switzerland, Emerging Markets, USA, Germany etc.) were almost equally as important.

Only the UK and Australia / New Zealand were not ranked as high. This may also be a part of an expert's diversification strategy. Regarding the asset classes on the other hand, the experts favoured shares/stocks, corporate bonds, commodities, high yield bonds and real estate. Government bonds were seen as less important than cash and two thirds of the experts do not view hedge funds as a viable asset class.

When the experts were asked about the most important factors that contribute to a performance that is higher and more sustainable than the market average, asset allocation, the investment duration and the total expense ratio ranked in the first three places. Furthermore, the choice between active and passive manged funds and re-investing dividends were also significant. Conversely, reducing retrocessions was ranked low, which contrasts to the prior argument about the importance of reducing the TER. Obviously, there is a discrepancy between these two criteria, most probably due to the commission models from which the professional investors benefit.

The question about the important investment criteria exposed that, besides the industry the company is in, investing in large organizations and re-investing dividends, the experts viewed their stock/company knowledge as most important. Half of the experts held that the past performance of a stock, fund, bond, etc. is also important.

Lastly, the experts favour asset allocation asset, value investing and fundamental analysis as the leading three investment strategies / applications. Yet, when only looking at the investment strategies that were classified as being excellent, passive investing ranked second after asset allocation, while active fund management was graded in the lower part of the table. The approaches that could be neglected were stock picking, technical analysis and value averaging.

RQ3 described the characteristics of the investment experts and their appropriate investment behaviours, criteria and strategies in relation to the Dreyfus related category – expertise.

The base hypothesis was confirmed, as the experts demonstrate preferences for passive investing and re-investing (dividends, coupons, disposable income), while maintaining appropriately diversified portfolios, and having a cost-efficiency awareness with a long-term investment perspective.

9. Completion of the thesis

9.1. Chapter Overview

This chapter offers detailed conclusions drawing on the literature on investing and the discussion of the three research questions. It seeks to illustrate how general investors can advance their investment behaviours and further their personal development utilizing Dreyfus' five-stage model of adult skill acquisition. It offers recommendations for investors which they can follow, if they decide the ideas to be feasible in their investment situation. It also illustrates a practical investment process as a possible guideline for any interested investor. By offering these insights, it provides contributions to both theory and practice and suggests areas for further research.

9.2. Conclusion

The primary aim of this thesis was to investigate the levels of expertise of both private (retail) and professional investors to see if and how they differ in their investment acumen and investment criteria and strategies. This was done against the background of Dreyfus' level of 'expertise', in order to determine if experts (once identified) possess knowledge and experience that enables them to construct superior and enduring investment portfolios. Given that there was no prior classification of expertise amongst investors, save that derived from the various qualifications in the area, one particular aim was to identify those who might be classified as 'investment experts'. This would permit the characterization of their investment behaviours and enable recommendations for the larger investing community.

The motivation to undertake this research originated in the notion that stock market investing is an overwhelming challenge for many people. Choosing securities from the global marketplace and then analysing, evaluating and purchasing investment products for a well-diversified portfolio, with a view to tracking and rebalancing those securities, is not something most non-professional investors are capable of or willing to do for themselves. As a result, many retail investors either try to invest directly themselves, without being able to investigate all potential markets, or they entrust their money to a

bank or to an asset management company, believing that these organizations will know better and will work solely in their interest.

This study showed that, while there are undoubtedly financial institutions that do act for the benefit of their customers, some do not. Many investors are willing to change their money manager for various reasons, e.g. investments into the bank's own funds, or third-party products to receive retrocessions or other forms of commission. Similarly, private investors who either want to invest themselves or who are not eligible for the services of private banks will also often lose money in the long term. This is, as initially assumed, due to private individuals: lack of investment knowledge; overestimation of their own talents; not knowing 'who they are' (risk tolerance/ability); following the herd, or their desire to achieve 'unrealistic returns'.

From the literature on *adult* learning and expertise came the adult skill acquisition model, developed by Hubert L. and Stuart E. Dreyfus. This model describes the stages one passes through (novice, advanced beginner, competent, proficiency, expertise) on the journey to gain knowledge and experience and consequently become an expert. The model was used to firstly 'locate' the five stages with the three initial investor groups: the asset managers (AMs), the institutional investors (IIs) and the private investors (PIs). This reflected a view that, increased wealth under management, increased experience and a higher level of professional qualification would be found successively – PI, AM, II - in these groups. Secondly, the Dreyfus model's framework was applied to the subsequent three investor groups: the uninformed investors (UNIs), the informed investors (INIs) and the experts (EXPs), who were identified following initial analysis.

It was clear from the literature review that not only is 'expertise' in general an under-researched field, but that this lack is even more marked in the domain of investment and asset management. This study shows that private investors are generally not experts, since most of them do not hold any of the available credentials, nor do they work in the investment field (a marker for expertise implicated by the Dreyfus model), or as shown very clearly by an EU study of the consumer market for investment products. Also this research shows that professional 'experts' do not always act in an expert manner as they frequently do not construct sustainable portfolios that reflect their clients' best interests.

The initial overarching hypothesis was that professional investors, such as asset managers and institutional investors, possess superior investment knowledge and expertise compared to private investors. They might well have greater experience, given the sums invested for which they have responsibility. They should therefore be better informed and act cautiously and, as experts, could be perceived as a paragon for private or general investors. The assumption was that within the group of professional investors, the institutional investors will exhibit greater investment knowledge and expertise (given that their portfolios are likely to be of greater value) than the asset managers.

In terms of the Dreyfus model, thus (a priori) the estimate was that the private investors are either 'novice' or potentially 'advanced beginners', that asset managers are rather to be found in the range of 'competent' and 'proficient' and the institutional investors within 'proficient' and 'expertise'.

The aim of the research, therefore, was (i) to examine investment practices for the general investor, enabling them to invest more knowledgably and effectively, according to research and experience from expert investors, and (ii) to test if there are differences between investors characterized as experts and those characterized as less informed (or uninformed) investors and (iii) to test the Dreyfus model through its explicit utilization in this particular field.

9.2.1. Research Question 1 Answered

RQ1 - How do private and professional investors differ (if at all) in terms of their knowledge, experience, and investment approaches (examining the first Dreyfus related categories)?

It was possible to identify that the level of knowledge and agreement on specific investment matters enabled categorizing survey respondents into either private or professional investors.

The descriptive statistics and canonical correlation analysis, the corresponding literature and its review, clearly show how the private and professional investor differ in terms of their knowledge, experience, and investment approaches.

However, the initial supposition that the more knowledgeable and experienced an investor is, the greater the superiority and caution with which s/he will invest, could not be fully confirmed.

Private investors (in this study) for example, prefer to invest for the short-term, in single stocks rather than funds, in the Swiss, German or US markets and preferably in larger corporations. They are able to explain the notion and mechanics of coupons as well as the PE/Ratio and believe that the purchasing price is an important investment criterion. These characteristics would generally not distinguish them as 'informed' (at any advanced level) in this field.

On the other hand, professional investors distinguish themselves by utilizing the vital concept of diversification, by their ability to explain the notion of asset classes or other, rather technical products such as futures, stock options or structured products. Furthermore, professional investor can be classified as such by their capacity to describe the important concept of rebalancing, as well as the fee structures of shares, active managed funds and passive managed funds. They are further willing to accept higher risks for potential higher returns, and favour investing in corporate bonds, the UK or general European market. Professional investors see asset allocation as paramount and favour value investing and prefer cost-effective ETFs or index funds over actively managed funds. They could also be identified by their concern for the overall expenditures for investing (TER). These abilities distinguished them from private investors.

In line with the Dreyfus skill acquisition model, my assumption was confirmed that the private investors are either 'novice' or potentially 'advanced beginners', that asset managers are rather to be found in the range of 'competent' and 'proficiency' and the institutional investors within 'proficiency' and 'expertise'. This initial investigation supported the Dreyfus model, at least as far as three clusters of respondents were concerned. The clusters showed increasing expertise, but it was not evident that the model's apparent linear and monotonic (smooth, regular, increasing) transition from stage to stage was readily apparent. No isomorphic mapping between the available evidence and the model was possible.

9.2.2. Research Question 2 Answered

RQ2 - Is it possible to determine probable differences in the investment approaches discernible between those now characterized as investment experts and those characterized as informed or uninformed investors (examining the second Dreyfus related categories)?

In order to refine the three identified clusters (or put another way, achieve greater discrimination) to map onto the Dreyfus categories, a method to profile the participants to discover the more distinguished investors in terms of their investment acumen (knowledge, criteria, strategies, etc.) and experience was developed. Therefore, to supplement the existing investor categories, which hinged on employment (private investors, asset managers, institutional investors), three expertise-based investor groups were developed: the uniformed investors (UNIs), the informed investors (INIs) and the experts (EXPs). These groups should, theoretically, map more precisely onto Dreyfus stages.

The primary goals then became to understand both the investment expertise and behaviour of the experts who were now distinguished from the other categories, and the possible difference in the investment approaches between those characterized as experts and those characterized as informed or uninformed investors. These additional investor groups were again related to the Dreyfus skill acquisition model and the various stages of skill attainment.

The research data generated, when subjected to descriptive and analytical statistical analysis, yielded answers for RQ2. This determined possible differences in the investment approaches known between those characterized as investment experts and those characterized as informed or uninformed investors (the second Dreyfus related categories). It further confirmed the hypothesis that the more knowledgeable and experienced an investor is, the greater the superiority of their approach and the more cautiously they invest.

One main finding was that the experts (EXPs) are clearly better educated than the other two groups.

For both doctorates (where the proportion is twice as high as with the INIs and 70% higher in relation to the UNIs) and other university degrees as the highest level of education, clear patterns of higher achievement were evident.

When looking at field-specific qualifications, the UNIs do not hold any of the professional credentials in question, whereas more than half of the EXPs have either passed the CFA, Master of Finance, Investment Management or another relevant designation. The number of years of experience in investing showed statistically significant results and increasing levels from uninformed investors, to informed investors to the experts. This is also in accordance with the Dreyfus model. This suggests that the model, offering as it does a picture of adult learning moving through stages, is supported to the extent that the stages are seen as having 'fuzzy' boundaries, rather than being clear cut.

The experts tend to have more of their disposable income invested than the INIs and UNIs and prefer a lengthier investment duration (almost half - 45% - for more than 15 years). They can further be classified by their ability to explain important investment topics, such as asset classes, coupons, futures, options, the P/E ratio, rebalancing or structured products. Experts are also more likely to have the ability to understand and explain the fee structure of active managed funds, passive managed funds and shares. These characteristics accord with much of the available literature on investing, though it must be acknowledged that the literature is partial and often written to advocate a particular position. Looking at the academic literature alone suggests that the partial evidence available may support this view, but there is research specifically oriented to technical aspects flowing from different initial positions (concerned, for example, with timing, high intensity trading or trend analysis) that cannot be adduced in support.

Additionally, the experts comprehend the important concept of diversification more than the other two groups; they favour investing in funds over shares (in contrast with the other investor groups), and they forgo emotions when investing.

The most valuable investment strategies / applications selected by the experts are value investing, fundamental analysis, asset allocation and passive investing. The INIs in contrast have a stronger preference for active investing and stock picking (which are techniques more amenable to technical analysis using extant data, than to be found in academic literature).

Contrary to the assumption of the first research question, value averaging was also found to be statistically significant in discriminating knowledge of the groups here.

The outcome of this analysis matched the phases of the Dreyfus skill acquisition model used to form the initial hypotheses, as the UNIs could be categorized within the 'novice' or 'advanced beginners' categories, the INIs rather within the range of 'competence' and 'proficiency' and the EXPs within 'proficiency' and 'expertise', using the distinguishing features suggested by the Dreyfus framework.

9.2.3. Research Question 3 Answered

RQ3 – How to characterize the investment experts and their investment behaviours, criteria and strategies in an attempt to examine the Dreyfus model category concerning expertise?

The initial hypothesis was confirmed, as the experts would rather invest and keep investing (dividends, coupons, disposable income) passively, in an appropriately diversified, cost-efficient way and for the long-term.

The majority of the experts comprehend their risk profile, are eager to reduce cost (TER), expect an average return on their portfolio of 4 to 8%, and have more than 50% of their disposable money invested (a third have more than 80% invested).

The important notion of diversification was supported by more than three quarters of the experts; two-thirds of the experts were invested in more than 12 products. As for the investment duration, 70% of the experts prefer to invest for the long-term, with the average investment duration of almost 10 years. Furthermore, the analysis revealed (as for RQ2) that more than half of the experts favoured investing in funds more than in single shares/stocks; and the earlier described debate whether to invest in active or passive manged funds was answered clearly by the experts as two thirds were in favour of passive vehicles.

In terms of the investment markets, there was no clear tendency as to which markets investors preferred. Yet there were clear favourites in favoured asset classes: shares/stocks, corporate bonds, commodities, high yield bonds and real estate.

Two thirds of the experts do not view hedge funds as a viable asset class, perhaps due to the high cost and lack of transparency of such funds.

The question about the most important investment criteria exposed that, in addition to the industry the company is in, the experts viewed investing in large organizations and re-investing the dividends as significant, alongside their stock/company knowledge. In terms of the experts favoured investment strategies and applications, they, as in responses to the prior research questions, favoured asset allocation strategies the most, followed by value investing, fundamental analysis and passive fund management. The approaches that can be neglected were stock picking and technical analysis (which are much more short-term, high turnover approaches).

The analysis revealed that, contrary to initial assumptions (that experts are to be found solely within the professional investor group), almost 25% of the private investors were classified as experts, while more than 60% of the asset managers and institutional investors only qualified as informed investors, based on their exhibited knowledge and reported actions.

Interestingly, more than half of the private investors also held a finance or investment related qualification, while the asset managers formed the group with the least number of such credentials but, as expected, the institutional investors were the highest (4 out of 5). So, it seems, based on this sample, that it is not possible to use simple credentialism to identify 'experts'. The Dreyfus model has an inherent bias in this direction, as the examples used to support the arguments for the model imply 'progression through the ranks', e.g. in respect of chess. What is clear is that achieving 'rank' through acquiring specific credentials does not demonstrate 'mastery', to retain the chess analogy.

9.2.4. Expertise

The approach used sought to align the knowledge and experiences within the initial investor groups (asset managers, institutional and private investors) with the corresponding Dreyfus' five-stage model of adult skill acquisition.

For RQ1, the private investors were in the area of 'novice' to 'advanced beginners', the asset managers rather between 'competence' and 'proficiency' and the institutional investors between 'proficiency' and 'expertise'.

Likewise, for RQ2, the profiled investor groups (uninformed investors, informed investors and experts) could also be associated with the model.

The UNIs are found within the 'novice' or 'advanced beginners' stages, the INIs rather showed 'competence' to 'proficiency' and the EXPs reached 'proficiency' or 'expertise'. Layering the Dreyfus model with the two differently-defined investment groups from *both* research questions is a unique approach: most studies rely on a single set of categories. The method could be exploited further by other researchers, as it was shown here to reveal subtle differences that a singular division into groups might not.

Investors can obtain a certain level of knowledge through education and qualifications alone, but expertise assuredly requires experience. This coincides with the Dreyfus model, as both the initial investor groups and the profiled investor groups map onto the respective Dreyfus categories.

Dreyfus (2004) holds that within the first stage, the '*novice*' investors would be given rules and instructions to determine his/her actions, mostly context-fee and without requiring having the necessary skills. After a thorough analysis and discussion of the findings from the uninformed investors, this study confirms this first stage requirement for the most part. However, unless in a professional environment (within employment in an investment related environment), such investors would usually act and invest without having much guidance, hence rules would only exist from a technical point of view (for example, those of an online trading platform).

'Advanced beginners' start to develop an understanding of the relevant context; thus s/he starts to note distinct examples of meaningful aspects in the investment domain. The learner starts to recognize these aspects based on experience but still in a rather detached and analytic frame of mind as s/he follows instructions and is given examples. Translating these characteristics to the level of expertise amongst investors, many would find the 'uninformed' investor group to be within this Dreyfus stage, as well as some of the better-informed investors (the least knowledgeable shared with the informed investors).

This again reinforces the view that the Dreyfus stage boundaries should be seen as fuzzy, rather than clear-cut. Yet, it is still difficult to see how these particular investors would be gaining knowledge through a set of given rules. To my understanding and experience, most novice investors would commence investing because of *self-interest* using the advice of others, rather than by specified guidelines or rules. It might be that by joining an 'investment club', novices gain insight, but there is a general lack of prescriptive rules available, unless a novice investor follows the strictures of a particular investment 'guru', of whom there are a number.

In the Dreyfus model, the learner with more experience and the knowledge of potentially relevant elements and procedures will move forward to the level of *'competence'*. In this phase, the practitioners seem (Dreyfus suggests) to become overwhelmed, as they acquire a sense of what is important and also learn that particular knowledge for the many situations to which they are introduced is missing. Dreyfus' model supposes that, to combat this notion and to achieve competence, investors (adult learners) must develop a plan to learn about the relevant features and aspects within the investment domain.

It is maybe within this Dreyfus stage, that the informed investors commence to realize that for successful investing they ought to intensively learn about the core concepts and themes of investing, or to mandate a third-party asset manager to handle their affairs. It is also this stage where the learner should become emotionally involved with the topic at hand or s/he will not develop further. Dreyfus illustrates that the learner should become emotional about the topic at hand (investing/learning) but act coldly detached and rational in his or her practice (executing investments).

In relation to the Dreyfus model, some informed investors and some experts would be found within the '*proficiency'* stage as the competent performer becomes more and more emotionally involved and knowledgeable in the task. Dreyfus holds that if the detached attitude of the novice and advanced beginner is substituted by involvement and the learner accepts the anxiety of choice, s/he is set for further skill advancement. The practitioners gradually learn to discriminate about the various situations. The experienced performer sees goals and salient aspects but not exactly what has to be done to achieve these goals, mainly because s/he has not yet had enough experience of the outcomes of all possible situations.

This study finds that most experts are to be found within the fifth Dreyfus stage *'expertise'*. At this level, the professional has obtained superior knowledge, skill and sufficient experience of the wide variety of possible responses to each of the situations, so that s/he can now discriminate automatically. S/he immediately sees what there is to do and how to achieve the goal. Dreyfus states that the ability to make more subtle and refined discriminations is what distinguishes the (investment) expert from the proficient performer (the informed investor).

Many academics and practitioners point out that most active managed funds are only successful for one or a few years but almost never over a long period of time. They state that the initial success of these fund managers is more a matter of luck than of skill. In the light of the Dreyfus model, it could be that a fund manager has actually to reach the level of '*expertise*' in order to successfully manage that fund sustainably. Alternatively, many (most?) of the unfruitful fund managers might be only at the level of 'informed investor' and therefore lack superior knowledge, skills and expertise.

Since it is difficult for a novice to obtain a rule or a specific rulebook to make the first steps in investing, an alternative could be that one sets-up a 'test-trading portfolio' that s/he implements and manages as well as possible over many months or years, or until s/he achieves at least 'competence' or 'proficiency' level. This, though, needs a deep understanding (and acceptance) of this complex topic and discipline. Given that, as has been established, time is of major significance in determining investment outcomes, it seems counter-intuitive to opt to run a dummy portfolio over an extended period. Perhaps it would be possible to develop training scenarios using historical data that could be run 'off line'

To conclude, while I trust that the described and applied Dreyfus adult skill acquisition model was sufficient to categorize the survey respondents into the relevant investor groups, the model shows a discontinuity between the lower levels and *'expertise'*. Contrary to what the model would propose, the evidence suggests that the latter (expertise) seems to be qualitatively different and, at the highest standard, the attainment of *'expertise'* in investment does not support the idea that expertise increases linearly with rising knowledge and experience. In my view, the challenge with investing is that one needs to achieve 'expertise' level to be really investing money both effectively and profitably.

Therefore, for the private (retail) investor, knowledge and experience attainment to advance within the Dreyfus model seems to be a key aspect to invest money successfully and sustainably. As a start, individuals might develop a personal profile to learn about themselves, study relevant literature and only then invest oneself, or evaluate a third-party asset management expert to manage your funds.

9.2.5. Education and qualifications

As Dreyfus (2004), Melton & Mackey (2010), Schwanfelder (2012) and Robbins (2014) would agree, educating oneself in combination with experience leads to a better understanding – in this case of investment and to more informed investment decisions with potentially superior outcomes. Moreover, if individuals did not want to invest for themselves, any knowledge they attained would allow them to better evaluate and qualify external investment advisers. Knowledgeable investors would be better placed to judge the quality and notions of their investment advisers' actions, as well as judge the merits of the performance (portfolio return) during the period of any advisory mandate. This is particularly important for people who must manage their own pension money after retirement, or even before, as is the case in some jurisdictions (Nox, 2016).

As the analysis of various job vacancies exposed, qualifications such as the CFA or a Master of Investment Management, as described by Jaffe (2010), will most probably be beneficial for investment professionals who desire to advance in their career (or to start one). In line with Dreyfus' adult skill acquisition model it seems evident that the more experienced and knowledgeable investor will, due to continued learning and repetition, most probably ascend to higher levels within the model. Yet, the data here shows that the learning effect is not linear, but follows a less than predictable pattern and is highly individual. Hence it seems to differ from person to person, from investor to investor – at least in terms of this particular study.

The supposition is that financial investing, as described in this thesis, ought to become part of any student's learning curriculum; we spend years finding out how to earn a living and how to build a future, but we possibly neglect to study the notion of managing wealth and sustaining (or even increasing) it. By providing an initial educational platform individuals would be better placed to progress through the earlier Dreyfus stages before committing real wealth to the process of investment.

9.2.6. Investment strategies and their application

Overall, the initial investor groups (asset managers, institutional investors and private investors) as well as the profiled investor groups (uninformed investors, informed investors and experts) favoured value investing, fundamental analysis, growth investing or a strategy that focuses on dividends. The strategies that they all neglect were technical analysis and stock picking.

If one is a particularly knowledgeable, skilled and experienced investor, such as Phil Carret, John Bogle, Peter Lynch, Curtis Faith, Warren Buffet, Davin Dreman, John Neff or Jeremy Grantham, many of the investment strategies surveyed can be advantageous. For the private investor however, investment strategies such as active fund investing, stock picking or technical analysis are most likely no sensible ways to manage their money because of their cost, but even more so due to their inherent risks, and therefore the possibility that losses could be too high.

Asset allocation as an investment strategy or application (implementation of one's portfolio) found most support within both the literature and this study. The same is true for passive investing vs. active fund management, especially amongst the experts.

It is important for the general investor to understand that asset allocation is not simply an 'investment criterion or strategy,' but more an investment policy or application. The choice and combination of asset classes to be included in a portfolio seems undeniably paramount and much more significant than the actual product selection. Whether an investor trusts more in value, dividend or growth investing, is not the most important aspect as long as they understand how each investment strategy differs: invest into the right asset classes and stay away from stock picking, market-timing or technical analysis. In my opinion and those of the experts here, the latter do not have much to do with sustainable and profitable investing, but everything to do with speculation. A buy and hold strategy, however, is definitely practicable, as long as the asset allocation is well-thought out and the ratios within the asset classes are rebalanced as necessary over time.

As a consequence, passive investing out-performs active investing in regard to the implementation of one's asset classes and investment portfolio. There is wide acceptance that the performance of active managed funds (essentially the performance of their

managers) is lesser in the long-run and that their respective fees are far too high (Ellis, 2002; Swensen, 2005; Zweig, 2006; Bogle, 2007; Fama and French, 2010, Stammers, 2015). There are many reasons why active fund managers do not beat the benchmarks (index) systematically over the long-term but cost is surely one of the key contributors. Thus, active managed funds should not play any role in an investor's portfolio, especially in light of the fact that such products are 'not bought by the investing clientele' but 'sold by the banks and asset managers'.

9.2.7. The important notion of value averaging

Value averaging as a technique did not find broad support amongst the surveyed investor groups, but it was significant in discriminating opinions from a statistical point of view.

This may be because, as a technique, it is a not widely known and it remains an under-researched concept. For this reason, few investors know of it, yet its importance is seen as significant by those who do know. It seemed that some of the experts displayed a sound understanding and appreciation of the advantages it offers - adding incremental investments of disposable income, coupons or dividends, according to the value of the present portfolio vs. a benchmark value (Edleson, 1991).

A recommendation from this research for any investor would be to study the notion of value averaging and to implement this interesting concept if feasible. By doing so, one would keep investing according to the *value of the portfolio* to flatten the purchasing price, to mirror market movements and to increase the chance of overall higher returns. Certainly, the amount and frequency of additional investments needs to be considered carefully so that the strategy can be executed over the whole investment duration with the lowest possible effect (fees) on the portfolio return. Also, interested investors or learners should consider Simon (2013) who holds that value averaging is an inefficient investment strategy as it assumes that investors make a cognitive error in trusting that the strategy's attractive internal rate of return (IRR) implies greater expected terminal wealth.

9.2.8. The cost of investing

Most informed investors and especially the experts agree that the total cost for investing requires continuous attention.

This was evidenced in that more than two-thirds of the experts would change to an online asset manager if they could save 25% to 50% of the management fee. Thus, according to the literature and this study, reducing the total expense ratio (TER) whenever and wherever possible is significant.

This again speaks for the use of passive managed funds, such as ETFs, but also against expensive (and complex/risky) investment vehicles such as hedge-funds, funds-of hedge-funds or structured products.

Investors need to be aware that one of the main reasons why these products are in the market is not for the benefit of the investor but for the profit of the banks and asset managers who market them. Their success lies in the commissions they receive from selling these products. This study evidenced that while reducing TER found substantial support within the investor groups, reducing retrocessions did not. Thus, professional investors welcome any cost reduction, but not reductions on their commissions or retrocessions.

In 2012, a Swiss court ruled that retrocessions belong to the investing customer. Unfortunately, it did not take long for many Swiss banks and asset managers to adjust their business model and develop alternative forms of charges to replace their forgone profits. It would be interesting to identify which products professional investors would sell, e.g. active managed funds or passive managed funds, if they were to receive the exact same commissions. As a conclusion, reducing retrocessions, commissions, management and other fees (TER) greatly contribute to higher returns and therefore to the success of one's investment portfolio, even more so when compounding interest is also taken into consideration.

9.2.9.   The important notion of rebalancing

The study revealed that rebalancing plays a vital role in investing. The concept is simple but powerful as it assures that the investment portfolio always reflects the risk profile of the investor.

Investors need to make sure that the asset classes (or the chosen products) keep the same proportions to each other, by selling off products that have performed well and buying

the ones that have underperformed. In doing so, they would not only keep the portfolio ratios in check but also act in a contrarian fashion, against the market (i.e. selling products that could be *over-inflated*).

In conclusion, a simple buy and hold strategy can be a feasible investment strategy but whether it is executed with active or passive funds, single stocks or any other products, the portfolio still needs to be rebalanced if the ratio of the assets in question deviate too much from the desired risk profile (which would increase the overall portfolio risk).

9.2.10. Investment duration / staying invested

The literature and this study evidenced that the duration of one's investment is an important factor for a successful investment portfolio, required to outperform investment benchmarks. This evidence from experts in this study and from the literature suggests that one should always invest with a long-term focus and stay invested, if the funds are not needed for short-term purchases.

9.2.11. Overcoming emotions while investing

The philosopher and pragmatist John Dewey (1925) established that differences in feelings of acts, when employed as indications of acts performed and to be performed and as signs of their consequences, mean something. Therefore, it is understandable but not necessarily appropriate that feelings from both good and bad investment experiences are taken into consideration when investing in the stock market. The literature and this research show that sound investing (measured in financial terms) should have nothing to do with emotions, but everything to do with a thorough, well established and sensibly executed investment process.

9.2.12. Other investment criteria

The relevant literature and this research revealed that diversification is imperative when it comes to investing money. The experts' investment portfolio typically consisted of around 12 products; if one or other value decreases then relatively differently correlated assets might increase.

Diversification can further be achieved by investing in ETFs with a different currencies, and certainly by choosing products that represent various global markets.

Furthermore, in line with the literature and the findings of this study, the suggestion is that most of one's funds that are not required for short or mid-term purchases should be invested. Inflation may be low at present, but it does play a vital role in eating away wealth and can therefore damage one's financial health dramatically if not considered. An average inflation of 2% will reduce the worth of any cash position by 45% over 30 years.

Likewise, any investor should develop his/her own risk profile in order to identify the risk they are capable to take gauged against the risk they are willing to take (risk tolerance vs. risk capacity). In doing so, investors achieve a clear understanding of *who they are* and how best to invest.

Investors should consider their favoured asset classes thoroughly. The literature is very diverse in this regard, since the products or asset classes chosen depend to a great extent on one's investment philosophy or strategy. However, this study showed that, generally, investors favour equities (shares), corporate bonds, commodities, high yield bonds and real estate. Government bonds were seen as less important than cash, which could be due to the low coupons and high potential for interest rates hikes.

A suggestion is to critically analyse each asset class, in order to understand its advantages and shortcomings. Even asset classes that seem promising, such as corporate bonds and high yield bonds, on a closer examination, often fail to provide positive portfolio returns.

This study and the literature further hold that other investment criteria, such as the purchasing price of a product, have not much merit within sustainable and passive long-term investing and the application of value averaging. Likewise, one's knowledge of a particular company or its size does not determine much of value, since no one can obtain enough intelligence about any company to accurately foresee its future and thus the development of its share price. As Graham already in 1949 concluded, even if you were to know everything possible, obvious physical growth (expansion, merger, acquisition, revenue) does not automatically translate into profits for investors, especially when earnings are not in-line with analysts' expectations.

9.3. Recommendations for the general investor arising from this thesis

1. *Consider educating yourself to become an informed investor or an expert.*

We attend primary and secondary school for over a decade and we study for many more years at universities or learn a profession or acquire a trade (apprenticeship). Then many undertake additional higher education courses or continue professional development. Many do these things in order to make a living, to earn money to buy the things we desire and to help support a family. We invest years and years of understanding to find out how we can earn money but we usually invest little or no time finding out how to preserve or even sustainably invest our hard-earned money. I believe, that this second concern should be part of our educational curriculum, at least from secondary school onwards.

Furthermore, learning about 'financial investing' is no different from any other aspect in life, as there are countless studies, books and financial and economic newspapers available (many of the more important ones can be found in the citations here). If investors were to read only a selection of them with a receptive mind-set and then discuss the topics more widely, they would quickly develop a better understanding of important investment concepts. If individuals want to enhance their knowledge further and ascend along the Dreyfus model, they might then think about investment related courses, as Jaffe (2010) also suggested.

2. *Be circumspect about selecting a bank or investment adviser – consult a third party for a portfolio check.*

This study revealed widespread willingness to change advisers, predicated on a view of where their interest lay in respect of commissions. The European Union report (Charter, Huck, & Inderst, 2010) and the literature confirm that retail and private banks do not generally work in our interest as their main goal is to make profit to satisfy their owners/shareholders. As Hechler (2013) observed, investment products are not bought but sold.

An investment adviser (banker) will first and foremost sell either their own products or third-party products (active managed funds, hedge funds, structured products, etc.) for which they will earn commissions.

The salary and bonus of any investment adviser (whether tied or independent) are (probably) partly based on achieving financial targets; selling as many high commission products as possible may well be in the nature of their job and their monetary interest. Investors should ask whether advisers would suggest buying/holding active managed funds or ETFs if they were to earn exactly the same commission on each.

3. *Ask the right questions when dealing with banks/asset managers.*

Use some or all the profiling questions (education, qualification, years' experience, explanation of asset allocation, rebalancing, fee structure of investment products, fundamental and technical analysis, value investing, value averaging, etc.) to evaluate if the potential professional adviser (asset manager, institutional investor) really has the required expertise to support an investor with their investments.

4. *Be completely emotionless when investing.*

Warren Buffet says that the enemies of your portfolio are 'excitement and expense'. Four out of five experts were of the opinion that emotions have no place when it comes to investing. The consensus concerns 'market sentiment', the tide of current feelings that moves markets. The difficulty is that many investors are 'swept up' by the ruling sentiment so become too 'greedy' during a bull market, trusting that share prices will increase even more. At other times they 'stick' with a company that has lost market value, perhaps falling prey to the thought that they cannot sell now, only once the share price is up again.

Thus, they hold on to something that may never see the light of day again; in fact, to something the overall market has a fundamentally different view about.

A falling or low share price usually mirrors the overall opinion of the market (all investors). Share prices are not low or do not fall for no reason. 'Being emotionless' is therefore not a stipulation that emotions must be set aside when investing, but a caveat that investors need to reflect on their emotions concerning investments and be aware of being led by emotion when analysis would be more profitable.

5. *If feasible, invest for longer than 7 years.*

More than two-thirds of the experts invested for more than 7 years, almost half of them for over 10 years, while the average investment duration was 9.5 years. Investing for the long-term pays, as the short-term is far more volatile and uncertain. Investments can thus be made in equities, since the proportion of equity is the main profit driver within a portfolio. Certainly, equities bear higher risks than i.e. government bonds, but also greater rewards. Besides, the longer the investment duration, the less important is the purchasing price. Likewise, dividends paid and re-invested will not only increase the overall portfolio value but, because of compounding interest, they will deliver substantial financial benefits over the years.

Even investor near or in retirement should not need to invest for the short-term if they do not require their funds, as their assets will one day be handed-over to children, relatives, friends, non-profit organizations or any other beneficiaries, provided they make provisions or laws in their jurisdiction allow for this.

6. *A well-diversified portfolio is paramount.*

Three-quarters of the experts stipulated that an investment portfolio must be well-diversified. In fact, the average portfolio across the relevant asset classes held around 12 products. Investors should not just buy a few shares, that (perhaps) even closely correlate with each other, i.e. shares in an umbrella producer and a raincoat manufacturer. At the simplest level, balance requires shares in an umbrella company as well as shares in a company that produces sun cream.

7. *Expect realistic returns.*

As several studies over various investment periods have shown, the long-term average on equities is around 7%. Even though past performance is no indication for future performance, it is fair to say that the near- and long-term average will not be much more than this level of 7%. Therefore, investors should invest wisely and rather expect 3 to 5% per annum than trying to achieve 10, 20, 30, 50 or even greater percentage returns. Assuredly, such returns are possible, but only if one invests extremely risky. Usually, such speculative investment will not be successful in the long-run.

8. *Be aware of the cost, the total expense ratio (TER) and 'do the maths'.*

Every basis point (BPS; equivalent of 0.01%) not paid for management fees, trading fees, retrocessions or other forms of kick-backs goes straight into overall return. It will amount to a substantial sum over time – due to the power of compounding interest.

If one would invest CHF 100,000 in ETFs for 10 years and averages 6% return (lower end of long-term average of equities), he/r will achieve around CHF 179,000. The same amount of money invested in active managed funds, which are around 1.5%+ more expensive (TER), therefore returning only 4.5% per annum, will result in CHF 155,000.

9. *Develop a risk-profile.*

If investors 'do not know who they are', there is a good chance that their investments keep them awake at night. There are numerous ways of developing an individual risk profile, using the services of one's 'house-bank', an asset manager or online tools. Whatever method is used, investors need to find out how risk averse they are and therefore, how cautious or ambitious their investments can be.

A person who is truly wealthy could probably afford to own a portfolio with 50% equities and 50% government bonds. But a particular wealthy investor may not feel comfortable about such a portfolio, as this portfolio mix can be very volatile. In this case they would be better off with 20% shares and 80% low risk products, such as government bonds.

Likewise, an investor who has only a small amount of income to invest might be quite risk tolerant, therefore enjoying a higher equity loaded portfolio.

10. *Do not stock pick - invest in funds and not in single shares.*

More than half of the experts do not invest in single companies but in funds. Picking single shares will result in a loss over time as the general investor in almost all cases bets against the 'best and the brightest' analysts and investors who are highly educated, qualified, experienced and have real-time access to Bloomberg and Reuters.

Furthermore, such 'professionals' are in continuous dialogue with the company's management. Therefore, stock picking is primarily a 'fortuitous game' and not based on skill. At best, an ordinary investor will have a likely 'win-ratio' of 50%. One bet will pay-off, but the next one loses money, as well as the fees to be paid – it is a loss.

11. *Invest in ETFs - avoid active managed funds all together.*

It is difficult, if not impossible, for any qualified investor to find a fund manager that outperforms the respective index (market) sustainably amongst the ten thousands of active fund managers. It is even less likely that the general investor would succeed systematically. In addition, if any investor were to find that individual fund manager, they would need to make sure that s/he is still in that company managing that fund.

These are some of the reasons why twice as many experts prefer passive to active managed funds. Consequently, within investors' asset classes, they should invest in low cost index funds or ETFs that mirror whole markets. Investors should neglect active managed funds as they cost much more and almost always do not deliver on their promises in the long run.

12. *Select the superior asset classes.*

The experts' most favoured asset classes were equities (shares), corporate bonds, commodities, high yield bonds, real estate and gold. While it is true that equities are the main driver for portfolio returns, investors need to be cautious that they do not invest all their funds into equities (only about 10 to 50%, depending on their risk profile) and that they choose the right markets.

Similarly, investments in corporate bonds offer higher returns than government bonds, but they also bear higher risks. In essence, corporate bonds show similar characteristics to shares, so they should be part of the primary 10 to 50% equity portion mentioned above. Commodities or real estate are vital for diversification reasons. However, there are doubts when it comes to investments in high yield bonds (which are frequently issued in more volatile economies), as they not only bear higher risks but also because their underlying currencies can fluctuate a great deal in price on non-domestic exchanges and make such investments even more unpredictable. There are good reasons why such bonds pay higher premiums and why rating agencies classify them as hazardous (junk bonds).

13. *Invest in the right markets.*

For diversification purposes, the general investor must not only focus on their home market but also select ETFs that mirror American and European indices (or other developed markets) as well as emerging markets. They will therefore achieve further diversification effects through different currencies. This kind of currency diversification is sensible, as whole markets are in play rather than badly-rated high yield bonds. Avoiding highly volatile markets, such as the Middle East or Africa, where their political systems and the economic situations are too unstable and risky, is also a cautious policy.

14. *Rebalance when required.*

Once investors have made their asset allocation and invested their funds according to their risk profile, primarily in ETFs or index products, they need to monitor their portfolio and rebalance when the ratios within their asset classes deviate away from their ideal profile.

In doing so, they will sell portions of their best achieving titles while buying more of those that underperformed. In other words, they will be acting as a contrarian (against the herd), selling the overheated holdings when most other investors are still jumping in, and buying the quality investments that have been falling.

15. *Stay invested at all times.*

Investors should decide carefully what portion of their disposable income they want to invest for the long-term, then choose asset classes, firstly markets and then ETFs, and finally stay invested.

Do not jump in and out of investments, as this just enables the banks to earn more money (trading cost) and also damages portfolio return. Also, keep liquidity under review as money lying around in cash will cost money, as inflation continuously reduces that value every day. For the past few years, inflation in Switzerland (and in some other developed economies) has been minimal (i.e. 2005 to 2015, on average 0.23%) but that will change again. As a rule of thumb, an average inflation of 2% will reduce the worth of any cash position by 45% over 30 years.

16. *Keep investing.*

Rebalancing portfolios and re-investing dividends or coupons paid and adding surplus disposable funds periodically, applying the concept of value averaging (Edleson, 1991; Marshall, 2000) contributes to long-term growth. In doing so, investors not only have the chance to achieve long-term positive market return but also to continuously increase the value of the portfolio, while flattening the average purchasing prices, therefore resembling the long-term market average.

9.4.   Proposition for a feasible investment process

This checklist offers a process guideline for anyone who desires to invest in the stock market, based on the literature and the outcomes of the research in this study.

a) Define your financial/investment goals and how much of your disposable income you can comfortably invest.

b) Decide on the investment duration. Unless you plan to use your funds for a certain near-term purchase, focus on investing for more than 7 years; the longer the better.

c) Develop your risk profile to evaluate your risk tolerance (how much risk should you take; ability and willingness to withstand swings in the markets) and your risk capacity (how much risk you can take to achieve a particular financial goal).

d) Choose the asset classes that offer both the chance of positive returns at a certain and calculable level of risk and having low correlations with one another, i.e. shares, government bonds, real estate, commodities and gold.

e) Decide on the markets you want to invest in (mature and emerging markets), i.e. Switzerland, EU, USA, Australia / NZ, possibly South East Asia, South Africa.

f) In conjunction with the markets, achieve a further diversification effect by the means of different currencies, i.e. CHF, €, £, US$, AUD

g) Evaluate the superior ETFs to invest in; physical replication of an index (vs. synthetic), reputable issuer, and lowest cost.

h) Choose the custodian bank holding your portfolio. A low cost online bank with a sound business model, good rating and reputation.

i) Implement your portfolio and monitor/manage it. In general, on a monthly basis, or when unexpected hefty market disruptions occur.

j) Rebalance your portfolio if required. Keep the ratios within your asset classes the same, in order to stay within your risk profile.

k) According to the concept of value averaging, set a periodical growth target and invest (i.e. monthly, quarterly, depending on the cost to purchase ETFs) additional disposable income (incl. coupons and dividends). In doing so you are building wealth and acting as a contrarian, as you buy further shares, bonds, funds, etc. when prices are falling and less when they are rising. You are also averaging your purchasing prices and mirroring market movements over the long run.

9.5. Contribution to knowledge

There are a number of different areas where this research adds to the existing body of knowledge, in both the academic and the professional world.

9.5.1. Contribution to theory

One core topic of this thesis was, what constitutes the knowledge and experiences that lead to more informed and superior investment decisions. Therefore, the valuable five-stage adult skill acquisition model originally developed by Hubert L. Dreyfus and enhanced by Stuart E. Dreyfus (2004) was utilized.

While the application of this model, through associating different types of investor groups with the model stages to investment management, was original, it also showed some model short-comings, against my expectations: the learning process is not linear, nor does the model detail the necessary steps one requires to master in order to ascend from one category, e.g. from *'advanced beginner'* to *'competence'*.

It was clear also that the fuzzy nature of the boundaries between model stages (at least in this field of application) requires emphasis. The stages in the model are, by implication, also of equal duration, save for the open-ended nature of expertise. Evidence here suggests that this might not be the case; individuals show different 'dwell times' in the various stages and may indeed not 'progress'. It may also be possible to query the inherent 'progressive' nature of movement through the stages. Given that individuals with similar qualifications and similar length of experience appear in more than one category, suggests that additional factors may be at work in showing expertise. One may surmise that the reasons for this are to be found in an individual's characteristics or predispositions, or talent. Whatever the source, this is an area worthy of detailed investigation.

The development of a conceptual model and associated scoring system to categorize the survey participants into the various investor groups adds an essential dimension to a new body of knowledge. The scoring system itself allowed for a score to identify/categorize the uninformed investors and for a score to separate the experts, with the informed investors scoring in between. This type of approach seems to be unique to this study, at least in relation to investigation of the Dreyfus model.

What is evident is that a means of categorizing individuals to stages is needed in many areas of adult learning, as it may be that (following Dreyfus, 2004) different 'pedagogical' methods relate more successfully to each stage. In other fields, that, like investment, lack clear hierarchical outcomes with which to categorize individuals skill, using a clustering approach on data generated from appropriately designed surveys, offers a method to determine skill level amongst a population.

This research reinforces the general impression that there is no general theory of investing. There are theories, chiefly developed in economics, that consider technical questions in limited circumstances (see, for example, Bolton, Cheng and Wang: 'A Unified Theory of Tobin's q, Corporate Investment, Financing and Risk Management', 2011). Such papers typically model a limited set of variables for specific situations. The pattern of variables selected usually covers themes most relevant for firms, rather than private individuals, or those investing on their behalf.

As was evident in the literature review, there are a number of prescriptive lists to guide individual investors, which hardly constitute theories. Indeed, in this area one eminent contribution is 'Dilbert's Unified Theory of Everything Financial' in 'Dilbert and the Way of the Weasels' (Adams, 2003). As the title suggests, this is a light-hearted look at financial planning and investment – and, crucially, it contains many of the same snippets of advice that feature in less humorous publications. Most of the lists are based on the experience of the individual authors. While it is appropriate to acknowledge that some authors are well-versed in the field, the basis for the works might largely be viewed as anecdotal. In these circumstances, the evidence garnered here constitute a more empirically grounded framework; the framework has the merit that it tends to reinforce the experientially generated advice, but can be clearly located in the views of experts.

9.5.2. Contribution to investment practice

To my understanding, there has not been any research undertaken where expert knowledge from both professional investors and private investors was accumulated and analysed, particularly not in Switzerland. Undoubtedly, numerous studies have focused on many of the existing investment strategies, on the on-going debate regarding active vs. passive fund management, or on the argument as to whether fundamental or technical analysis is the more rewarding approach for investors.

Nonetheless, most of the literature is rather fragmented and does not describe how private and professional investors differ in terms of their experiences, knowledge and investment approaches or what the characteristics of the experts are and how retail investors can benefit from an understanding of their investment behaviour.

In addition, as previous research and applied science has predominantly focused on determining an investor's risk profile (risk tolerance vs. risk capacity), little besides the obvious factors relating to qualifications has been used to provide a selection basis for investment advisers. The set of profiling questions applied within this thesis can now be used to either educate oneself about the most significant investment matters and concepts or to verify whether the existing investment adviser, or the one yet to be appointed, possesses the required knowledge and experience to prudently advise the general investor.

This thesis further contributes to applied knowledge as it provides an overview of the characteristics that actually constitute an investment expert. Next to the above-described profiling questions, these characteristics can also be used to qualify potential investment consultants working for banks, institutional investors or asset managers.

9.6. Recommendations for further research

The Dreyfus adult skill acquisition model was sufficient to categorize the research participants into the relevant investor groups, but in my opinion, it does not yield insights into the mechanism of the development of expertise.

The challenge with investing is that one could quickly lose some of his/her funds if s/he is not very cautious and does not invest in an expert manner. Therefore, since the attainment of knowledge and experience according to the evidence here using the Dreyfus model is not linear, the theoretical framework could be further enhanced. This would enable the necessary steps and mechanics to be understood and specified so that one (not only in the field of investing) can reach *'expertise'* status through a process that is more clearly specified and understood.

The research also highlighted a number of features of the state of knowledge among investors. The most significant example concerned the notion of value averaging, a concept that allows the investor to define a certain periodical growth target and to therefore periodically purchase different quantities of additional shares, bonds, funds, etc. depending on the performance of the portfolio. The goal thereby is to buy more assets when prices are falling and less when they are rising. By doing this, the investors' portfolios will quite closely resemble average market returns while levelling the purchasing prices.

This idea clearly has merit (as evidence generally suggests) since long-term returns that outpace the market are not generally to be found. On the other hand, interested researchers (and learners/investors) should also consider Simon (2013) who holds that value averaging is an inefficient investment strategy as it assumes that investors make a cognitive error in trusting that the strategy's attractive internal rate of return (IRR) implies greater expected terminal wealth.

This study shows that there is a stark disconnection between value averaging and the knowledge and mechanics of it as both professional investors (asset managers and institutional investors) and private investors ranked it as the least favoured investment strategy (lagging even behind technical analysis). This suggests that many investors probably have no comprehension of this interesting and rewarding investment concept. Therefore, researchers should focus on further developing the notion of value averaging in the context of a sustainable investment method.

9.7.   Summary of this chapter

This chapter presented a comprehensive conclusion drawing on the literature on investing and the discussions of my three research questions.

It summarized how general investors can apply Dreyfus' five-stage skill acquisition model to develop their investment expertise and acumen, recapitulated significant investment criteria, investment strategies and their applications, and pointed out precious investment concepts like rebalancing or value averaging.

Further, this section offered various recommendations for investors that they can apply, acknowledging these concepts to be practicable within their investment circumstances.

Lastly, a pragmatic investment guideline was laid out and contributions to both theory and practice as well as suggestions for further research were uncovered.

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10. Appendix

10.1. Definition of key terms

Asset classes

Asset classes are groups of investments that display similar characteristics and behave similarly in the marketplace, and are subject to the same law and regulations. The main asset classes are shares (stocks, equities), fixed income i.e. government bonds, cash, real estate, commodities.

Buy and hold

Buy and hold is a passive investment strategy whereby an investor buys shares, bonds, funds, etc. and holds them for a long period of time. Such investors typically do not worry about short-term price movements (volatility) but rather focus, after a careful selection, on long-term profitability.

Correlation coefficient

The correlation coefficient measures the difference of how asset classes move in relation to each other, by the measures, -1 (perfect negative correlation) and +1 (perfect positive correlation). Hence, one variable increases while the other decreases and vice versa. The notion of correlation is used to balance investment portfolios, i.e. commodities are known to move in the opposite direction of equities, allowing the investor to diversify and to therefore spread the risk of the portfolio.

Commodities

Commodities are an important asset class in order to diversify an investor's portfolio beyond shares and bonds. Commodities exist in many different forms but are generally raw material used to produce innumerable goods. Examples of commodities are industrial metals like copper, lead, zinc, aluminium or tin; precious metals like gold, silver, platinum or palladium; energy commodities like oil, natural gas, and heating oil or agricultural products like wheat, cocoa, sugar, oat or soybean but also livestock like cattle or hogs.

Corporate bonds

Corporate bonds are debt obligations whereby investors are lending money to the companies issuing the bonds. Corporations usually sell bonds to raise funds for all kind of strategic or operational activities. They typically come as investment grade or high yield bonds that differ in the percentage of the coupons paid to investors, and consequently, in the risk inherent in that bond/company. Corporate bond prices move inversely with interest rates, as they become less attractive when interest rates rise, and more attractive when interest rates fall.

Coupon

A coupon is a payment of interest for lending money i.e. to the government (government bonds) or companies (corporate bonds). It is a feature of a bond that denotes the amount of interest due and the date that the payment will be made.

Dividend investing

Dividend investing describes an investment strategy that focuses on yields of dividends and its re-investments. Dividend investors value the advantage of receiving steady payments from companies they invested in and the prospect to re-invest those payments to purchase additional shares. Such companies usually enjoy the reputation of being financially healthy and stable.

Exchange traded funds (ETFs)

ETFs are the counter product to an active managed fund. They offer a cost-effective way to pool money into a fund that invests in shares, bonds and other asset classes. They are marketable securities that track i.e. indices of bonds, commodities, or equities (i.e. the Swiss Market Index, Swiss Performance Index, FTSE 100, Standard and Poor's 500, Dax International 100. Unlike active managed funds (mutual funds), ETFs trade like common investment products on stock exchanges, experiencing price changes throughout the market day, while enjoying higher liquidity and lower fees, making them an attractive and economical alternative for both professional and private investors.

Fundamental analysis

Fundamental investors determine the health and performance of an underlying company, industry or market they want to invest in by looking at key numbers and economic indicators. On a company level, there are essential questions that require answers concerning growth potential, whether it actually generates profits or if its position is so strong that it can outperform competitors in the long run. On a broader scope, important aspects are the direction an entire industry is taking, the innovation power of that industry and on an even larger scale, if certain markets as a whole are worth investing (maturity, political stability/turmoil, growth potential, risk and reward, etc.).

Futures

Futures are investment vehicles that were invented in 1840 for farmers (who would sell) and dealers (who would buy) to commit to future exchanges of grain for cash. These deals worked for both, as the farmers knew in advance how much they would get paid and the dealers what cost would be incurred. At a later stage, these contracts were sold off to other parties if a dealer did not want that grain anymore or if a farmer did not want to deliver anymore. The prices would therefore rise and fall depending on the supply and demand within the wheat market. Today, most buyers and sellers of commodities have no intention of producing or selling the actual product, instead they speculate, hoping to buy low and sell high.

Government bonds

Government bonds are debt obligations where investors are lending money to a government, municipality, or a federal agency known as the issuer. In return for the loan, the issuer promises to pay investors a specified rate of interest (coupon) during the life of the bond and to repay the face value of the bond (the principal) when it matures, or is due. In contrast to shareholders, bondholders do not own a part of the institution that is issuing the bond.

Growth investing

Growth investors, often contrasted with value investors, focus on investing in companies with a higher than market average potential for growth.

Compared to value investors, growth investors would still buy shares of a company, even if they appear expensive in terms of measures such as the P/E or P/B ratio (price to book ratio).

Hedge funds

Hedge funds are funds that pool investors' money to apply flexible investment strategies, like borrowing to increase investment exposure and therefore risk, short-selling and other speculative investment practices, in an effort to achieve extraordinary returns. There is significant consensus that hedge funds are a positive influence on the diversification effect of investment portfolios, as they show low correlation with most other asset classes.

High yield bonds

High yield bonds are a type of corporate bonds that offer a higher rate of interest because of its higher risk of default. When companies with a greater estimated default risk issue bonds, they may be unable to obtain an investment-grade bond credit rating. As a result, they typically issue bonds with higher interest rates in order to entice investors and compensate them for the higher risk; they are also called junk or below-investment grade bonds.

Investment portfolio

An investment portfolio describes the holding of equities, bonds, funds, commodities, real estate and other investments by an individual, a bank, an asset manager or an institutional investor.

Modern portfolio theory (MPT)

The modern portfolio theory, developed by Harry Markowitz in 1952, laid the basis for many investment perceptions and guidelines still exiting. The notion of MPT is that it is possible for investors to construct an efficient frontier of an optimal portfolio that offers the maximum expected return for a given level of risk. Markowitz proposed, that it is not sufficient to only look at the expected risk and return of one particular stock but it is also about selecting the accurate mixture of stocks (correlation coefficient for diversification). An important part of the modern portfolio theory is two different risk components.

Systematic risk, which is market risks that exist and cannot be diversified away and unsystematic risk, which displays specific risks inherent in individual equities that can be diversified away.

Options

Options are contracts giving the consumer the right, but not the obligation, to buy or sell a security at a fixed price within a specific period of time. An option is considered a put option when the buyer takes out a contract to sell a stock and as a call option, if the buyer takes out a contract to buy a stock - at an agreed-on price or before a specific date.

Passive investing

Passive investing, in contrast to active investment management, describes investments in funds that typically achieve around the same return as a particular market index, such as the Swiss Market Index (SMI), the Euro Stoxx 50 or the Standard & Poor's 500. It is an investment strategy based on buy-and-hold, therefore with the intention of owing securities for many years, at low cost. The underlying basic assumption is that markets generally provide positive returns over long periods of time. Hence, passive investing does not aim on achieving fast gains but rather on building slow, steady wealth over time. Index certificates or exchange-traded funds (ETFs) are typical passive investment vehicles.

P/E ratio

The price / earnings ratio (P/E ratio) is a model to measure the worth of a market or an industry, or whether a certain share price is high or low compared to the past or other companies. The ratio of a share for example is calculated by dividing the current share price by the current earnings per share. Companies that are not profitable pose a challenge in regard to measuring their P/E, as some analysts and investor would calculate a negative P/E; others apply a P/E of 0, while most just say a P/E does not exist.

Quantitative analysis

Quantitative analysis and investment strategies attempt to understand and predict the behaviour of stock market events by applying mathematical measurements and calculations and statistical models.

Real estate

Real estate is an asset class that comprises investments in rental apartments, office locations, retail stores, logistics properties, senior residences, hotels, etc., usually through either a managed fund or an exchange traded fund (ETF). One of the main benefits of real estates is the low correlation with other asset classes like shares or bonds. Another benefit of real estate trusts (REITs) in particular is that 90% of the profits generated every year have to be paid out as dividends to the investors. They also act as a hedge against inflation.

Rebalancing

Rebalancing is an important portfolio management concept that supports long-term investment strategies. At the core of rebalancing is the notion that asset classes or investment products are stringently related to an investor's risk profile, thus rebalancing is the method to keep the quotas of the relevant asset classes in check. If no rebalancing within a buy and hold strategy occurs, investors will find their portfolios out of balance with an increased (or decreased) weighting of some asset classes over others.

In other words, if investors fail to counter market moves by making rebalancing trades, a passive drift away from the desired risk profiles follows. Therefore, an investor could end up with, for example, less exposure to government bonds but instead with a larger, undesired portion of assets invested in shares. This way, the share quota rises above target level and consequently increases the overall risk of the portfolio (and vice versa). Thus, the initially identified risk-return profile of a portfolio starts to deviate, which could easily be managed if rebalancing, selling the top performers while buying the underperformers, takes place.

Retrocessions

Retrocessions are kickbacks, finder's fees and other forms of commissions paid to asset managers, banks and other financial institutions. There is a long-lasting controversy about retrocessions as such payments stem from clients' money and are thus the clients' property. However, many banks and asset managers do not disclose them and keep them as additional commissions for their services; many even deny their existence.

Shares/stocks

Shares (or stocks or equities) are an investment instrument (and the dominant asset class), offering the investor the chance for profit if the share price increases. Shares also pose the possibility of receiving dividends that add to the overall return of an investment when re-invested. Furthermore, shareholders may obtain the right to have a say (voting right) in that company, which for many is a good enough reason for a direct investment.

Stock picking

Stock picking is an investment strategy by which investors, mostly based on a systematic approach of analysis, select stocks (shares/equities) displaying specific fundamental characteristics. Stock picking can be a challenging process as there is no indisputable way to determine the future direction of a share-price.

Structured products

Structured products are investment vehicles that are designed to facilitate highly customized risk-return objectives. They are a complex type of investment created by varying the amount of exposure to risky investments and often include the use of various derivatives (swaps, forwards, futures, options). Often, investors and investment advisers do not fully understand the mechanics or estimate the risks inherent in structured products, which is why many governing bodies have recently called for more transparency of such products.

Technical analysis

While fundamental analysis focuses on the real characteristics (industries, businesses, management, products/services, R&D, potential to innovate, financials, etc.) of a company to evaluate what they are worth at present and in the future, technical analysis, on the other hand, is concerned with the emotions of the market and tries to anticipate the directions of securities by analysing statistics, such as past prices, trading volumes, buying and selling behaviours, trends and so forth. Technical analysts use charts, and numerous other tools, to detect patterns that should reveal future directions of securities.

Total expense ratio (TER)

The total expense ratio is a measure of the aggregate cost associated with managing and operating an actively managed fund (mutual fund), a hedge fund, a structured product and

other investment vehicles. For mutual funds for instance, the cost consists primarily of management fees and additional expenses, such as trading, legal and auditor fees and other operational expenditures. To cover these costs, mutual fund managers often charge a management fee of 1.5 to 2.5% per annum, and frequently up to 20% performance fee. In addition, investors commonly pay a front-end load fee (purchase or entry fee) of 3.5 to 5% and often another redemption or exit fee (back-end load) at the point of redemption.

Value averaging

Value averaging is a method and investment strategy by which investors define a certain periodical growth target, therefore sporadically purchasing different quantities of additional shares, bonds, funds, etc. depending on the performance of the portfolio. It works similarly to the dollar cost averaging strategy (DCA) but with periodical adjustments instead of steady purchases. The main goal of value averaging is to buy more shares, bonds, funds, etc. when prices are falling and fewer when they are rising. By doing this, an investor's portfolio will quite closely resemble average market returns.

Value investing

Value investing is an investment strategy that describes the core of numerous renowned investors. It is, compared with other investment strategies, easy to understand as it does not require extensive financial or investment experience nor, for example, the knowledge and techniques required for analysing and interpreting charts and data. The goal is to identify investments that are undervalued and can therefore be bought at a bargain price. Buying shares at a price lower than their intrinsic value increases the investor's chance of earning profits later when they are sold and it makes them less likely to lose money (or a substantial amount of value) if they don't perform as anticipated.

10.2. Additional literature

The following revised and described literature (as most investment management related literature in general) requires to be treated with some caution as conclusions and suggestions often resemble only a narrow range of selective examples, the prescriptions of what seem to be plausible 'common-sense' rules.

In other words, the literature consists to a large extend of narratives, versus tested hypothesizes and extensive statistically analyzed data, with which readers in this field become familiar. This may be guided by some analysis, but the whole position relies more on an expression of faith than empirical analysis – which is problematic.

Thus, the overall illustrated 'investment characteristics' accord with much of the available literature on investing, though it must be acknowledged that the literature is partial and often written to advocate a particular position.

10.2.1. The emergence of investment theory

'It is mentioned in short sound bites among radio broadcasts. It is discussed at length in the highly news. We are barraged by updates on how the Dow or NASDAQ or S&P 500 is faring on a given day; the fingers of the media do not slip, even for a moment, from the pulse of the market. As long as there have been financial markets, there have been commentators eager to interpret even their short-term movements – movements that are sometimes muted, sometimes violent, but rarely predictable' Reamer and Downing (2016) illustrate that this all leads to one central question: how does an investor make sense of the movements of the markets? This is the task of the investors, achieved by the methods of valuation - to uncover areas with exploitable opportunities. They state that investing has always been more an art than a science but during the last 100 plus years, there has been a burgeoning field of investment science that has profoundly shaped and guided the way practitioners approach the art.

Reamer and Downing describe that efforts to develop investment science have provided a toolbox with three drawers: a) the theory of asset pricing (the core of valuation); b) the formalization of risk in the context of managing a portfolio of investments and c)

measuring and evaluating the performance of investment managers (how well the professionals perform valuation to exploit investable opportunities).

a) 1st domain - asset pricing

The first drawer centers on the notions of valuation and discusses what determines the appropriate price of an assets. As Reamer and Downing (2016) state, mathematical finance emerged largely out of Louise Bacheliers work at the turn of the twentieth century. The French academic published the 'Theory of Speculation', which became the first investment theory that focused on understanding how the market determines asset valuation.

In it, he described how to value complicated French derivatives using advanced mathematics; it predated the similar work by Black and Scholes many years later. He used a form of what is called Brownian motion, named after Robert Brown who studied the random motions of pollen in water. Einstein would describe this same phenomenon in one of his famous papers in 1905. The mathematical underpinnings (stochastic processes, random walks) can not only be applied to small particles but also to the movements of markets. 'Bachelier, though not as lauded as he may have deserved to be among the financial community of his day, was as of Reamer and Downing the father of modern mathematical finance.' Since then, many investment valuation models evolved, each with merits and shortcomings.

Whereas Bachelier employed advanced mathematics to think about the price of a derivative, Irving Fisher used mathematics in an approach to a more fundamental question: how does one value the price of the underlying asset (that is, an asset that is not a derivative)? Reamer and Downing state that Fisher was a prolific American economist who made contributions to indexing theory as it pertains to measuring quantities like inflation, the differentiation between real and nominal interest rates and improved the quantity theory of money.

His primary influence to investment theory was the development of a metric to assess which income stream represents the optimal investment: 'rate of return over cost', a concept related to what we today refer to as the net present value (NPV). The formula is simple but powerful: one can assess the soundness of an investment project by finding the net present value of its future cash flows.

i) Discounted cash flow model

Fisher initiated the theory of discounted cash flow for any asset; John Burr Williams then advanced this theory significantly. Williams's dissertation showed that a stock was worth the value of all future dividends discounted to the present. If a company currently would not pay any dividend, then its value was the expected dividend distribution when the reinvested earnings eventually became dividends. Reamer and Downing (2016) hold that Williams had invented what today is referred to as the dividend discount model of stock valuation. Interestingly, Williams further trusted that market fluctuations were due to the role of speculators who were failing to heed the proper valuation method and were rather interested in forecasting the price at which they could sell the security later.

ii) The effect on capital structure on asset pricing

Modigliani and Miller analysed a rather different question related to asset pricing. How does the capital structure (debt and equity) affect the value of a firm?' Reamer and Downing explain that Modigliani and Miller were both lecturing at Carnegie Mellon and were supposed to teach a class in corporate finance. The challenge for them was that neither of them were particularly familiar with the topic. Therefore, they started to prudently study the material themselves, to finally decide that earlier work was rife with inconsistencies and ambiguity. Their new work was published in 1958 with a paper titled 'The Cost of Capital, Corporation Finance and the Theory of Investment'. This was the Modigliani-Miller theorem.

Samuelson worked on derivatives pricing with a paper on warrants in 1965 and another one jointly with Merton that was published in 1969. He is considered an intermediary in calling attention to the subfield of derivate pricing, even if the cornerstone of the most famous final theory was not his own.

In 1973, Black and Scholes published the revolutionary work 'The Pricing of Options and Corporate Liabilities'. Their mathematical model, as of Ryan, Scapens and Theobald (2002) was based on Boness (1964) and calculated the value of European-style options by applying current stock prices, expected dividends, the options' strike price, expected interest rates, the time to expiration and the expected volatility.

2nd domain - the assessment of risk

Reamer and Downing (2016) elaborate that most of us know where we fall on the spectrum of risk appetite and how close to the edge we care to venture. Some of us are risk lovers, from the gamblers to the entrepreneurs; others are risk adverse, preferring routine, stability and predictability.

i) The beginning of diversification

As of Reamer and Downing, diversification across truly unrelated assets forms the heart of risk management in investment; hence practically all investors would be well-served to adhere this concept.

They comment that although the notion of diversification has existed for some time, it was not until Markowitz that the mathematical mechanics of diversification were worked out. Markowitz concluded that the theory of risk was not captured by the concepts of net present value by Fisher or within the discounted model of John Burr Williams, and thus that the theory of asset pricing was incomplete without a corresponding theory of risk. He reasoned that one can indeed perform a calculation of dividends but that those future payments are uncertain.

Markowitz offered a technical solution that involved plotting all available assets on a graph where the left axis is the expected return and the horizontal axes is volatility. The investment approach is to consider the trade-off between return and volatility; lower volatility comes at the cost of lower expected returns and vice versa. A calculated curve marks the efficient frontier and represents those assets with the highest possible expected returns for a given level of volatility (risk).

Reamer and Downing continue that in 1958, Tobin enhanced the value of Markowitz' portfolio theory by integrating the role of risk-free assets (government bonds), which is plotted on the left axis and identified as having no excess volatility. Tobin invented the famous separation theorem that holds that all investors should hold an identically comprised portfolio of risky assets combined with some risk-free assets or cash. A conservative investor would therefore hold a higher percentage of government bonds or cash but would have the same basket of risk investments in his portfolio as a more ambitious investor.

Reamer and Downing (2016) also illustrate some of the criticisms of Markowitz' approach. For example, some economists have pointed out that volatility may not be sufficiently described by the standard deviation of the returns, or that it is difficult to forecast expected returns and volatilities. However, Markowitz' concept was a radical rethinking of portfolio design and paved the way for the next revolution in the intellectual theory of investing: the capital asset pricing model.

As of Reamer and Downing Sharp in 1964 and Lintner in 1965 proposed the capital pricing model (CAPM), an extension to Markowitz' portfolio theory. It assumes that investors are in agreement about the expected returns and variances of assets in the opportunity at hand. Further, that capital for investments can be borrowed and lent at a risk-free interest rate. The notion of 'beta' is central in CAPM and displays a measure of how responsive an asset is to a change in the value of a benchmark. A result of 1 implies that the value of an asset moves approximately in lockstep with the benchmark, whereas a beta of zero means that the asset moves in a manner that is unrelated to the benchmark. Asset managers use this formula – $E(Ri) = Rf + \beta i[E(Rm) - Rf]$ - to consider whether to add an asset to the portfolio. CAPM creates a condition on the minimum expected return, given the beta of the asset to the portfolio; the asset should not be added if its beta is below this value.

A radical implication of CAPM that almost universally proves uncomfortable is that sometimes it is in the interest of the asset manager to add an asset with a negative expected return in order to increase the total variance of the portfolio. CAPM suggests the practitioners that a portfolio analysis involves more than just looking on a bundle of individual attractive assets, it involves rather, a decision of the blended whole.

The capital asset pricing model further proves useful for a firm in determining whether to invest in a project. A company has a certain cost of capital that can be measured quite simply by beta. If a project shows a rate of return on a given investment of capital that is less than the minimum return prescribed by the CAPM, the company should vote against that project, as the deployment of funds would not be efficient. Given this, one of the most difficult aspect of CAPM is to compute the actual forward beta, like the forecasting challenges (expected returns and volatility) within the Markowitz model. The most common way is to use the most recent historical beta as a proxy.

In 1992 then, Fama and French published an influential paper entitled "The 'Cross-Section' of Expected Stock Returns". They stated that beta alone is insufficient to capture the risk/return trade-off and introduced two additional factors - size (market capitalization) and value (book-to-market equity ratio). They found that value firms (firms with a low price-to-book value as compared with growth firms) have higher expected returns in the aggregate but also possess higher risk. They concluded that there is generally a premium to be earned by holding value and small capitalization stocks. This three-factor model was found to significantly enhance the explanatory capacity of the model when compared to the pure CAPM.

3rd domain – the performance of investment professionals

Reamer and Downing (2016) assess and compare the methods and challenges both investors and asset managers face in terms of measuring actual performance, and the investment professional's potential to achieve returns greater than the respective benchmarks. This third domain delivers tools that help not only evaluate portfolio performance per se, but also for the retail investor to evaluate the outcomes of decisions made by their money managers.

i)   Cowles and the analysis of investment forecasts

Alfred Cowles' III path-breaking research was published in 1933, when he analysed two different groups: those who issued forecasts for particular securities and those who forecasted the direction of the stock market as a whole. For the securities group, he analysed four and a half years of data (1928 to 1931) from 16 financial firms and 24 fire insurance firms that forecasted on particular stocks. For the second group, he studied the projections from 24 financial publications on the general direction of the market from 1928 to 1931.

In both cases, Cowles found that not only were their forecasts incorrect most of the time, but their predictions were, in aggregate, even worse than random chance, as the groups underperformed the market by 1.2% (financial service firms) and 1.43% (fire insurance). In regard to the overall market predictions, the practitioners underperformed random chance by 4%. He concluded that an investor is better of rolling a dice than trusting the finance experts. Reamer and Downing state that although his analysis was too narrow overall, Cowles made the first important step toward rigorously questioning the value added by professional money managers.

The application of beta to the formulation of alpha

As of Reamer and Downing (2016), few decades later, Jensen's took Cowles' work a step further as he formulated what is today called the Jensen's alpha, which allows for a more accurate measure of money makers' performances. He created a metric for portfolio performance to determine if mutual fund managers were, in fact, adding value with their touted skills of stock selection. To do this, one has to first use the concept of beta in the CAPM, calculating the beta of the portfolio compared to a relevant benchmark, secondly to do a straightforward calculation using the beta and the total return to extract the measure of alpha, representing excess or abnormal returns. 'The excess return is Jensen's alpha. If positive, the alpha means that the manager has beaten the benchmark on a risk-adjusted basis. Negative alpha, on the other hand, suggests that an investor would be better off purely investing in the benchmark (fees aside). Thus, the manager who earns negative alpha has failed to add value from a portfolio performance perspective' (Reamer and Downing, 2016, p. 249).

Reamer and Downing state that Jensen's' initial study of mutual funds over a period of 20 years (1945 to 1964) revealed that very few managers had effectively produced a greater return than one would expect, given their 'expert level' and the level of risk of the portfolio. They further hold that the question of whether managers can successfully and sustainably add alpha remains a consistent and contentious debate in the academic literature. There are many who believe that money managers cannot consistently add value over the long term because markets are efficient.

Formalization of the efficient market hypothesis

Eugene Fama was one of the theorists behind the efficient market hypothesis. In his paper, entitled 'Efficient Capital markets: a Review of Theory and Empirical Work' that was published in 1970, Fama effectively defined three levels of market efficiency. The first is a weak form of efficiency (current information is not sufficient to forecast accurately), the second variety is a semi strong-form of efficiency (share prices reflect all publicly available information) and the third form is the strong-form efficiency (both public and private information are all available). The critical implication of the efficient market hypothesis is that the market cannot be beaten if it is truly efficient. Hence, one of his conclusions is that if general speculators make gains with trading shares, it has little to do with skills but more with luck.

Nonetheless, some do outperform the market by random chance or aberration, which may explain the huge success of some funds or some asset managers.

To better understand the efficient market hypothesis, Reamer and Downing (2016) discuss one of its staunchest opponents, the school of value investing that began with the area of Graham and Dodd and the publication 'Security Analysis' in 1934. Graham and Dodd evidenced that one could, in fact, outperform the market by focusing on value stocks; stocks that could be bought with a margin of safety or were protected by a fundamental valuation that exceeded the markets' valuation. They focused on finding stocks that traded with a relatively low price-to-book value or even sold at a discount to net tangible assets. 'The stock market, they believed, was irrational enough to push stocks out of favor and drive the price away from what it was actually worth based on an analysis of fundamentals' (Reamer and Downing, 2016, p. 255).

Many decades later, Graham withdrew from this position and gave up most of what he previously championed, saying that the market was no longer as exploitable as it had been when he wrote the book: he was no longer an advocate of elaborate techniques of security analysis in order to find superior value opportunities. He stated that he agreed instead with those who believed the market had practically always priced securities correctly. 'To that very limited extent I am on the side of the 'efficient market' school of thought now generally accepted by the professors' (Reamer and Downing, 2016, p. 250).

Reamer and Downing continue, whereas Graham has given up on his work, many supporters of the philosophy of value investing have not. One may consider Warren Buffet's primary objection to the efficient market theory. His (and that of many other supporters) response was that given the number of money managers in the market, statistically some will seem to outperform the market.

Behavioural Finance

Beyond Buffest' more anecdotal approach, there has been a rich debate amongst efficient market supporters and the other school of thoughts over the last few decades. In particular, a large body of literature has evolved regarding the notion of behavioural finance, which attempts to explain empirical anomalies and deviations from the classical risk models,

comprising the efficient market hypothesis. Instead of considering market participants as hyper rational agents obeying arguably overly well-designed utility functions, they are thought of as possessing biases, prejudices, and tendencies that have material and measurable effects on markets and financial transactions.

Reamer and Downing (216, p. 251) refer to Kahneman and Twersky's paper outlining what they call prospect theory. It describes individuals' optimization outside the classical 'expected utility' framework. Their paper showed many of the known behaviours that represent aberrations from expected utility theory, such as lottery issues (tending to choose an upfront payment over a larger amount or zero when flipping a coin) and probabilistic insurance, which is an insurance policy involving a small probability that the consumer will not be reimbursed. Survey data suggest that people dislike probabilistic insurance and demand more than a 20% reduction in the premium to compensate for a 1% default risk (Wakker, Thaler, & Tversky, 1979). Prospect theory holds that individuals' choices are more centered on changes in utility or wealth, rather than absolute end values. It also suggest that most people exhibit loss aversion in which losses cause more harm to one's wellbeing than the benefit from happiness one receives from gaining the same amount of reward.

Since Kahnemann and Twersky, additional work has made many connections to markets, for instance, the equity premium puzzle, described in a 1985 paper by Mehra and Prescott. The central puzzle is that while investors should be compensated more for holding the risk-free security (Treasury bills), the amount by which they are compensated appears excessive, historically. In other words, it seems as if equity holders have been overpaid to take on this risk (Reamer and Downing (2016). Benartzi and Thaler (1995), suggested 'myopic loss aversion,' a notion that borrows heavily from the concepts developed in prospect theory, including the fact that individuals tend to display loss aversion and that they care about *changes* in wealth more strongly than about *absolute levels* of wealth.

Investors who look more frequently at portfolios, say every day or every week at the value of their portfolio moving up and down, will experience more disutility on average, given that they develop greater pain from losses than pleasure from the same magnitude of gains. Over long-periods of time, where market movements enjoy a general upward trend, the feeling of loss aversion is reduced because equities tend to appreciate over time, so it is more palatable to hold on to equities.

The boom and bust nature of markets

Retail or professional investors who have been in the markets for a generation or longer have experienced many phases of stock markets rallies and bursts of bubbles. The classic inducement of investors to make easy money faster is by leveraging through debt or securities that are structured in a leveraging manner. Adding the notion of periodic overconfidence and speculation, the result is investment volatility (Christiano, Ilut, Motto, & Rostagno, 2007).

A recent catastrophic example of this phenomenon was the US housing market, which became vastly overvalued, driven by hyper leveraging in the aggressive use of derivative financial products. These were regarded by professional asset managers and regulators as low-risk investments – because they were based on mortgage lending, historically a low-risk area of finance. These mortgage-based securities spread the risk of mortgages (many of which were highly speculative, as the mortgages had been granted to individuals who were not well placed to pay them) past the normal providers of mortgage finance unknowingly to the everyday investors and finally to the taxpayer. With that, these instruments created a gigantic market risk that not many fully comprehended and that resulted in the housing bubble of 2004 to 2006, with its bust that accelerated the financial crisis in 2008. In the aftermath of the subprime market crisis that damaged hundreds of banks and insurance companies, governments have enforced stricter regulations for financial institutions susceptible to swings in market confidence and liquidity (Rapp, 2015).

Fraud, market manipulation, and insider trading

Some investment risks stem from market participant's wrongdoing such as market manipulations or insider trading.

Lowenstein (2000) recounts the rise and then shocking collapse of Long-Term Capital Management (LTCM) in 1998. LTCM was one of the most successful hedge fund firms. Lowenstein suggests that ego, the 'Wall Street' herd mentality, and greed created a crisis that engendered a global financial collapse, unseen since the Great Depression. He concludes that, unfortunately, little has changed since the nadir of LTCM.

One of the main problems as of Lowenstein was that Wall Street never polices itself in good times. To Meriwether, the founder of LTCM and his traders, money management was less an art requiring a series of judgements, than it was a science that could be accurately quantified. The Long-Term Capital Management collapse evidenced that the system of disclosure that has worked so well with traditional securities, has not worked for derivative contracts.

Lowenstein (2000) illustrates that LTCM, with its expertise and better financing, reached a point where its investment experts were certain that they could predict the odds of a loss and that they had compensated for all likelihoods. In essence, they trusted that they had eliminated risk altogether. Their models presumed that markets were indeed efficient and rational at all times, and always correct themselves. Lowenstein determined that by putting themselves at the mercy of short-term volatility, the LTCM partners had abandoned whatever advantage lay in their presumingly precise mathematical models.

Trading frauds are a further substantial category of investment risks. Examples of this include the infamous Leeson of Barings Bank, who engaged in rogue trading (unauthorized speculative, false bookkeeping, non-existent client trades) in the 1990s. Likewise, many banks were part of the LIBOR (London Interbank Offered Rate) scandal, in which interest rates to price the bank's loans were manipulated. The fraud began in 2005 and went on for 7 years; many banks paid hefty fines.

New clients and new investments

The public can now invest their money in relatively new instruments, such as index certificates and exchange-traded funds (ETFs). They are passive investments that replicate whole markets or sectors and are substantially less costly than their active counterparts (Reamer & Downing, 2016).

Reamer & Downing list similar investments in alternative instruments such as hedge funds, private equity, real estate, venture capital, commodities, or infrastructure that grew in the early 2000s and are attractive for asset managers as they provide diversification and do not follow the same movements as the general markets.

However, they state that these are sophisticated financial products that offer appealing rewards but conversely substantial risks of which investors need to be aware.

Hedge funds for example, as Reamer & Downing (2016) explain, benefit from slacker transparency and reporting regulations. Thus, they are able to indulge in secretive and sophisticated investment strategies. One of their main distinguishing characteristics is their fee structure, the notion of charging fees to their clients retrospectively. Such funds accumulate a mix of fees from the total asset base, such as a management fee of 1% to 2%, plus an additional performance fee, which is a percentage of 10% to 20% on the funds return. The hedge fund industry itself grew to $2.5 trillion in assets in 2014. Media often write and present great success stories of hedge funds that excel extremely well, but the reality is that high returns after fees are difficult to maintain in the long run. Especially in terms of hedge funds reporting their results, the story changes as the ones losing and fail often quietly vanish.

Venture capital is another interesting means of investing; financiers provide capital to start-up companies that have the potential of superior long-term growth. Typical sectors are medicine and health care delivery, internet-technology, data analysis and processing or electronics. The nature of such investments differs from equity investing as the investor gets a seat on the company's board to actively influence the strategic and operational direction of the start-up and therefore participating directly from profits or losses (Reamer & Downing, 2016).

10.2.2. Context information

Roberge and Moigne (2005) revisit the notion of tactical asset allocation (TAA) to estimate which bonds or shares will perform better in the future. In general, TAA centres around exploiting short-term opportunities in order to achieve superior investment return, as opposed to strategic asset allocation (SCA), which focuses on defining asset classes for the long-term. Roberge and Moigne explain that the objective of TAA is to enhance portfolio return by switching funds from the asset class expected to be weak to those asset classes expected to be strong. Ellis (2002) and Swensen (2005) would disagree, as they view this kind of investment strategy as market timing - trying to pick winners over losers.

This, Swensen suggests, can only work in the short run if you are fortunate, but in the long run, only causes diminished returns, especially if trading and management fees are considered.

Roberge and Moigne's (2005) proposition is that it is generally agreed that stocks and bond returns are to some extent predictable. To underline this, they quote the pioneering work of Shiller (1988), Fama and French (1989) and others. Roberge and Moigne further say that for TAA to prove profitable, you have to apply reliable forecasting models. Regressions of all types (linear or logistic) are compared and critiqued as giving rise to errors when applied, as opposed to non-parametric models, which allow for a flexible data structure. In their work, a dichotomic method is explained and applied over the 1976 to 2003 period. This model successfully demonstrates which US bonds or stocks are going to perform best over the following month.

Swensen (2005) argues that timing the market fails to make an important contribution to portfolio results, due to the inconsistence inherent in making a speculative short-term bet against a carefully crafted long-term target portfolio. He compares the market-timing alternative to the largely reasonable behaviour of sticking to long-term asset allocation targets, as Brinson, Hood, and Beebower (1986), Ibbotson and Kaplan (2000), or Ferri (2006) have described. If an investor follows an exclusive strategy of day trading shares, investment results for the portfolio would have nothing to do with asset allocation and everything to do with market timing and luck.

Alongside Ellis (2002), Swensen also illustrates that perhaps the most frequent form of market timing derives from a passive drift away from the desired risk profiles, as investors fail to counter market moves by making rebalance trades. For instance, if shares show a superior performance relative to bonds, the share portion of that portfolio rises above target level as the bond part falls below.

Thus, the return/risk profile of a portfolio, which was initially identified, starts to deviate. This could easily be managed if investors rebalance, selling the top performers whilst buying the underperformers.

Swensen writes in detail about individual asset classes and describes their advantages and shortcomings.

He suggests that many investors purchase corporate bonds, hoping to earn an incremental return over that available from government bonds. If investors were to receive a generous premium to compensate for credit risk, illiquidity and callability, then corporate bonds might earn a place in investor portfolios. He concludes that unfortunately these factors work against the holder of corporate obligations, often providing less return than traditional government bonds. Swensen (2005) also discusses rating agencies such as Morningstar and demonstrates their inaccurate and misleading system of rating managed funds. Furthermore, he also believes that fund managers fail to achieve superior returns relative to index funds over a longer period. He therefore recommends that individuals invest in index funds or ETFs respectively.

Block (2006) is an advocate for investing in 'real-estate investment trusts' (REITS) and illustrates that such investments offer both low risk and low volatility and high returns. In addition, REITs provide an ideal hedge against equity market losses and inflation. He states that commonly return from REITs beat the returns of the S&P 500 index and when compared with stocks they are superior due to lower volatility. In addition, real-estate investment trusts are adding real and measurable value to a diversified investment portfolio as they correlate (moving in different direction) contrarily to most other asset classes.

Ehlern (2006) does not discuss investment strategies, but rather analyses private wealth management and family office (institutional investors) services for ultra-high net worth individuals (UHNWIs). He shows the different disciplines a private wealth management or family office might be confronted with. He suggests that such asset managers pursue interest's other than simply generating wealth by using type of investment strategy. Typically, the spectrum of services offered within a family office could have a wide range, including advisory services, life-cycle and lifestyle planning, trust services, (which are also key in private wealth management), estate, inheritance and wealth planning, succession planning in family businesses and tax planning or asset protection planning. Therefore, the way wealth can be *preserved* seems to be much more a focus for such offices than the practice of *increasing* wealth. In any case, it seems that investment knowledge and expertise play a vital role for large investors.

Ferri (2006) explains that asset classes are broad categories of investments, such as cash, bonds, shares and real estate.

Each asset class can be further broken into more detailed categories. For instance, bonds can be categorized into taxable bonds and tax-free bonds. Shares can be divided into European shares and US shares. These categories can be further categorized by investment style and sectors, e.g. growth and value shares, large and small capitalizations, investment-grade bonds and non-investment-grade bonds. Sectors can be interpreted in many ways, whether by geographic region and industry sector (such as real estate) or based on issuers, such as corporate or government bonds. Ferri (2006) concludes that a well-diversified portfolio will hold all asset classes, many asset-class styles, and several asset-class sectors. However, he does not explain, how and in which 'frequency' these categories come into play. In any case, asset classes reflect different risk and return investment characteristics, and will perform differently in any given market environment – an issue with which Ferri does not deal.

Ferri further asserts that successful investing requires design, implementation, and maintenance of a long-term investment strategy based on clients' distinctive desires. Asset allocation, as also evidenced by Ibbotson and Kaplan (2000), plays a central part of this investment strategy. The goal shifts from trying to pick winners and timing the market or day trading, to being diversified in many different investments at all times. No one knows what will happen in the financial markets tomorrow, next week, next month or next year. According to Ferri, asset allocation resolves a problem that both private and professional investors face, namely, how to manage assets without knowing the future. Asset Allocation eliminates the need to predict the future direction of the markets and eliminates the risk of being in the wrong market at the wrong time.

Zweig (2006) provides an updated version of the intelligent investor by Benjamin Graham (1949). He lists major financial developments, such as the sudden decrease of thousands of Internet companies at the beginning of this millennium, or the bankruptcies of 'world leading' corporations like WorldCom, Enron or Arthur Anderson. He concludes that innumerable investors have lost money due to lack of knowledge and overconfidence.

The latest release of the Intelligent Investor further re-illustrated the fundamental principles of value investing and how Graham literally taught Warren Buffet how to invest. Investors generally fall into two general categories. The enterprising investors, who treat their investments as they would treat any other business, they engage in.

Yet, since most investors do not have the time nor the knowledge to treat their investment like a business, they ought to adopt a defensive investment strategy, like buying funds that track indices or the market. Defensive investors are more likely to succeed in the long-term, as there is no evidence that market forecasting and timing the market produce acceptable results. Graham (1949) further believed that value investors should pay more attention to the dividends and operating performance of the companies, they own that to stock price movements.

Malkiel (2007) studied various investment methods such as fundamental analysis or technical analysis and noted imperative shortcomings in both approaches. He determined that for most investors, following these methods will produce mediocre results compared to passive investment strategies. Technical wisdom, for instance, suggests that if the price of a stock rose yesterday it is more likely to rise today but in fact, it turned out that the correlation of past price movements with present and future price movements is close to zero.

One of the main problems in regard with technical analysis are the cost for trading stocks, which in turn makes it very difficult for investors to outperform the market. Even if buying and selling stocks were not of great cost impact, Malkiel rejects the main premise of technical analysis, which is that there are repeatable and reliable patterns in stock movements. He argues that cycles in stock charts are no more true cycles than the runs of good fortune or misfortune of the everyday gambler in a casino. He stated that technical analysis is just a superficial way for brokers to sell stocks.

He further analysed the concepts and performances of active fund managers and arrived at similar conclusions. They usually underperformed the market in the years following any prior success, henceforth regressing towards the mean. In line with many other mentioned researchers, i.e. Swensen (2005), Green (2008), Hechler (2013) or Siegel (2014), Malkiel proposed that given the distribution of fund performance, it is statistically highly improbable that an ordinary investor would happen to choose those few mutual funds that will actually outperform their benchmark index over the long term.

He summarized the basic rules of investing (Malkiel, 2007, p. 37-167)

- Save first, as it does not matter if you make 3% or 5% on your investment if you have nothing to invest.

- Invest regularly so that you flatten the average purchasing price – no one should try to time the market.

- Diversify investments over various asset classes and in the world's countries.

- Rebalance periodically to stay within your defined quotas.

- Keep cost low and stay away from active managed funds as there is very little persistence from year to year.

- Avoid chasing hot funds and high turnover of your portfolio as this often results in poor performance.

- Stay invested for the long-run.

The Black Swan, written by Nassim Taleb (2007) is an informative investment guide, based on the earlier work by the philosopher Karl Popper (1952). Taleb explains the notion of a black swan, which is a highly improbable and unforeseen event that carries a gigantic impact, in reference to past and recent happenings. The First World War, the demise of the Soviet bloc, the stock market crash of 1987, the invention of the World Wide Web, 9/11, the rise/success of Google or Apple's iPhone are examples of such black swans.

He is asking and debating the question why we and science only worry about black swans after they occur? Taleb concludes that humans are hardwired to learn specifics, when they better would focus on generalities. We focus on things we already know and neglect what we don't know. As Popper stated, before the discovery of Australia, people in the other parts of the world were of the indisputable belief that all swans are white, which was back then completely confirmed by empirical evidence. The observation of one single black bird invalidated a general truth derived from millennia of confirmatory sightings of millions of white swans.

Weber (2007) offers two key opinions: not to trust anyone who claims to know how a share or a market will develop, and that one does not require to be a financial mastermind

or stock market prophet to invest systematically and successfully. He holds that any plausible explanation for happenings on the stock market in the past has no value to predict the future direction of the same. He too believes in the careful assessment of the investors' risk and return profile and in a diversified portfolio – 'only when choosing a life-time partner, diversification can be neglected' (Weber, 2007, p.21). Hence, he concludes that diversification through stocks and the various asset classes over the whole life-cycle (long-term investing) are the essential steps for sustainable investing.

Often, analytical and reasoned stock market projections produce inferior results than naive and haphazard guesses. Consequently, Weber continues, once we fully comprehend that stock markets forecasts are only smoke and mirrors and that we are not talented enough to beat the 'homo economicus' (the market) methodically, then we should take our time, invest intelligently, rebalance occasionally and avoid engaging in pointless trading. He explains that the strategy of most investors would improve dramatically, if they would only buy one single exchange traded fund (ETF). Yet, many listen to untrue and misleading wisdom, i.e. that the equity portion of your portfolio should be 100 minus your age. Investing, as for instance Ellis (2002) or Swensen (2005) evidenced, has no actual termination date, as funds are often carried over to the next of kin, to a trust or to somebody else who is an inheritance beneficiary.

Balling, Gnan and Lubochinsky (2008) looked at the investment process as a three-legged stool supported evenly by securities research, portfolio management and securities trading. They advocate technical analysis measuring deviations of PE/Ratios of similar shares and are convinced that many arbitrage possibilities exist for active management. They suggest that modern financial technology permits the separation of risk exposure, selection and management, from physical investment choices, capital expenditure plans, ownership and governance of assets. As such, they view risk as a separate dimension of asset management decisions.

Merton, cited in Balling, Gnan and Lubochinsky, points out that asset management could be differentiated between the two investment strategies - 'alpha' and 'beta'. An asset manager produces alpha if he achieves performance per unit of risk over and above the performance a client could achieve without support. Beta strategies in turn, rely on well-diversified and efficient coverage. The question then arises as to how an asset manager best achieves a positive return that is superior to what a 'non-professional' investor could

accomplish. Merton also assessed the importance of asset allocation in regard to sovereign wealth funds. He argues that you cannot discern the most favourable asset allocation strategy outside of the context of a country's other assets and liabilities. He refers to pension fund managers and the movement away from defined-benefit pension plans towards defined-contribution plans that forces savers to manage their pension money themselves without having the necessary qualification.

Loistl and Zellner, also cited in Balling, Gnan and Lubochinsky (2008), are convinced that the proposition of the efficient market theory has no value any longer as the advantage of active sophisticated portfolio management is beyond any doubt. Academics, as well as professionals, such as Bogle (2007) or Swensen (2005), who trust in 'indexing', would most probably disagree. Likewise, promoters of the efficient market theory, like Fama (1970) or Schiller (2003), would oppose this strategy and provide evidence that markets are indeed efficient as there are no 'information advantages' that are exploitable.

Bogle (2007) also debates the importance of index funds, as he believes that such instruments eliminate the risk of trying to pick the right share, the risk inherent in various market sectors or the risk in searching for the best fund managers. The only risk left is the market risk that can be managed by investing in different asset classes, diversifying portfolios, a long investment horizon and by sticking to the defined investment policy. As did Gwilym et al., (2009), Bogle points out that one of most advantageous elements in investing is compound interest, hence re-investing dividends yielded from investments in ETFs.

He further lists the 10 best US fund managers in the three-year period from 1997 to 1999 and compares them with the following three-year period from 2000 to 2003. The result shows that every single fund, out of the initially best 10 funds, falls within the worst 60 funds. In other words, none of the previous top 10 funds were ranked within the first 790 funds in the second period. For instance, Rydes OTC fund, which achieved the best results in 1997 to 1999, was ranked 841 in the following three-year period; RS Emerging Growth that ranked 2, became 832 and Morgan Stanley Capital Op, which was 3, became 845.

Bogle seems to illustrate several valid arguments as to why index funds perform in a superior fashion to managed funds over the long run.

Yet, investors should not ignore that Bogle is the founder of the Vanguard Group, which is one of the three leading ETF issuers and therefore might exhibit a certain bias.

Another interesting way of looking at investing money is that of Assogbavi and Fagnissè (2009), who support option trading as an alternative investment strategy. In an empirical study, they found option pricing (under different assumptions) and its application to be superior to other types of securities that have been extensively researched in the financial literature. Nonetheless, little examination effort has been devoted to analysing the impact option trading has on the price-volume relationship.

Assogbavi and Fagnissè base their work on studies by Jennifer, Hameed, and Niden (1994) and indicate that strategies that take volume into account are reliably outperforming strategies that are only based on price. They then apply Zellner's seemingly unrelated regression (SUR) method showing that, on average, the trading volume of option-eligible shares is less sensitive to price changes than the volume of shares without options. In other words, price changes have a greater effect on trading volumes when shares have options attached.

A direct consequence of Assogbavi and Fagnissè' effort is that investors, who use both volume and price changes to make inferences for investment decisions, have to incorporate, at least when dealing with an option-eligible share, both share and option markets into their analysis. Furthermore, it seems that investors may be more motivated to turn to the option market itself rather than acting directly on shares in order to carry out their different investment strategies.

The University of Zurich, cited in the Beobachter (2009), measures banking customers' satisfaction and their willingness to move on to another bank. The survey established that, even after banks generally and in Switzerland particularly, suffered greatly in the subprime and financial crises, by regulators as well as by the banking community (since they often charge highly exaggerated fees or unlawful kick-backs or retrocessions), banking customers refused to move their assets to another institution. In fact, 80% would not change their bank, even though they receive average but expensive banking services or they fear that their bank could one-day collapse or they have lost money on their investments. An impressive 75% of those surveyed stated that they would not even change their bank if they were guaranteed to receive a better package with another

institution. I could conclude that lack of investment knowledge and expertise might be a reason for this conduct.

To the contrary, a survey by Birchler, Volkart, Ettlin and Hegglin (2010) that was completed only two years later, after the financial crisis had unfolded even more, concluded that many (especially the younger clientele as well as the wealthier clients) did indeed change their bank because of the financial institutions wrongdoings and the turmoil of the whole industry. In 2008, the Swiss bank UBS for instance, was the main financial institute for 28% of the Swiss banking clients, by 2010 this number decreased to 21%.

Birchler et al., in their study 'Aktienbesitz in der Schweiz', further investigate how people in Switzerland invest their money. As this survey was conducted every two years during the prior decade, it also illustrates how investment behaviour has changed over time. The methodology used was that of a 'Quotaverfahren', which in this case was a series of interviews conducted by telephone. More than 2000 participants answered questions regarding demographic data, wealth, shareholding and shares, information phase, decision phase, trading phase, performance measuring and corporate governance. The survey mainly concerned differences between age groups, gender and wealth categories, but took other criteria into consideration too.

One of the main findings was that only 17% of the participants hold shares compared to 30% in 2000. The reasons for this over 46% decrease are manifold. First of all, Birchler et. al. explain that we were just coming out of a rather volatile decade with the ending of the technology boom and the happenings on 9/11. Then, after the markets recovered, the world experienced first the subprime and then the financial crises. Secondly, private investors decreased their direct share/fund holdings due to the institutionalization of the Swiss pension systems, as also noted by Reamer and Downing (2016) referring to the pension system in the USA. Employees older than 25 years and with an earning above CHF 20,880 have to invest a minimum of 5% (increases with age), of their monthly salary.

The pension funds have to pay a 1.75% minimum interest rate by law (as of January 2014) and either a one-time payment or a monthly life-long payment is guaranteed after achievement of regular retirement age.

During the last decade, private investors have become increasingly risk averse and many, as the study showed, chose to inject their excess money into the government regulated pension funds, in addition to their regular salary pension payments.

Birchler et al. (2010) also investigated the duration of the participants' investments. They conclude that the 30 to 39 age group displays the longest investment duration, whereas the 18 to 29 age group and the 60 to 74 age group invest with shorter timeframes. Yet, of these, more than 25% still participate for longer than 8 years.

In their study, Ashby, Williams, and Stinson (2010) do not suggest an ideal investment strategy for asset allocation, but illustrate the prospective benefits of tax-optimized portfolios, especially in light of uncertain income tax rates after retirement. For the US, today's tax rate structure is reasonably low but upon retirement, investors could face higher taxes even though the retiree's income is only 60-80% of the wage prior to retirement. Ashby et al. therefore recommend US investors to not only diversify portfolios by investing in different asset classes but also by tax diversification. They state that, to minimize tax in retirement, investors ought to include a mix of taxable, tax-deferred and tax-free accounts. Ashby et al. further discuss investment possibilities such as Roth Individual Retirement Accounts and more recently Roth 401k plans to minimize tax burdens over the long run for US taxpayers.

Goldie and Murray (2010) assert that the majority of investors are taking unnecessary risks. Investors do not diversify their portfolio properly and consequently pay too much in fees and taxes, leading to poor investments results with too little return and too much risk. They argue that for sustainable and successful investing, an investor needs to make five decisions:

- The do-it-yourself decision – trying to invest yourself or seeking support from an investment professional.

- The asset allocation decision – how to allocate your funds among different asset classes such as equities, bonds, real estate and cash.

- The diversification decision – which specific asset classes to include in your portfolio and in what proportions.

- The active vs. passive decision – favouring active managed funds trying to outsmart the market or a passive approach that delivers market-like-returns.

- The rebalancing decision – when to sell certain assets and when to buy more.

Kunnanatt (2010) studied the investment strategy orientation of nonurban investors in developing countries, with particular focus on investment goals, risk attitudes, and return expectations of investors. In particular, he researches how reliable these investors are as a steady source of capital for driving the economy forward in order to contribute to a sustainable flow of funds into investment markets. He also examines whether there are irrational speculators who could damage the investment health of a nation. Interestingly, Kunnanatt establishes that the investors in the study possess a strong affinity for growth, which he defines as the accumulation of wealth over time, rather than any steady flow of current income.

This affinity was established by the means of questionnaires but also by further exploration during interviews. He concludes that this phenomenon is a reflection of the confidence that investors hold regarding their perceived ability to engage in profitable investment and trading activities. This (over)confidence, as Kunnanatt states, often stems from fortuitous experiences of stock or commodity trading without much understanding of the scientific principles, complexities and risk involved. Zweig (2006) identified the same for 'developed world investors', when he discussed how the Internet bubble led private investors to believe that they were skilled investors. Kunnanatt further determines that this overconfidence, next to other factors he measured, could potentially lead to damaging the capital mobilization prospects of a country. Another consequence of the overconfidence described by Zweig and Kunnanatt quite often leads to incorrect expectations about potential stock markets and portfolio return.

Lewis (2010) summarizes the causes, happenings, and consequences of the damaging financial crisis that fully unfolded in 2008. He believes that greed and ignorance of the main banks, their traders, and quantitative analysts were the root of the disaster, when they tried to make money from a situation they did not fully understand. There were however, a (very) few experts who were wondering and who questioned the system, the overinflated real-estate markets and the doubtful stock market vehicles CDS (collateral debt swaps).

Lewis (2010) explains that these experts did also question the existing risk models and subsequently started to understand that this apparently thriving business would not be sustainable.

Lewis (ibid.) continues to illustrate that by 2005, Wall Street firms were heavily betting on the ambiguous subprime market. This was a marketplace where borrowers with doubtful or limited credit history obtained desired money for buying or building their homes, for artificially high values and which they essentially could hardly afford. These, as Lewis calls them, 'toxic mortgages' were mainly hidden in credit default swaps (CDSs), credit default obligations (CDOs) or similar products, that resulted in money managers holding rather risky portfolios. In late 2006, home prices started to fall but no one really reacted to it. 'In the murky and curious period from early February to June 2007, the subprime mortgage market resembled a giant helium balloon, bound to earth by a dozen or so big Wall Street firms' (Lewis, 2010, p. 250). Lewis states that, from the social point of view, the slow and possibly fraudulent unravelling of the multi-trillion-dollar US bond market was a catastrophe, yet from the hedge fund trading point of view it was the opportunity of a lifetime. Lewis therefore calls the CDO market a credit laundering service for residents of lower middleclass America but for Wall Street, a machine that turned lead into gold.

Melton and Mackey (2010) studied student managed funds. SMFs are a type of investment that has evolved to form part of university finance curriculums over the last three decades. As of Melton and Mackay (ibid.) Many business schools endorse 'real world' education, and many now educate finance students using real money and real portfolios in a structured and didactic way. The benefits of such schooling are that students gain hands-on money management experience and become visible to potential employers. SMF also act as a 'recruitment tool' for future employment after graduation.

In their paper, Melton and Mackey cited Neely and Cooley (2004) who found that 57 of 61 SMF respondents were permitted to invest in equity only, with just four investing in bonds. Moreover, 17 of the 57 were defined as equity funds and could only invest in US securities. These results are surprising because much evidence exists to show that balanced and sustainable portfolios should not invest in only the 'home market' or equities and bonds.

Melton and Mackey's (2010) work also points out that the majority of universities focus on an active management strategy versus a buy and hold approach. However, they state that fundamental analysis factors, such as beta, price on equity ratio, dividend yield, earnings per share, 52-week price volatility, return on asset ratio and technical analysis are also necessary learning objects for students.

In an essay about the importance of investment feasibility analysis, Oprea (2010) looks at as specific asset class, the significance of real estate investment. She explains that real estate investments can be explained as the commitment of funds by an individual with a view to preserving and increasing capital and earning a profit. Such investments also represent the foregoing of some immediate comforts in anticipation of future benefits.

Oprea like previously Block (2006) explains that generally real estate investment has offered an above-average rate of return while acting as an effective hedge against inflation. It further allows investors to use other peoples' money through leverage. However, Oprea also concludes that other motivations and advantages, such as pride in ownership, personal control, self-use and occupancy, estate building, security of capital, high operating yield, tax shelter, portfolio diversification, etc. should also be evaluated. She illustrates the importance of a viability analysis and details issues of legal, physical, financial matters.

Stanyer (2010) on the other hand, analyses the mistakes individual and institutional investors have made in order to learn from that past. He further predicts that due to inflation, markets will be less favourable in the 21st century and that consequently the investing landscape will be different to what is was in the 20th century. In order to adapt to these changes, investors in particular should consider inflation-linked bonds, which ought to be included within their portfolios.

Stanyer additionally exemplifies how sustainable investment strategies evolve; the shape of the strategies (keeping it simple), the concept of the time horizon, or the individual's investment behaviour. He is of the opinion that even though many investors have substantial business expertise and experience in specific capital markets, such knowledge is not sufficient. Investment success requires an integrated and holistic view of the investment problem and the full array of investment products available.

He therefore summarizes the latest thinking in a concise and comprehensible manner and arrives at a practicable approach to long-term investment, drawing on historical data, the latest academic studies, and best practices among institutional investors.

Stanyer (2010) lists key elements of which investors need to be aware. E.g. one of the oldest and trivial sayings, 'if it looks too good to be true, it probably is', remains still one of the most valuable pieces of investment advice anyone can give, according to Stanyer. Furthermore, return in excess of the return offered by government bonds can only be achieved by taking risk; and that risk is most obvious when an investment is volatile but least obvious when a risky investment hast not yet shown much volatility. He further asks for caution when dealing with investment managers. Whatever your adviser says, make sure that your investments are well diversified and be suspicious if an investment manager tries to talk you out of something you believe is worth investing in. Likewise, social status might not be a reliable indicator of knowledge and honesty. Another piece of advice is that sound due diligence on investment advisers / managers is the key to minimizing exposure to risk of faulty recommendations or fraud.

Stanyer also stresses that portfolios should have a portion allocated to international stocks. For the advanced investor, he suggests hedging international bonds while leaving international shares un-hedged. He further illustrates how investors can truly diversify portfolios with hedge funds, funds of hedge funds and discusses how to achieve and appreciate a comfort zone, when dealing with long-term investing, while understanding their tolerance for risk.

Woods and Urwin (2010) consider the way pension funds are invested as problematic. The most recent financial crisis has given cause to consider the suitability of their investment strategies and the adequacy of their governance techniques. While even the most skilled experts cannot provide investment solutions that certainly yield positive returns, the crisis did reveal some deficiencies as to how pension funds invest their clients' money. For example, Woods and Urwin emphasize the danger of becoming beholden to herd culture, whereby prudence is judged in reference to convention – we do what other investors do.

For those pension funds that have chosen to reconsider their investment strategy, Woods and Urwin present a framework, offering actual guidance for successful implementation

of a sustainable investment strategy. They recommend incorporating specialized funds with green themes such as clean water, renewable energy or a combination of these. However, they do not state what portion of a portfolio should be invested in green themes or how this strategy would impact the overall performance of a portfolio.

Additionally, the crisis exposed pension funds exhibiting a constant focus on short-term performance, which may distract from large, latent longer-term risk and hazards. Ellis (2002) would agree as he proved that the asset allocation and portfolios of many pension investors point to a short, 3 to 5 year, investment horizon. This contradicts the nature of pension fund investments as being for the very long term.

Schwanfelder (2012) provides knowledge rather than advice; how to generate positive portfolio returns with socially responsible investing (SRI). He elaborates on the various means of sustainable investing and how an investor can assemble such a portfolio but also on the restriction of this investment style.

He starts off with discussing the history of sustainable investing and appreciates that this form of investing continues to gain popularity among the investment community. He also, like many other authors, i.e. Green (2008); Lewis (2010); Schwanfelder (2012), debates the possibility that many investors have lost trust in their banking institutions or in their asset managers and recommends investors become more educated, in order to take responsibility of their investments. However, Schwanfelder names some financial institutions such the GLS, KD or Triodos that operate largely on a core of socially responsible investing. As a guideline, he recommends investors take the time to acquire the necessary knowledge about SRI, to detail exactly which companies/sectors (investments) they want to feature, e.g. water, forest, health or micro finance, and which ones not, e.g. oil, weapon, nuclear plants.

One important question is, according to Schwanfelder, whether investors want to invest according to the (greatly debated) best-in-class approach or filter potential investments with greater granularity. As most other investment experts, he too states that any SRI investment needs to reflect investors individual risk/return profile and points out that there are many exchange traded funds (ETFs) available.

Buffett & Cunningham (2013) provide an investment guide that comprises mostly Warren Buffett's letter to the shareholders of Berkshire Hathaway. They specify fundamental topics that make for good investments, i.e. rather than focusing on the market, one should identify sound businesses, attempt to buy them at good prices, and hold on to them for a very long time.

They disagree with the contemporary finance theory that holds that market prices efficiently express the value of a business and argue that the market sets prices in a manic-depressive manner. A superior investor knows to insulate himself from the market emotions and to make a distinction between market price and intrinsic value. These investors are not bothered by 'such nonsense as high beta' – a measure of volatility academic theorists use as a risk factor warning – but long for stock price volatility, as it provides investment opportunities.

Buffett & Cunningham further describe the financial crisis (2007-2008) with the housing bubble at the core of that crisis. They examine its continuing implications for investors and society, the debt and derivatives excesses that fueled the crisis. They go on to consider how to control risks, the role of oversight in heavy regulated industries, and the investment possibilities of today.

Robbins (2014) calls himself a peak performance strategist who explains that investing requires learning, knowledge, and discipline. He collects views and wisdom from 50 leading investment experts and presents a seven steps investment strategy to save and invest money successfully.

- Step 1: Take control of your money by saving steadily. The power of compounded interest is one of the financial world's most powerful tools.

- Step 2: Know the rules. It is a myth that your banker or investment adviser works on behalf of your best interest and that the fees on funds are immaterial. The exact opposite is true. It is a fact that 96% of active mutual fund managers fail to beat the performance of a simple index funds over a longer period of time but your bank of course will never tell you. The impact on fees over time on the overall performance of your portfolio is tremendous. A difference of annual fees of 1%, 2% and 3% on one million dollars, over a 30-year period, with an average 8%

return, results in $7.6 million for the investor at 1%, in $5.7 million at 2% and at only $4.3 million at 3%.

- Step 3: Know the price of your dreams. Calculate your future monthly expenses and the inevitabilities and luxuries you desire to have during retirement, define how much you can earn and save, and set realistic return on investment goals.

- Step 4: Practice risk management and asset allocation. Asset allocation and diversification are the key elements in investing. According to your risk profile, you must split your investments amongst the most secure asset classes, i.e. stocks, bonds, real estate, commodities, to build a weatherproof portfolio, to achieve a well-diversified portfolio respectively.

- Step 5: Cut the downside, expand the upside. Robbins 2004) refers to Ray Dalio of Bridgewater, one of the most successful investors who concluded that inflation, deflation, and declines or gains in economic growth drive prices in all asset classes. He suggests exposure to 30% stocks, 15% in intermediate bonds, 40% in long-term bonds, 7.5% in gold, and 7.5% in commodities. These ratios need to be rebalanced annually so that the quotas remain the same and reflect your risk/return profile.

- Step six: The expert advice. Some of the recommendations by the 50 expert investors are to avoid losing money, to stay focused on minimizing the downside, to seek small investments that produce large returns, learn to make informed investment decisions with limited information, keep earning, working, and giving.

- Step seven: Share the wealth. Money on its own does not make people happy. Focus on your own particular goals and take action that empower you. Recognize and break negative behavioural patterns, learn new skills and use your spare time to follow your interests. Strive to live a balanced and healthy lifestyle, build strong relationships, and take pleasure in meeting your needs and those of the people you care for. Becoming rich means to create a better quality of life your yourself, and for others, including supporting good causes. In the end, 'you truly become wealthy'.

The Swiss private bank Pictet (2015) has analysed returns, the performance of shares and bonds, every year since 1925.

The survey shows nominal returns for equities of 9.79% per annum and for bonds of 4.49% from 1925 to 2014. The real returns were 7.6% and 2.43% respectively. The largest decrease for shares (in real terms) was 37.83% in 1974 and for bonds was 10.9% in 1973. Conversely, the biggest increase for shares was 56.24% in 1985 and 14.87% for bonds in 1976. (These figures I will incorporate in my research questionnaire and use them for the analysis and discussion part, to understand and compare the private and professionals' profit (and loss) expectations).

10.3.   Research question 1: further results and analysis

Important concepts to achieve higher than market average returns

To achieve higher than average market returns, rebalancing seemed to be much more important to the asset managers (83%) than to the institutional investors (56%) or to the private investors (57%). For 8%, 16% and 6.%, rebalancing was not an essential concept.

When asked about the need to reduce the total expense ratio (TER), the results showed the asset managers at 83%, 65% for the institutional investors and 63% for the private investors. However, the significance to reduce retrocessions was only seen as important by 50% of all asset managers by 41% of the institutional investors and by 50% of the private investors.

When it came to re-investing dividends to achieve higher than market average returns, almost none of the asset managers found it unimportant but 9% of the institutional investors and 14% of the private investors did. Likewise, 70% of the asset managers found it important but only 50% of the institutional and 48% private investors did so.

The choice of investing in active or passive managed funds was answered varyingly. 63% of the asset managers and institutional investors as well as 49% of all private investors found it important or very important. On the other hand, 10% of the asset managers, 3% institutional investors and 7% of all private investors disagreed. Furthermore, 6% of the institutional investors and 13% of the private investors did not seem to understand the difference between active and passive managed funds (fees structure, underperformance

of most active managed funds), at least when considering higher then market average returns. Yet, this question did not ask for the preference between these two vehicle types. The notion to achieve sustainable above market average returns by the means of asset allocation seemed to be widely acknowledged by all asset managers; 100% found it important or very important. The same was true for 88% of all institutional investors and 63% of the private investors. The latter group showed 24% who were neutral or negative about asset allocation.

For the professional investors (90%, 74%), the product selection was less important than the asset allocation but more essential for the private investors (79%). On the contrary, 10% of the institutional investors, only 3% of the private investors and none of the asset managers found it to be unimportant.

The choice of the bank holding an investor's portfolio was seen by both professional investor groups as rather unimportant (40%, 41%) whereas many more private investors were of the opposite belief (35% vs. 26%).

The same was true when asked about the importance of the organization issuing ETFs. 40% of the asset managers and 41% institutional investors found it unimportant but as with the previous question, 30% of all private investors voted for and 21% against it.

58% of the asset managers, 69% of the institutional investors and 68% of the private investors found the purchasing price of an investment product important or very important. On the other hand, 20% asset managers, 13% institutional investors and 8% private investors classified the buying price as insignificant.

When asked about the investment duration, the results were strong as 95% of the asset manager claimed that the investment duration was of importance, as well as 81% of the institutional investors and 79% of the private investors. However, 16% of the intuitional investors but only 3% of all asset managers and 2% private investors were of the opposite belief.

Overall, matching the important and very important answers, the results showed that the asset class allocation and the investment duration followed by the product choice were

the most important factors that contributed to a higher and more sustainable profit than the market average.

The second most important group of factors consisted of reducing TER, rebalancing, the choice between active managed funds and passive managed funds, the purchasing prices of vehicles, followed by re-investing dividends and reducing retrocessions. The most unimportant factors were the bank holding the investor's portfolio and the institution issuing the ETFs.

Importance of rebalancing to achieve a higher than market average returns	Asset Manager	Institut. Investor	Private Investor
I don't know	0,0%	3,1%	12,9%
Very unimportant	2,5%	0,0%	1,4%
Unimportant	5,0%	15,6%	4,7%
Neutral	10,0%	25,0%	24,5%
Important	45,0%	21,9%	45,0%
Very important	37,5%	34,4%	11,5%
Total	100,0%	100,0%	100,0%

Table 89 – The importance of rebalancing for higher returns
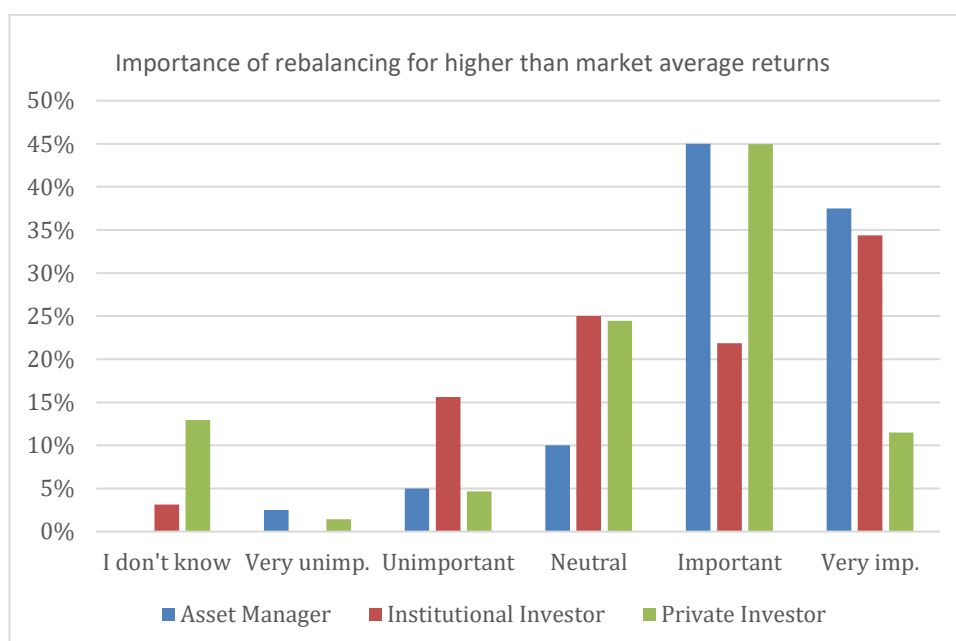
Figure 79 – The importance of rebalancing for higher returns

Importance of reducing retrocessions for higher than the market average returns	Asset Manager	Institut. Investor	Private Investor
I don't know	0,0%	6,3%	12,9%
Very unimportant	5,0%	3,1%	2,9%
Unimportant	12,5%	18,8%	8,9%
Neutral	32,5%	31,3%	25,4%
Important	30,0%	21,9%	36,8%
Very important	20,0%	18,8%	13,2%
Total	100,0%	100,0%	100,0%

Table 90 – The importance of reducing retrocessions for higher returns
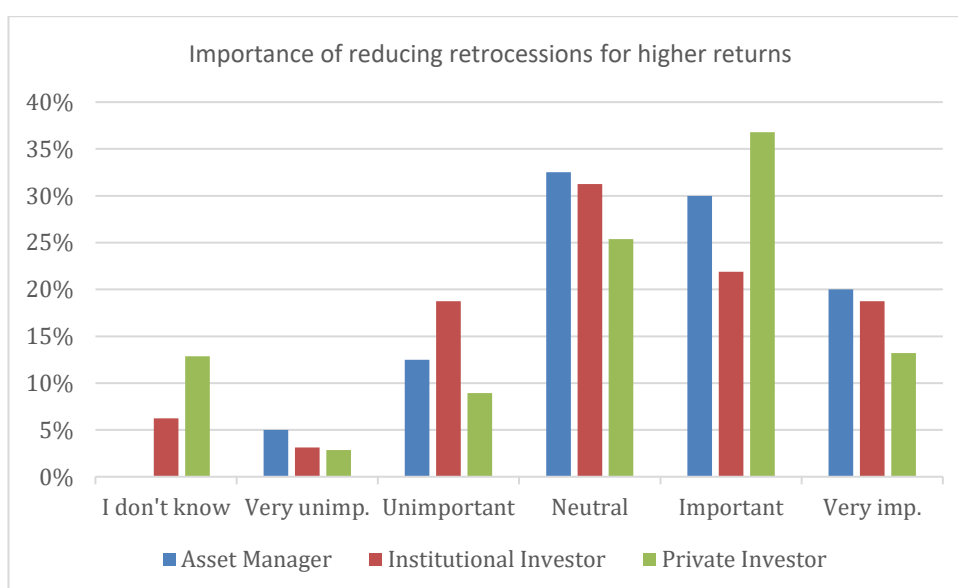
Figure 80 – The importance of reducing retrocessions for higher returns

Importance of reducing TER to achieve higher than market average returns	Asset Manager	Institut. Investor	Private Investor
I don't know	0,0%	3,2%	14,0%
Very unimportant	2,5%	0,0%	1,4%
Unimportant	2,5%	12,9%	1,8%
Neutral	12,5%	19,4%	20,1%
Important	47,5%	41,9%	43,9%
Very important	35,0%	22,6%	18,7%
Total	100,0%	100,0%	100,0%

Table 91 – The importance of reducing TER for higher returns
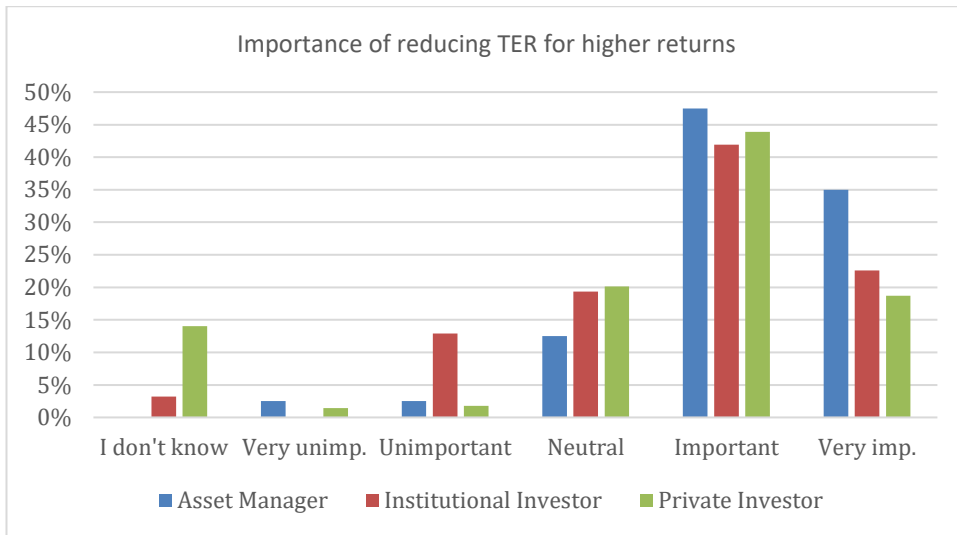
Figure 81 – The importance of reducing TER for higher returns

Importance of re-investing dividends to achieve higher than market average returns	Asset Manager	Institut. Investor	Private Investor
I don't know	0,0%	3,1%	10,4%
Very unimportant	0,0%	3,1%	2,5%
Unimportant	2,5%	6,3%	11,1%
Neutral	27,5%	37,5%	27,9%
Important	55,0%	28,1%	41,4%
Very important	15,0%	21,9%	6,8%
Total	100,0%	100,0%	100,0%

Table 92 – The importance of re-investing dividends for higher returns
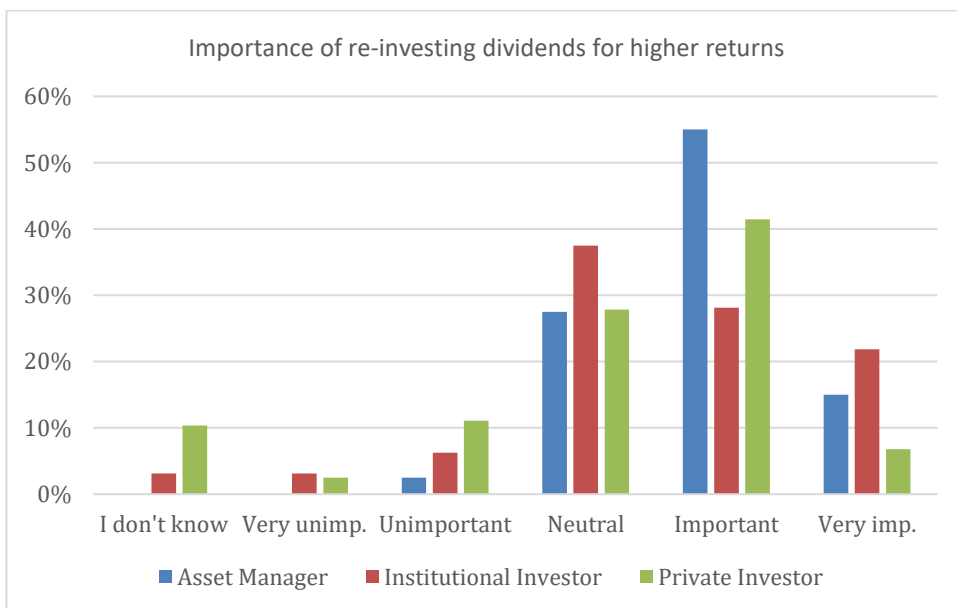
Figure 82 – The importance of re-investing dividends for higher returns

Importance of choosing active vs. passive funds for higher than market average returns	Asset Manager	Institut. Investor	Private Investor
I don't know	0,0%	6,3%	12,9%
Very unimportant	5,0%	0,0%	1,1%
Unimportant	5,0%	3,1%	5,4%
Neutral	27,5%	28,1%	31,8%
Important	37,5%	43,8%	38,9%
Very important	25,0%	18,8%	10,0%
Total	100,0%	100,0%	100,0%

Table 93 – The importance of active vs. passive funds for higher returns
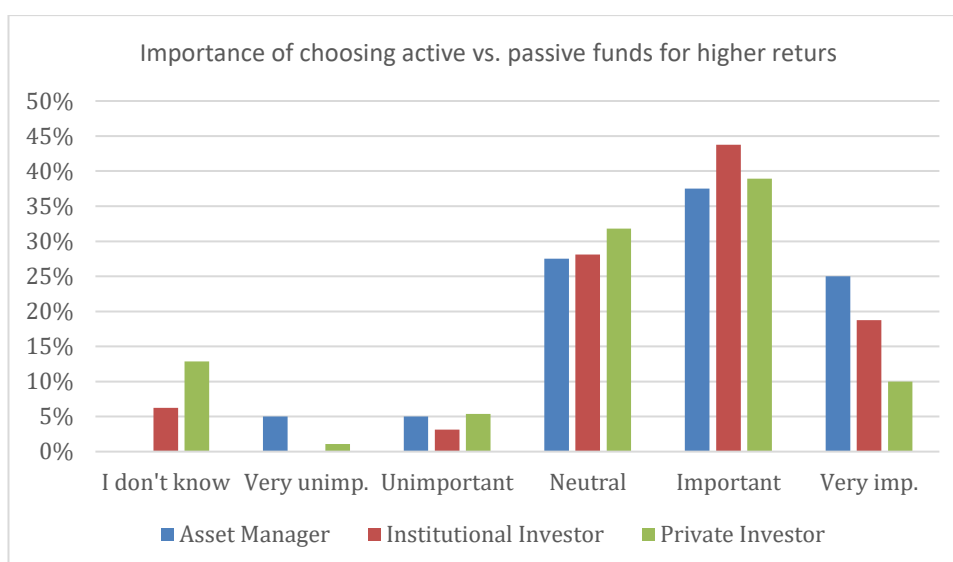
Figure 83 – The importance of active vs. passive funds for higher returns

Importance of the asset class choice to achieve higher than market average returns	Asset Manager	Institut. Investor	Private Investor
I don't know	0,0%	3,1%	12,9%
Very unimportant	0,0%	0,0%	1,1%
Unimportant	0,0%	0,0%	3,6%
Neutral	0,0%	9,4%	19,6%
Important	32,5%	43,8%	41,8%
Very important	67,5%	43,8%	21,1%
Total	100,0%	100,0%	100,0%

Table 94 – The importance of the asset class choice for higher returns
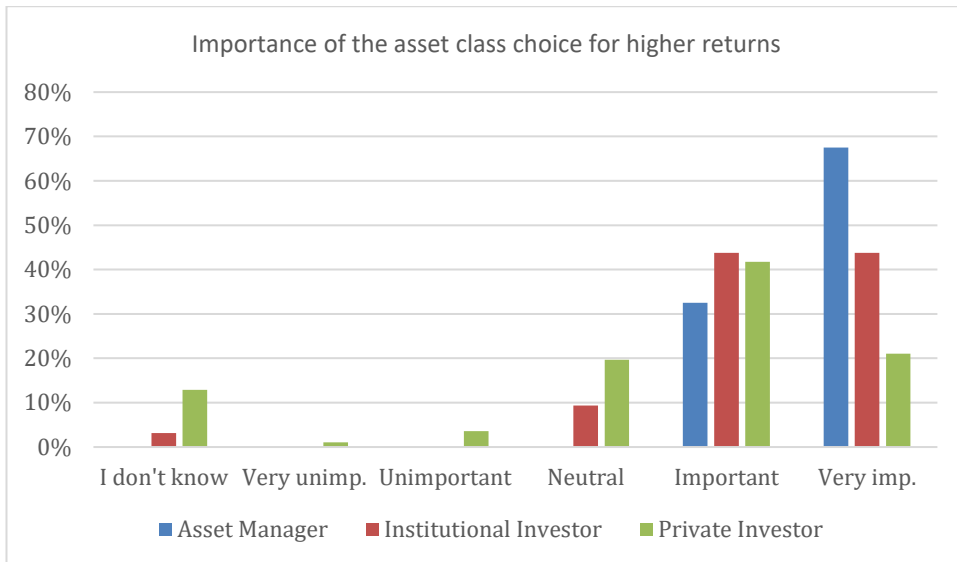
Figure 84 – The importance of the asset class choice for higher returns

Importance of the product choice to achieve higher than market average returns	Asset Manager	Institut. Investor	Private Investor
I don't know	0,0%	0,0%	6,8%
Very unimportant	0,0%	0,0%	1,4%
Unimportant	0,0%	9,7%	1,1%
Neutral	10,0%	16,1%	12,2%
Important	40,0%	58,1%	47,0%
Very important	50,0%	16,1%	31,5%
Total	100,0%	100,0%	100,0%

Table 95 – The importance of the product choice for higher returns
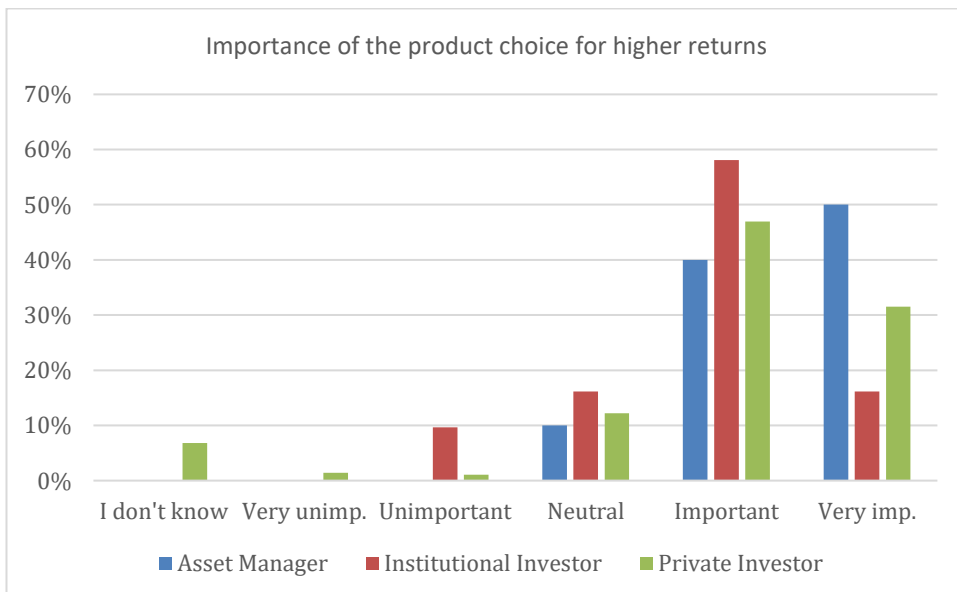
Figure 85 – The importance of the product choice for higher returns

Importance of the bank choice to achieve higher than market average returns	Asset Manager	Institut. Investor	Private Investor
I don't know	0,0%	3,1%	7,5%
Very unimportant	7,5%	3,1%	5,0%
Unimportant	32,5%	37,5%	21,1%
Neutral	22,5%	31,3%	31,2%
Important	27,5%	15,6%	24,7%
Very important	10,0%	9,4%	10,4%
Total	100,0%	100,0%	100,0%

Table 96 – The importance of the bank choice for higher returns
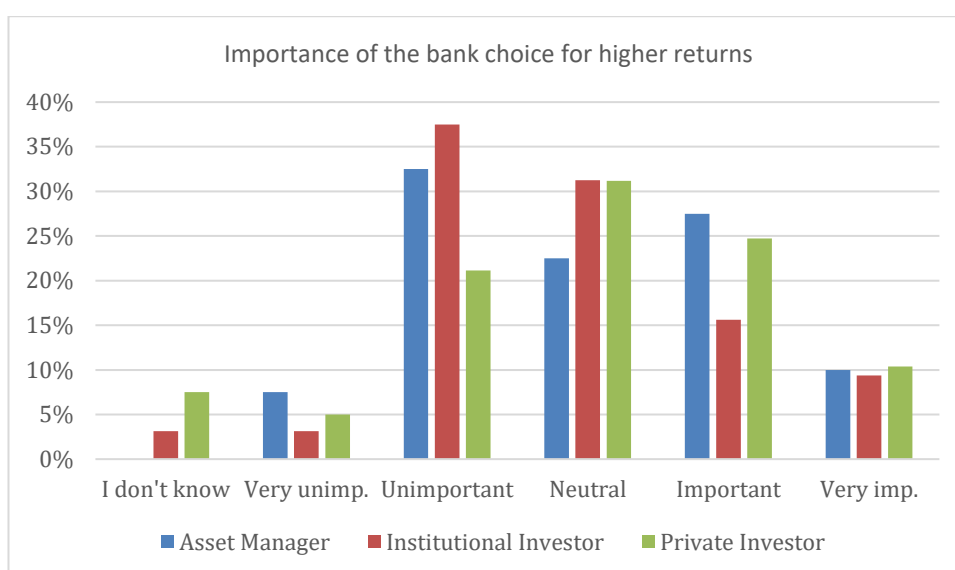
Figure 86 – The importance of the bank choice for higher returns

Importance of the ETF issuer to achieve higher than market average returns	Asset Manager	Institut. Investor	Private Investor
I don't know	2,5%	3,1%	16,5%
Very unimportant	12,5%	12,5%	5,4%
Unimportant	27,5%	28,1%	15,1%
Neutral	37,5%	34,4%	33,0%
Important	10,0%	21,9%	23,7%
Very important	10,0%	0,0%	6,5%
Total	100,0%	100,0%	100,0%

Table 97 – The importance of the ETF issuer choice for higher returns
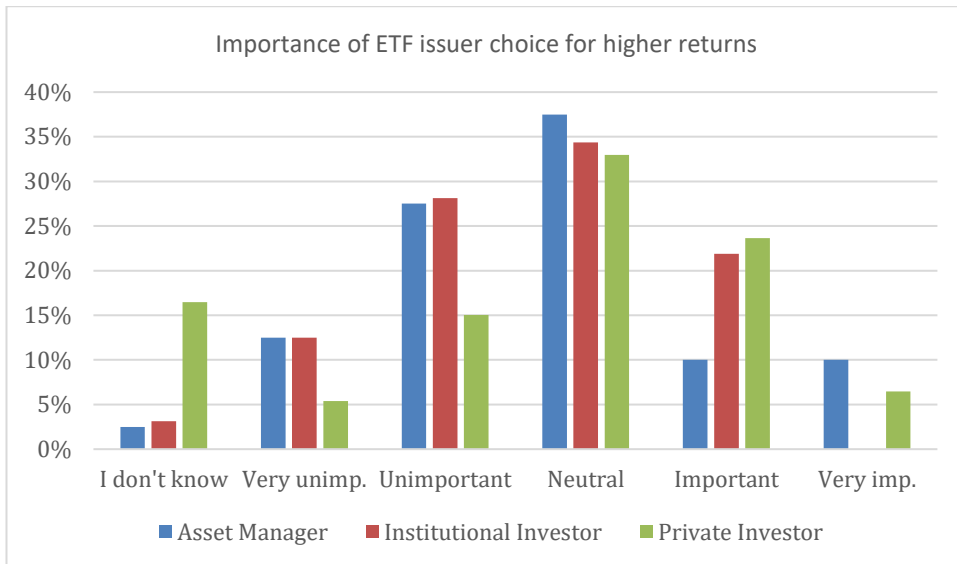
Figure 87 – The importance of the ETF issuer choice for higher returns

Importance of current buying price to achieve higher than market average returns	Asset Manager	Institut. Investor	Private Investor
I don't know	0,0%	3,1%	6,1%
Very unimportant	0,0%	0,0%	1,8%
Unimportant	20,0%	12,5%	6,5%
Neutral	22,5%	15,6%	17,6%
Important	40,0%	43,8%	40,9%
Very important	17,5%	25,0%	27,2%
Total	100,0%	100,0%	100,0%

Table 98 – The importance of the current buying price for higher returns
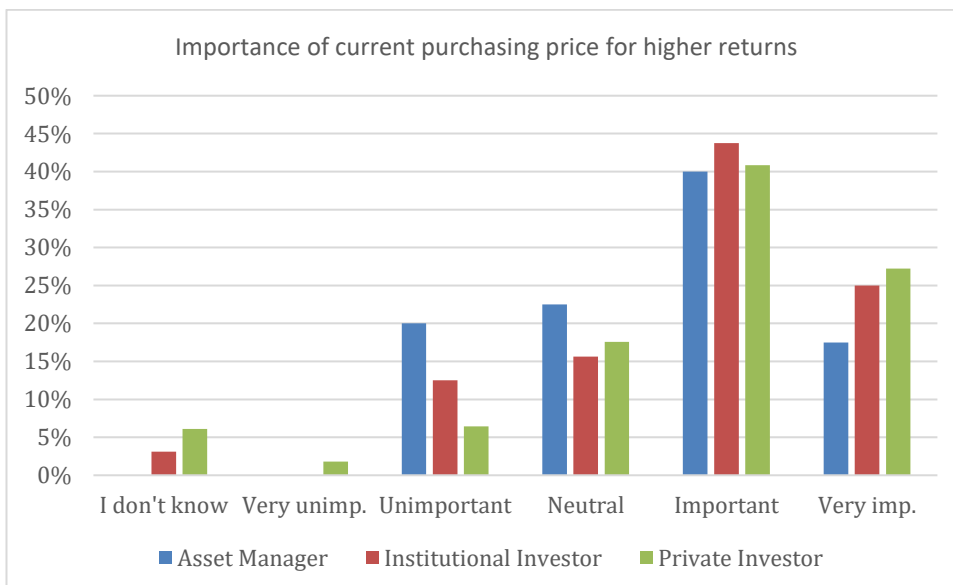
Figure 88 – The importance of the current purchasing price for higher returns

Importance of the investment duration to achieve higher than market average returns	Asset Manager	Institut. Investor	Private Investor
I don't know	0,0%	3,1%	6,1%
Very unimportant	0,0%	0,0%	0,7%
Unimportant	2,5%	15,6%	1,4%
Neutral	2,5%	0,0%	13,2%
Important	50,0%	53,1%	44,6%
Very important	45,0%	28,1%	33,9%
Total	100,0%	100,0%	100,0%

Table 99 – The importance of the investment duration for higher returns
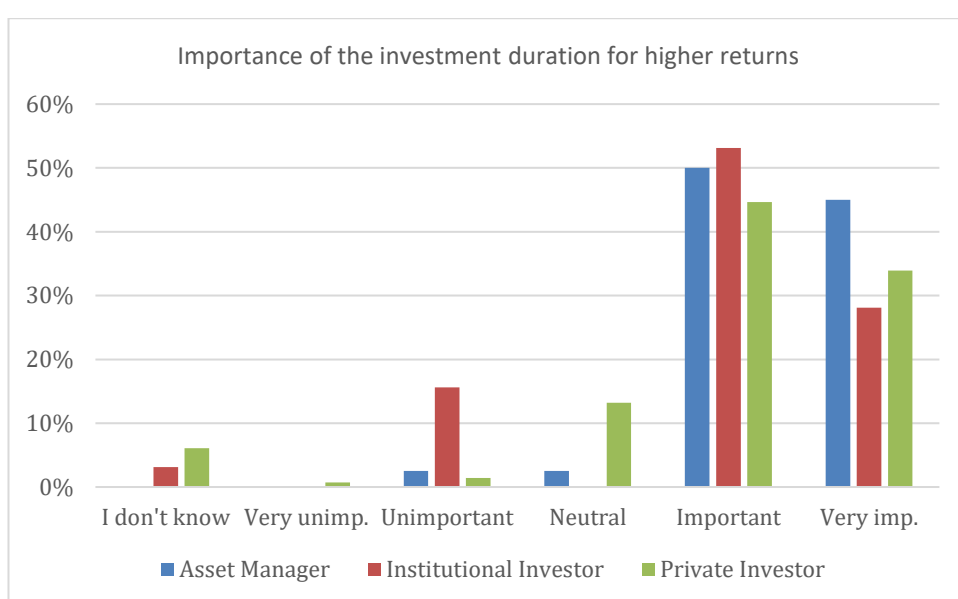
Figure 89 – The importance of the investment duration for higher returns

Change to an online asset manager to save cost and maximize return

41% of the asset managers, 31% of the institutional asset managers and 28% of the private investors would not change to an online asset management firm if, assuming the products and quality of service were the same, they could save 25% of the annual management fee. On the contrary, 41% of the asset managers, 56% of the institutional investors and 55% of the private investors would change for a lower annual fee.

When, for the group that disagreed, the saving rate was increased from 25% to 50%, another 52% of the asset managers, 57% institutional investors and 55% additional

private investors, would change to an online asset manager. It appears, that for most investors there was a clear awareness of the impact of fees on investment return.

I would change to an online asset manager to save 25% of the annual management fee	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	12,8%	12,5%	7,8%
Disagree	28,2%	18,8%	19,7%
Neutral	17,9%	12,5%	17,1%
Agree	20,5%	28,1%	26,8%
Strongly Agree	20,5%	28,1%	28,6%
Total	100,0%	100,0%	100,0%

Table 100 – Change to an online asset manager to save 25% of the management fee
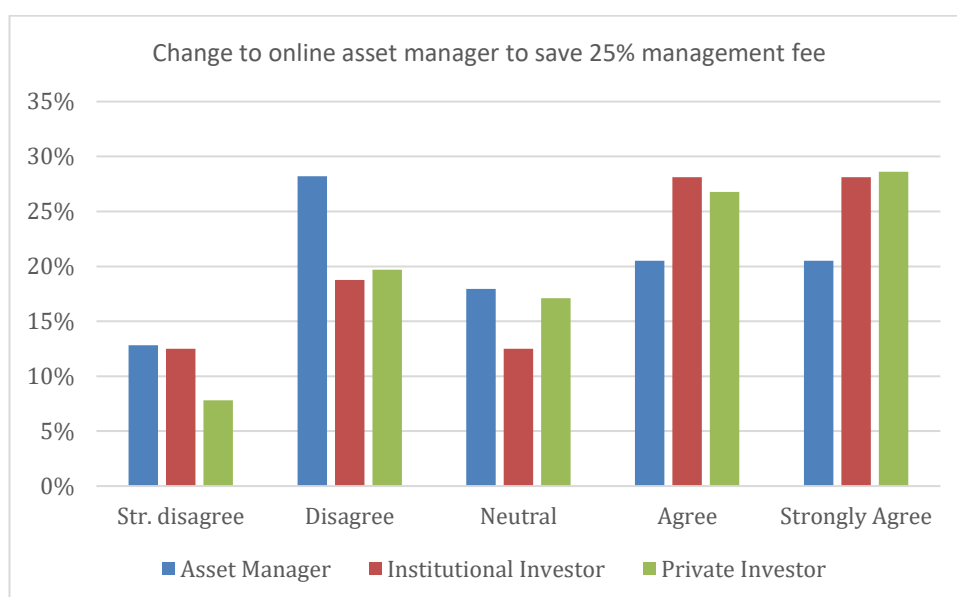
Figure 90 – Change to an online asset manager to save 25% of the management fee

I would change to an online asset manager to save 50% of the annual management fee	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	3,4%	14,3%	8,8%
Disagree	13,8%	9,5%	19,1%
Neutral	31,0%	19,0%	17,5%
Agree	44,8%	38,1%	37,1%
Strongly agree	6,9%	19,0%	17,5%
Total	100,0%	100,0%	100,0%

Table 101 – Change to an online asset manager to save 50% of the management fee
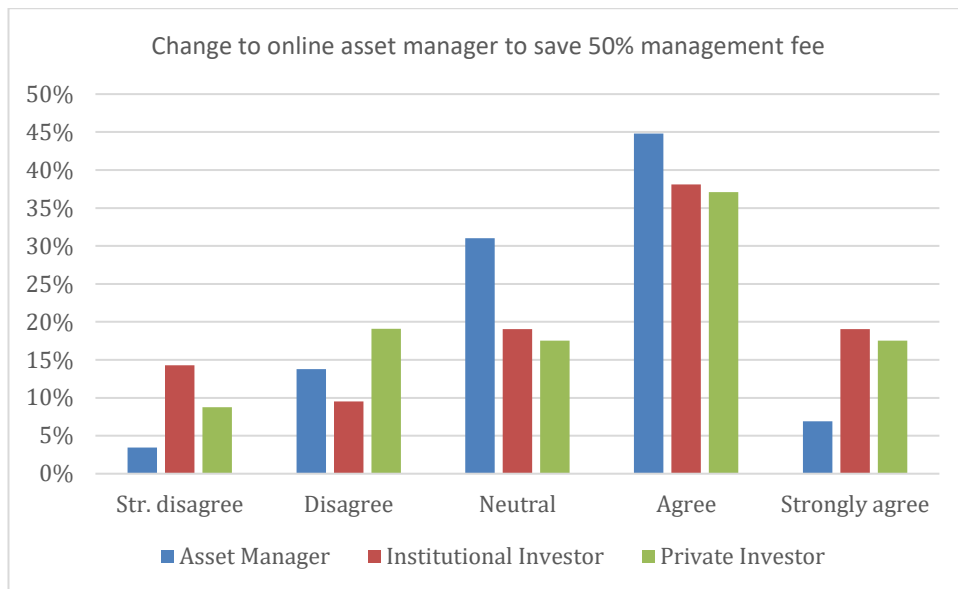
Figure 91 – Change to an online asset manager to save 50% of the management fee

View on diversification, investment duration, single stocks vs. funds

Diversification, in order to spread the risk of an investor's portfolio, was seen as imperative by 75% of the asset managers, 77% of the institutional investors and by 62% of the private investors. However, still more than 26%, 23% and 38%, respectively, are neutral or disagree about it.

72% asset managers, 62% of all institutional investors and 56% of the private investors disagreed with the statement that they are investing for the short-term, as the long-term is uncertain. Yet, 19%, 15% and 25% rather focus on the short-term.

When asked about investing in single stocks versus funds, the proportions of answers were more or less evenly split amongst the three investor types. 33% of the asset managers, 26% of the institutional investors and 43% of all private investors focus on single share investments (stock picking); 47%, 43% and 36% on funds.

42% of the asset managers, 37% of the institutional investors and 56% of all private investors' investment decisions (incl. neutrals) were influenced by emotions.

I pay more attention to diversification of my financial investments	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	4,7%	0,0%	5,1%
Disagree	9,3%	17,1%	11,3%
Neutral	11,6%	5,7%	21,9%
Agree	32,6%	45,7%	41,8%
Strongly agree	41,9%	31,4%	19,9%
Total	100,0%	100,0%	100,0%

Table 102 – I pay more attention to diversification
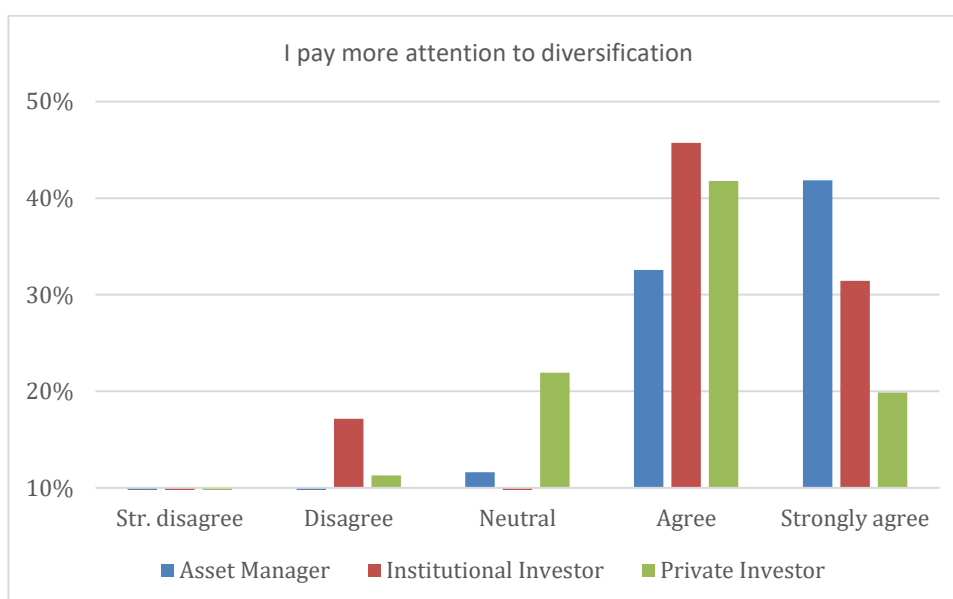
Figure 92 – I pay more attention to diversification

I rather invest for the short-time as the long-term is uncertain	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	25,6%	17,6%	15,5%
Disagree	46,5%	44,1%	40,9%
Neutral	9,3%	23,5%	18,9%
Agree	16,3%	11,8%	18,9%
Strongly agree	2,3%	2,9%	5,8%
Total	100,0%	100,0%	100,0%

Table 103 – I invest for the short-time as the long-run is uncertain
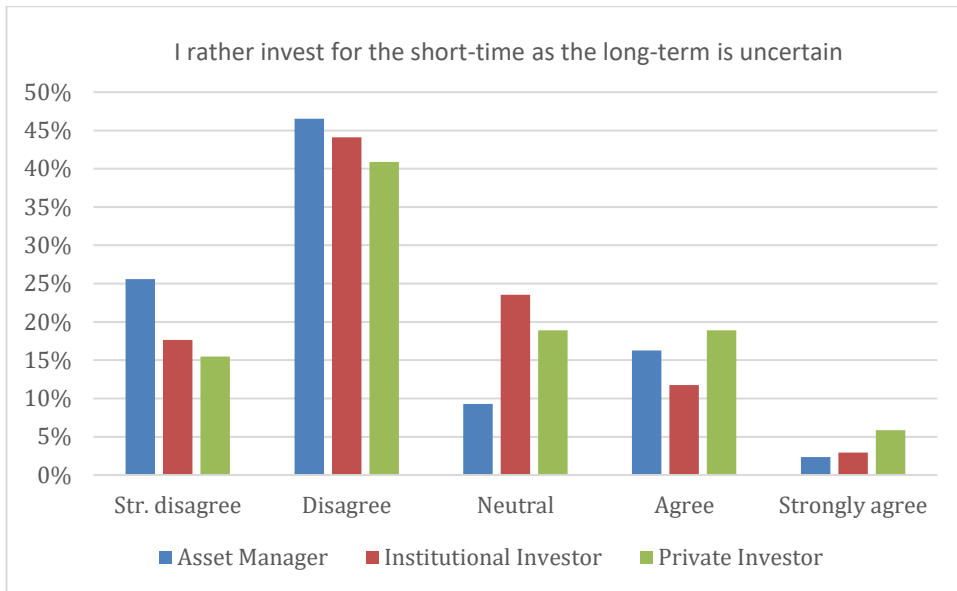
Figure 93 – I rather invest for the short-time as the long-run is uncertain

I rather invest in single stocks/shares than in Funds	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	25,6%	20,0%	9,7%
Disagree	20,9%	22,9%	26,6%
Neutral	20,9%	31,4%	20,7%
Agree	25,6%	14,3%	24,5%
Strongly agree	7,0%	11,4%	18,6%
Total	100,0%	100,0%	100,0%

Table 104 – I rather invest in single stocks/shares than in funds
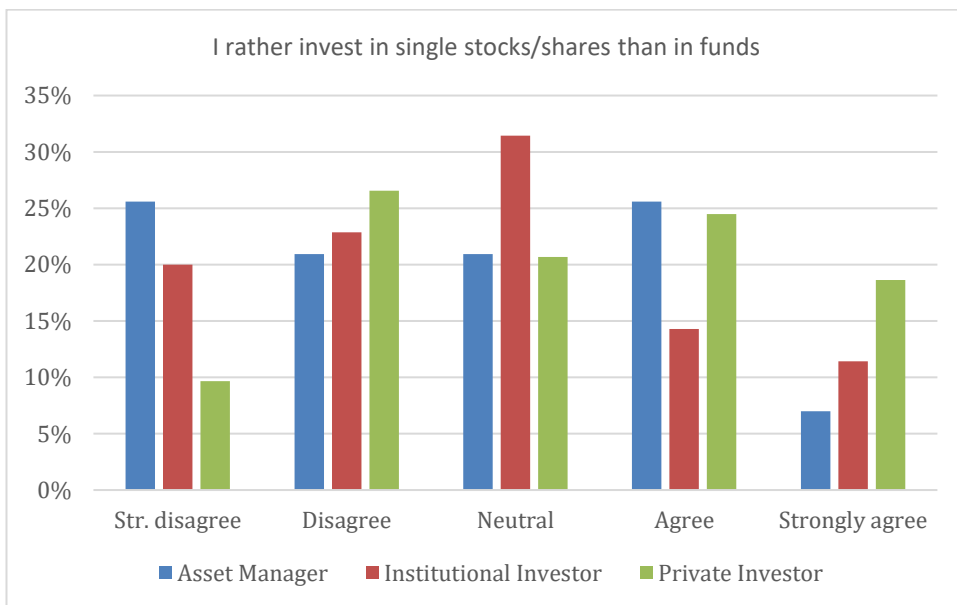
Figure 94 – I rather invest in single stocks/shares than in funds

I rather invest without letting emotions influencing my investment decisions	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	7,0%	2,9%	2,8%
Disagree	18,6%	5,7%	20,8%
Neutral	16,3%	28,6%	32,5%
Agree	39,5%	45,7%	32,2%
Strongly agree	18,6%	17,1%	11,8%
Total	100,0%	100,0%	100,0%

Table 105 – I invest without emotions influencing my decisions
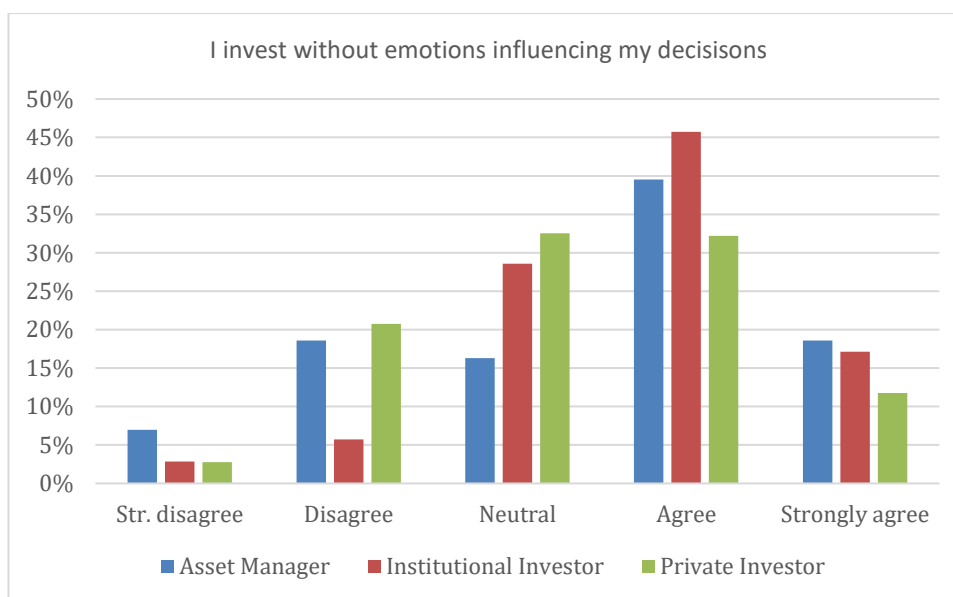
Figure 95 – I invest without emotions influencing my decisions

Considerations of investments in various asset classes

56%, respectively 57% of the professional investors and 401% of the private investors trusted that cash was currently a vital asset class.

When it comes to investments in commodities, the opinions are more varied. Asset managers (62%) much more than institutional investors (46%) and private investors (52%) trusted in commodities. When asked about favoring an investment in real estate, the survey revealed 49% for the asset managers, 68% for the institutional investors and 61% for the private investors.

For corporate bonds that have similar characteristics as shares, around 80% of the professional investors and 59% of all private investors considered them as a good investment. With gold, investors seemed to be more cautious. 63% of the asset managers and 47% of the private investors, but only 37% of the institutional investors, see gold as a valuable asset class.

38.4% of the asset managers, 44% of the institutional investors and 48% of the private investors disagreed with the statement that hedge funds were a plausible investment. Only 20% of all private investors, 20% of the institutional investors, and 41% of the asset manager believed in this asset class.

In terms of high yield bonds, 51% of the asset managers, 38% of the institutional investors and 32% of all private investors placed faith in this asset class, whereas government bonds were the second least favorable asset class as less than 41% of the professional investors and 47% of the private investors would consider an investment.

Shares/stocks (next to corporate bonds) were the dominant asset class overall. 91% of the asset managers, 91% of all institutional investors and 86% of the private investors believed in these investment vehicles.

I believe in investing in the asset class cash	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	7,3%	11,4%	7,9%
Disagree	12,2%	8,6%	25,9%
Neutral	24,4%	22,9%	25,5%
Agree	26,8%	42,9%	28,3%
Strongly agree	29,3%	14,3%	12,4%
Total	100,0%	100,0%	100,0%

Table 106 – I believe in investing in the asset class cash
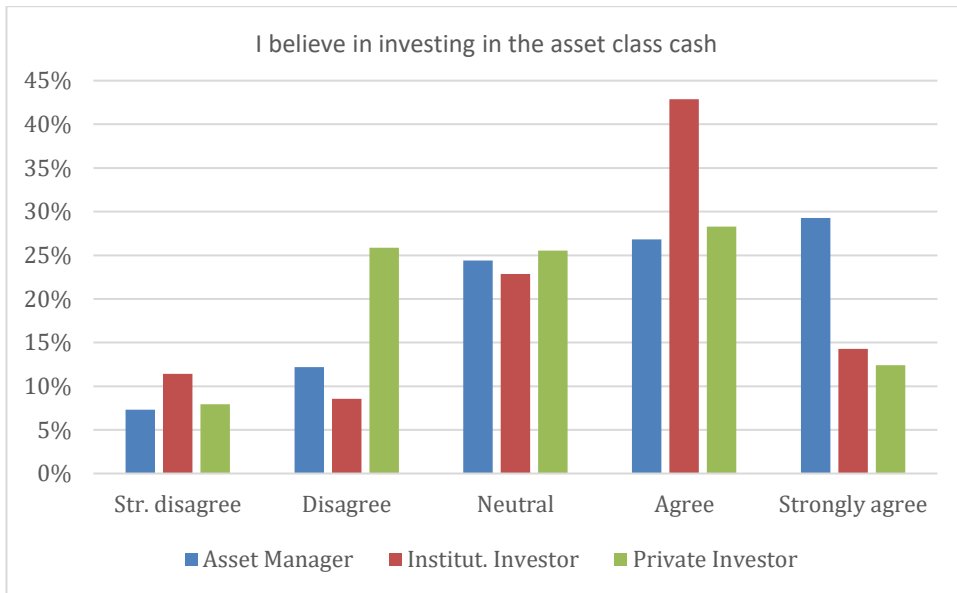
Figure 96 – I believe in investing in the asset class cash

I believe in investing in the asset class real estate	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	4,9%	0,0%	2,5%
Disagree	9,8%	11,8%	11,9%
Neutral	36,6%	20,6%	24,2%
Agree	34,1%	29,4%	42,5%
Strongly agree	14,6%	38,2%	18,9%
Total	100,0%	100,0%	100,0%

Table 107 – I believe in investing in the asset class real estate
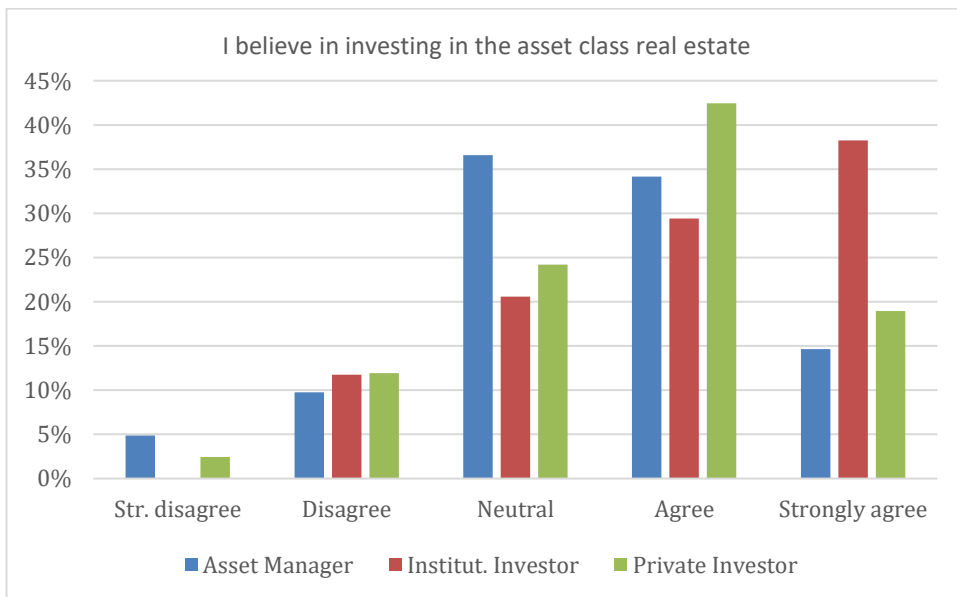
Figure 97 – I believe in investing in the asset class real estate

I believe in investing in the asset class commodities (oil, wheat, sugar…)	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	7,1%	0,0%	6,0%
Disagree	11,9%	17,1%	13,1%
Neutral	19,0%	37,1%	28,7%
Agree	42,9%	22,9%	39,7%
Strongly agree	19,0%	22,9%	12,4%
Total	100,0%	100,0%	100,0%

Table 108 – I believe in investing in the asset class commodities
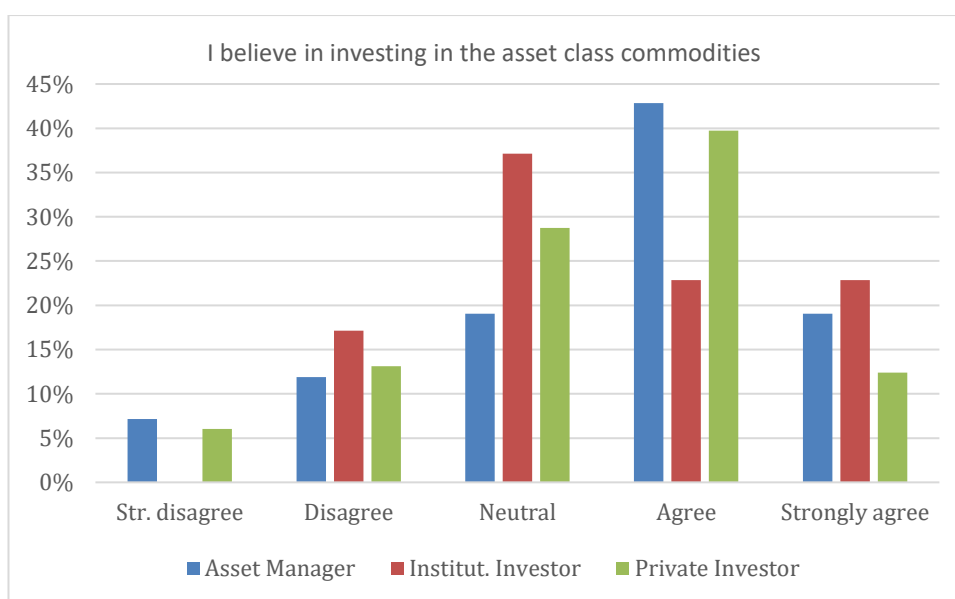
Figure 98 – I believe in investing in the asset class commodities

I believe in investing in the asset class corporate bonds	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	0,0%	0,0%	0,7%
Disagree	4,8%	11,8%	10,6%
Neutral	11,9%	8,8%	29,2%
Agree	52,4%	47,1%	46,8%
Strongly agree	31,0%	32,4%	12,7%
Total	100,0%	100,0%	100,0%

Table 109 – I believe in investing in the asset class corporate bonds
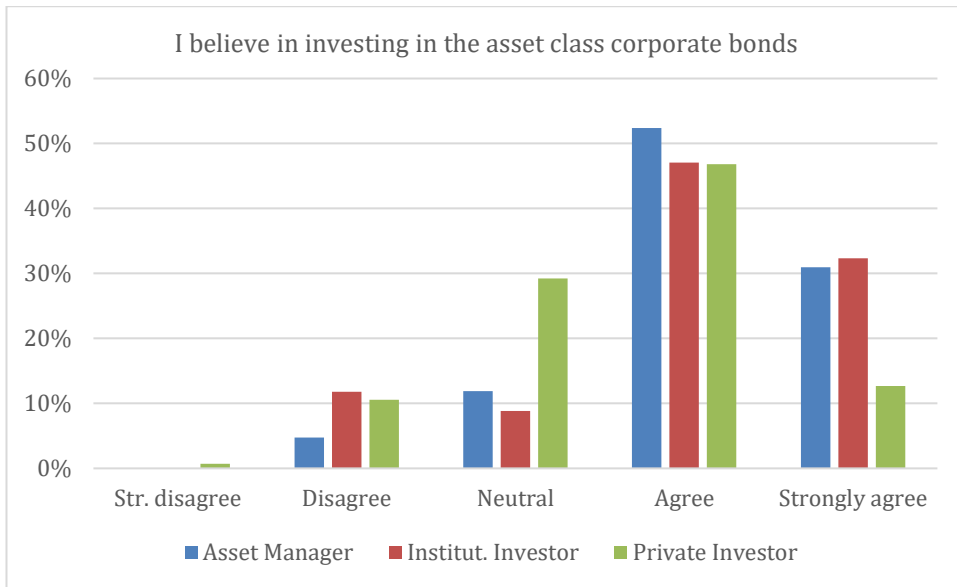
Figure 99 – I believe in investing in the asset class corporate bonds

I believe in investing in the asset class gold	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	7,3%	8,6%	2,1%
Disagree	4,9%	14,3%	15,0%
Neutral	24,4%	40,0%	35,5%
Agree	24,4%	22,9%	36,2%
Strongly agree	39,0%	14,3%	11,1%
Total	100,0%	100,0%	100,0%

Table 110 – I believe in investing in the asset class gold
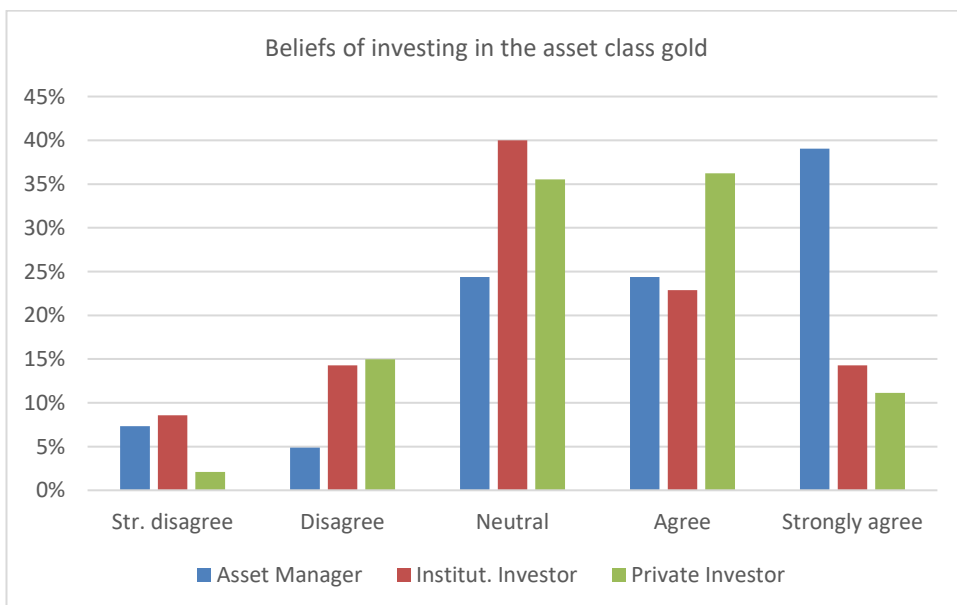
Figure 100 – I believe in investing in the asset class gold

I believe in investing in the asset class hedge funds	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	17,9%	11,8%	14,5%
Disagree	20,5%	32,4%	33,3%
Neutral	20,5%	35,3%	32,6%
Agree	30,8%	11,8%	15,9%
Strongly agree	10,3%	8,8%	3,6%
Total	100,0%	100,0%	100,0%

Table 111 – I believe in investing in the asset class hedge funds
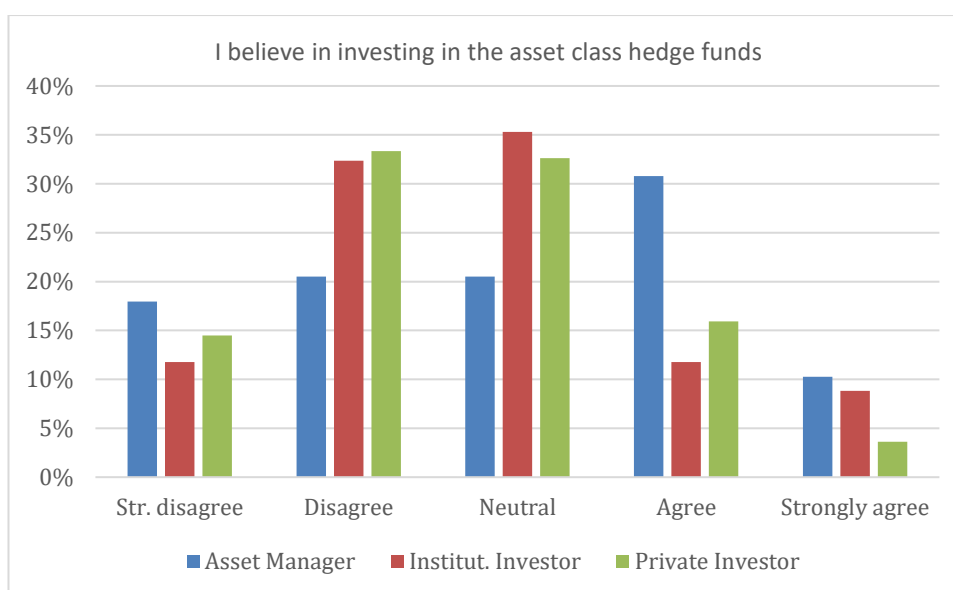
Figure 101 – I believe in investing in the asset class hedge funds

I believe in investing in the asset class high yield bonds	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	4,9%	8,8%	11,4%
Disagree	14,6%	23,5%	21,8%
Neutral	29,3%	29,4%	35,0%
Agree	24,4%	20,6%	24,3%
Strongly agree	26,8%	17,6%	7,5%
Total	100,0%	100,0%	100,0%

Table 112 – I believe in investing in the asset class high yield bonds
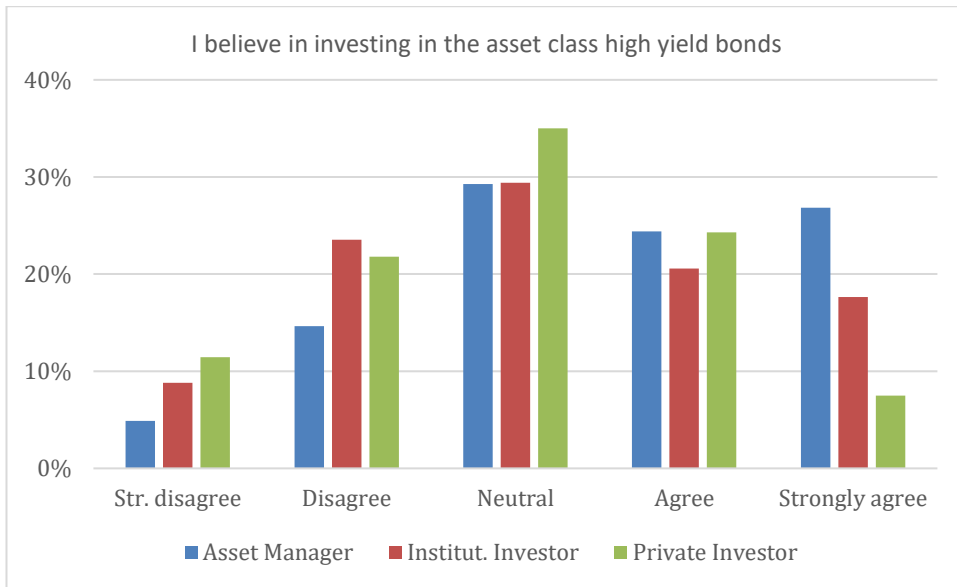
Figure 102 – I believe in investing in the asset class high yield bonds

I believe in investing in the asset class government bonds	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	16,7%	8,6%	4,2%
Disagree	28,6%	20,0%	17,5%
Neutral	14,3%	31,4%	31,6%
Agree	26,2%	22,9%	36,5%
Strongly agree	14,3%	17,1%	10,2%
Total	100,0%	100,0%	100,0%

Table 113 – I believe in investing in the asset class government bonds
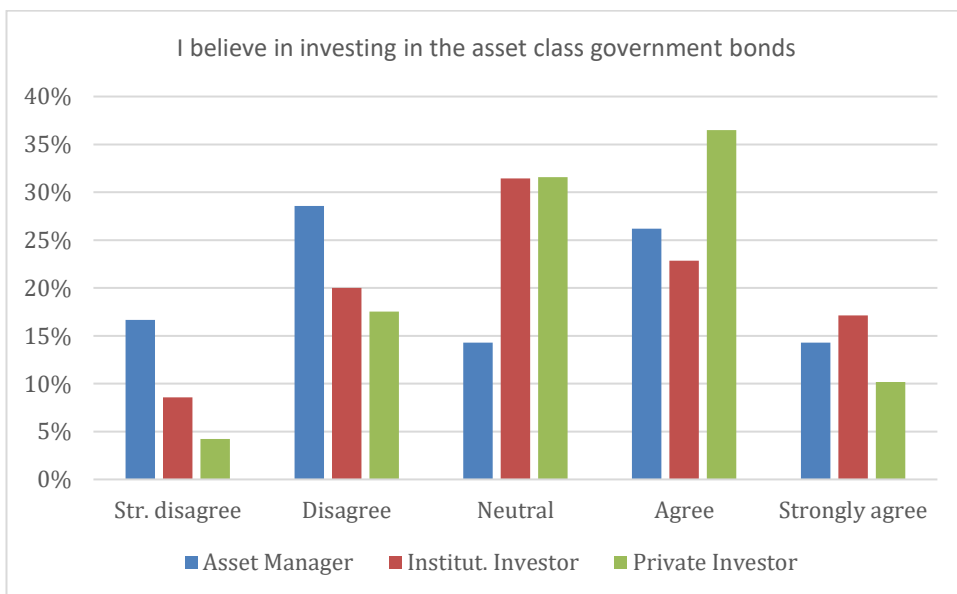
Figure 103 – I believe in investing in the asset class government bonds

I believe in investing in the asset class shares/stocks	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	0,0%	0,0%	1,4%
Disagree	4,8%	2,9%	2,1%
Neutral	4,8%	5,9%	10,5%
Agree	31,0%	35,3%	50,2%
Strongly agree	59,5%	55,9%	35,8%
Total	100,0%	100,0%	100,0%

Table 114 – I believe in investing in the asset class shares/stocks
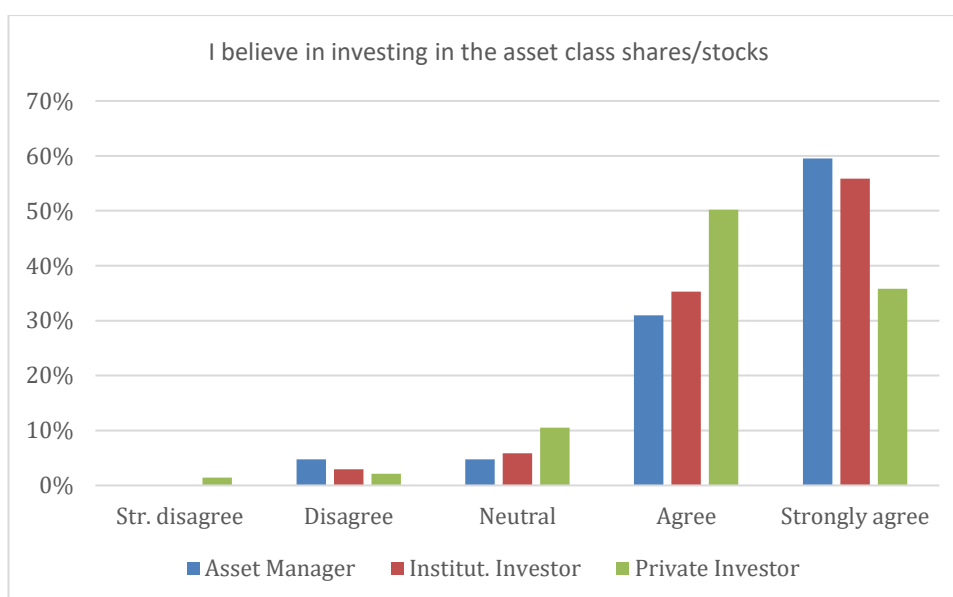
Figure 104 – I believe in investing in the asset class shares/stocks

The preference for active or passive managed funds

When asked about the preference for investing either in active managed funds or in passive managed funds, the answers showed that 47% of the asset managers would prefer either, whereas more institutional investors (49% v. 40%) and more private investors (45% v. 27%) were in favour of a passive investing. Yet, 7%, 11% and 28% were neutral.

The preference for investing in active or in passive managed funds (Index funds/ETFs)	Asset Manager	Institut. Investor	Private Investor
Active managed funds	46.5%	40.0%	26.9%
Passive managed funds	46.5%	48.6%	44.8%
I don't know	7.0%	11.4%	28.3%

Total	100.0%	100.0%	100.0%

Table 115 – The preference for investing in active or passive managed funds
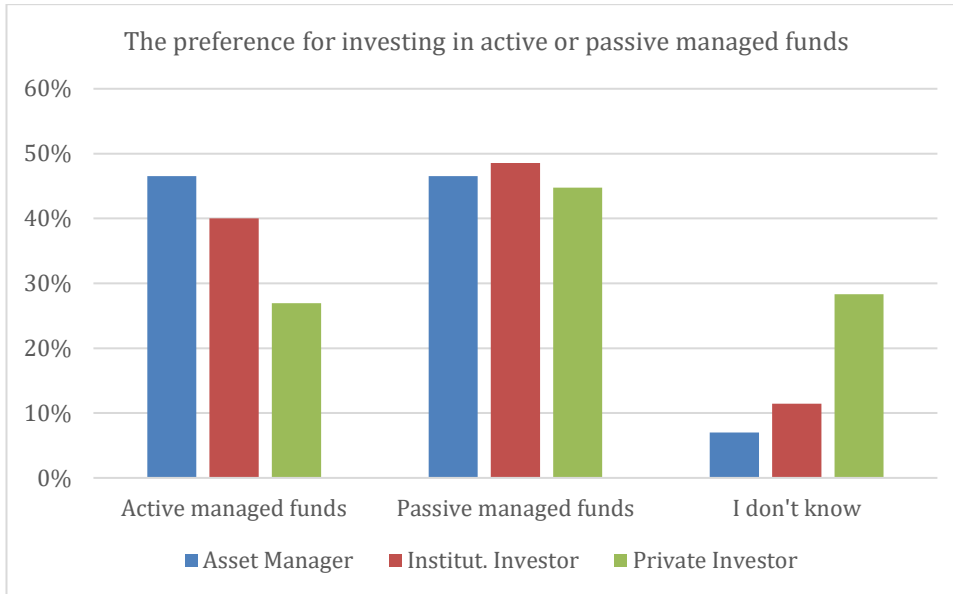
Figure 105 – The preference for investing in active or passive managed funds

Considerations of investments in various markets

Most investors were neutral about investing in the Australian / New Zealand market but still, the majority voted for it with the private investors as the smallest group (49%, 42% and 37%). Investing in the general European markets (63%, 58% and 46%) enjoyed a higher preference.

The picture looked completely different when it came to the emerging markets. 90% of the asset managers, 82% of all institutional investors and 82% of the private investors were fond of investing in developing markets like China, India, Brazil, etc. The same was true for the Swiss market with 83%, 85% and 81%.

Germany was also of interest for investors with 68% asset managers, 72% of the institutional investors and 57% of all private investors voting for it. The figures were similar for the US markets with 76% of the asset managers, 66% of the institutional investors and 52.4% of the private investors.

When it came to the UK market, investors were more sceptical. Professional investors still showed some interest in investing in this market (most of them were neutral) whereas more private investors (27% v. 26%) did not support this idea.

I believe in investing in the Australian / New Zealand markets	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	4,9%	3,0%	2,4%
Disagree	7,3%	3,0%	11,6%
Neutral	39,0%	51,5%	48,8%
Agree	36,6%	30,3%	28,0%
Strongly agree	12,2%	12,1%	9,2%
Total	100,0%	100,0%	100,0%

Table 116 – I believe in investing in the Australian / NZ markets
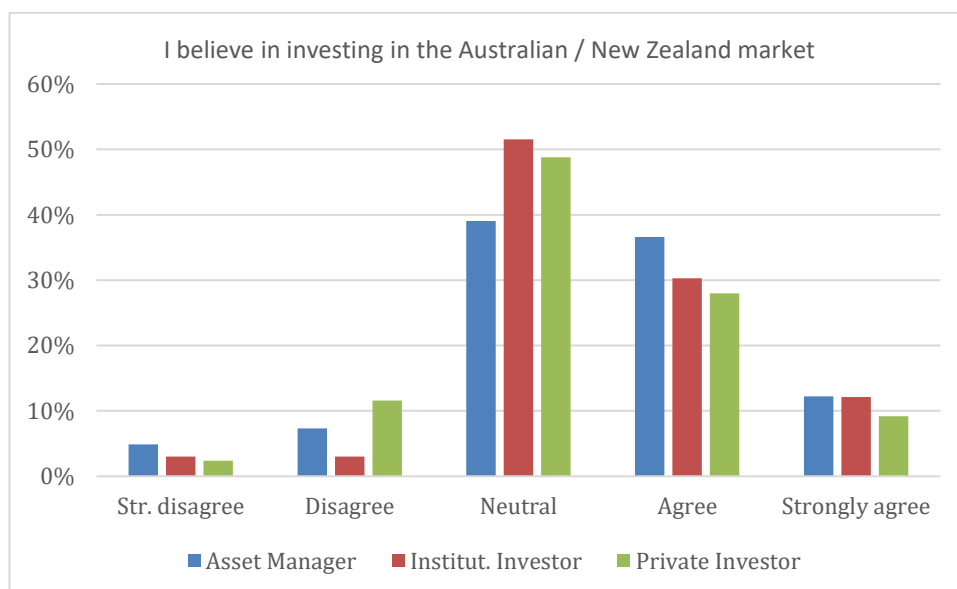
Figure 106 – I believe in investing in the Australian / NZ market

I believe in investing in the overall European market	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	0,0%	2,9%	1,8%
Disagree	4,9%	5,9%	17,4%
Neutral	31,7%	23,5%	35,1%
Agree	46,3%	50,0%	37,9%
Strongly agree	17,1%	17,6%	7,8%
Total	100,0%	100,0%	100,0%

Table 117 – I believe in investing in the overall European market
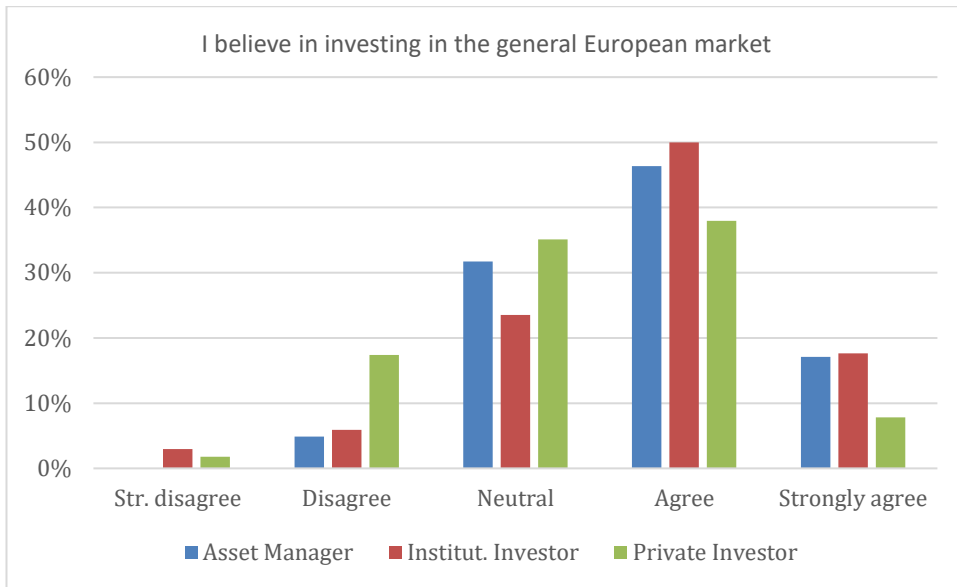
Figure 107 – I believe in investing in the general European market

I believe in investing in emerging markets (China, India, Brazil, etc.)	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	0,0%	0,0%	1,1%
Disagree	0,0%	3,0%	3,2%
Neutral	9,8%	15,2%	14,0%
Agree	46,3%	45,5%	59,1%
Strongly agree	43,9%	36,4%	22,6%
Total	100,0%	100,0%	100,0%

Table 118 – I believe in investing in Emerging markets
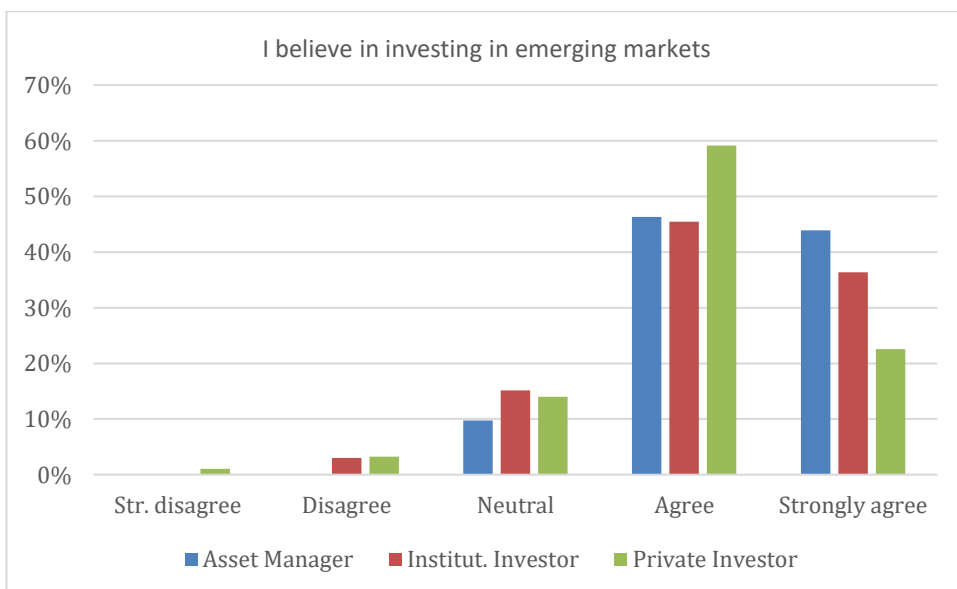
Figure 108 – I believe in investing in Emerging markets

I believe in investing in the Swiss market	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	0,0%	0,0%	1,1%
Disagree	2,4%	3,0%	2,9%
Neutral	14,6%	12,1%	14,6%
Agree	43,9%	48,5%	57,5%
Strongly agree	39,0%	36,4%	23,9%
Total	100,0%	100,0%	100,0%

Table 119 – I believe in investing in the Swiss market
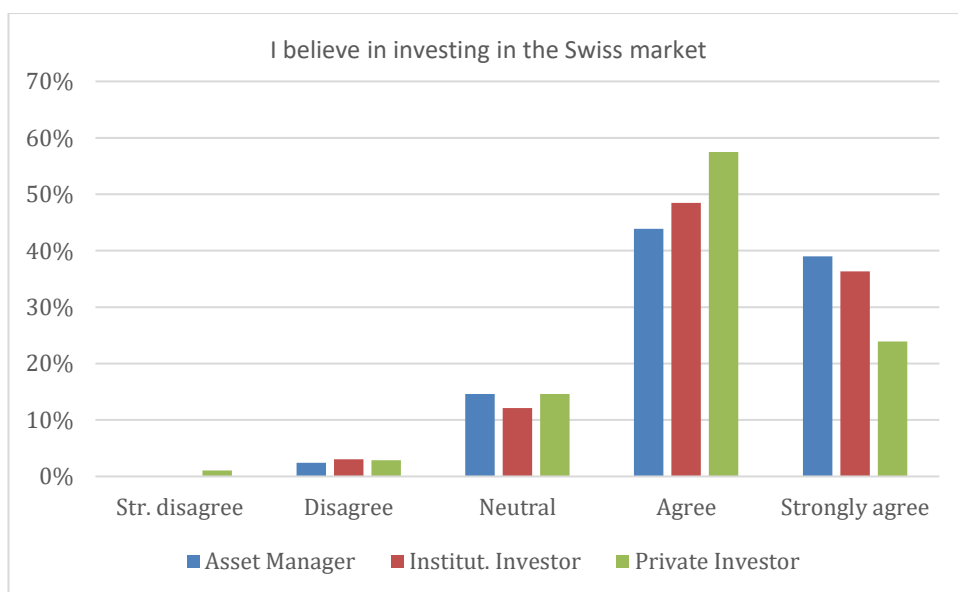
Figure 109 – I believe in investing in the Swiss market

I believe in investing in the German market	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	0,0%	0,0%	1,5%
Disagree	7,5%	2,9%	8,8%
Neutral	25,0%	25,7%	33,2%
Agree	37,5%	48,6%	46,7%
Strongly agree	30,0%	22,9%	9,9%
Total	100,0%	100,0%	100,0%

Table 120 – I believe in investing in the German market

Figure 110 – I believe in investing in the German market

I believe in investing in the US market	Asset Manager	Institut. Investor	Private Investor
Strongly Disagree	0,0%	2,9%	4,3%
Disagree	9,8%	2,9%	11,0%
Neutral	14,6%	28,6%	32,3%
Agree	51,2%	45,7%	41,1%
Strongly agree	24,4%	20,0%	11,3%
Total	100,0%	100,0%	100,0%

Table 121 – I believe in investing in the US market
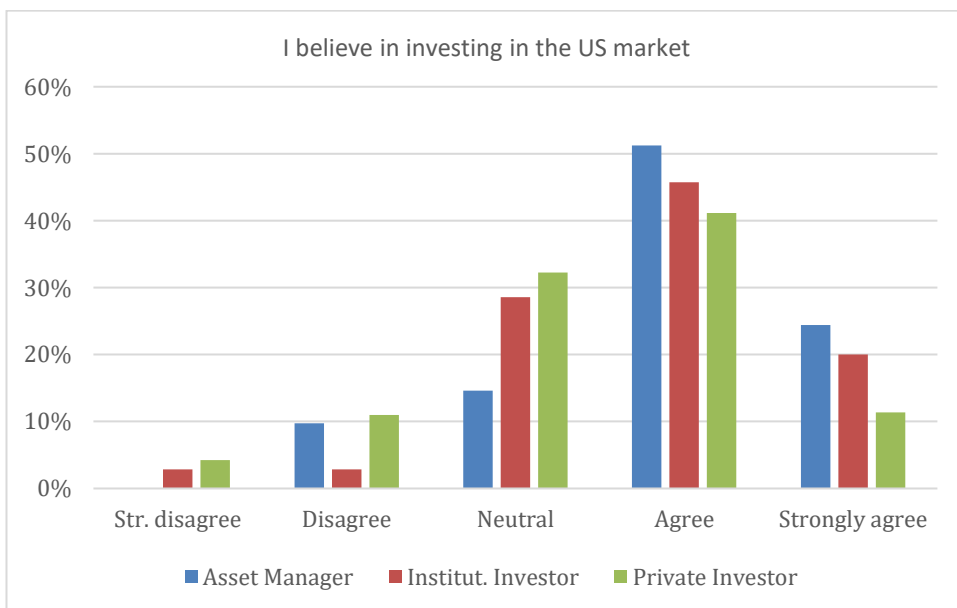
Figure 111 – I believe in investing in the US market

I believe in investing in the UK market	Asset Manager	Institut. Investor	Private Investor
Strongly disagree	0,0%	3,0%	2,6%
Disagree	12,5%	6,1%	24,0%
Neutral	42,5%	39,4%	48,0%
Agree	37,5%	36,4%	22,9%
Strongly agree	7,5%	15,2%	2,6%
Total	100,0%	100,0%	100,0%

Table 122 – I believe in investing in the UK market
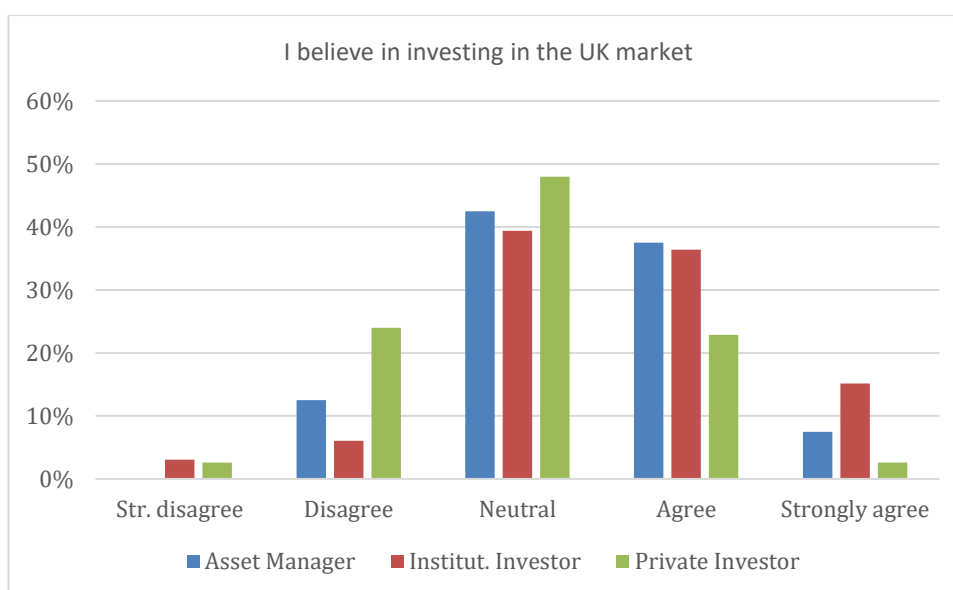
Figure 112 – I believe in investing in the UK market

Importance of various investment criteria

Only 31% of the asset managers but 49% of the institutional investors and 53% of all private investors' emphasis was on large capitalised companies when it came to their investments. The majority of the professional investors did not put any weight on this criterion (neutral). The same was true when asked about the importance of the company to invest in being Swiss, with the difference that more asset managers (43% v. 30%) underweighted this criterion.

Only a minority of investors from the private investor category supported ethical aspects like green investing or sustainability as an investment criterion.

Most respondents were neutral, but clearly, the professional investors found other investment criteria more important.

The dividend rate on the other hand was crucial for most investors, as 63% of the asset managers, 69% of the institutional investors and 67% of all private investors trusted it to be important or very important. However, there were still around 25% who were neutral and for about 10% the dividend rate was insignificant.

75% of the asset managers, 84% institutional investors and 83% of all private investors confirmed that their knowledge about the company they wanted to invest in was important. On the other hand, the numbers were 13%, 6% and only 3% respectively with the private investors.

Past performance played an important part for most private investors (75%) whereas only 68% of the asset managers and 56% institutional investors trusted that past performance was an indicator of future performance.

The P/E ratio seemed important too but most investors (43% asset managers, 42% institutional investors and 45% of all private investors) were neutral about it; only very few found it unimportant. It was interesting to see that when asked about the industry a company was in, only 36% of the asset managers found it important. However, that number more than doubles to 75% with the institutional investors and 58% for private investors.

The participants were relatively neutral when asked whether a vehicle was an active or a passive managed fund. Regarding active managed funds, 39% of the asset managers, 31% of all institutional investors and 25% of the private investors found it important. For passive managed funds, the numbers were 33%, 30% and 33% respectively.

The biggest discrepancy lay with the institutional investors, as 44% and 56% respectively were neutral about it. In summary, more professional investors trusted that the decision for investments in active managed funds was more important than it was for passive products (39%, 31% vs. 33%, 30%). It was the opposite for private investors (25% vs. 33%).

How important for your investment decision is it that company is a Large-Cap	Asset Manager	Institut. Investor	Private Investor
Very unimportant	10.3%	0.0%	1.8%
Unimportant	17.9%	9.7%	12.7%
Neutral	41.0%	41.9%	32.2%
Important	25.6%	45.2%	44.6%
Very important	5.1%	3.2%	8.7%
Total	100.0%	100.0%	100.0%

Table 123 – The importance of large-cap companies for the investment decision
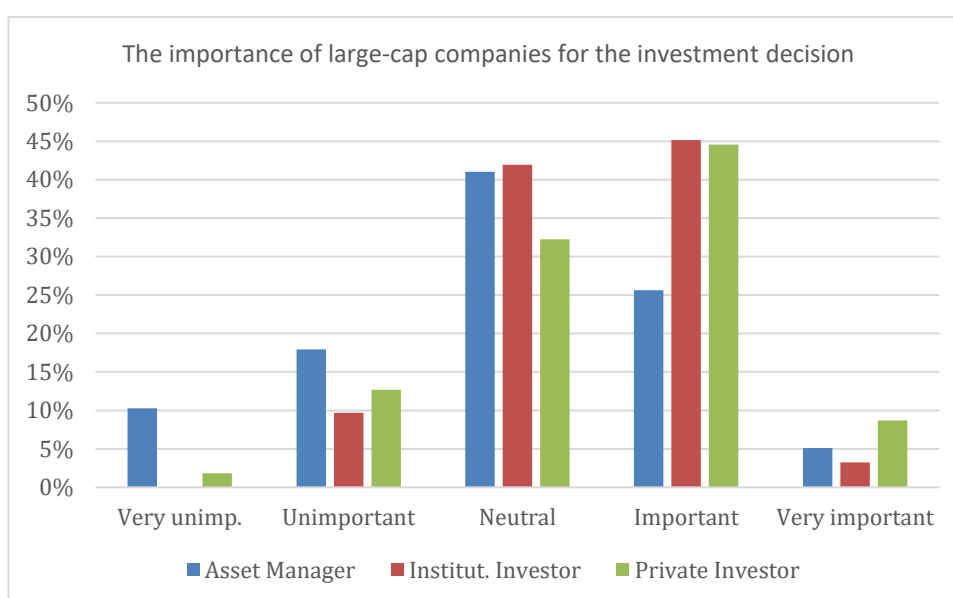
Figure 113 – The importance of large-cap companies for the investment decision

How important for your investment decision is it that company is a Swiss company	Asset Manager	Institut. Investor	Private Investor
Very unimportant	7.5%	3.1%	5.0%
Unimportant	35.0%	18.8%	19.4%
Neutral	27.5%	40.6%	34.2%
Important	27.5%	28.1%	30.9%
Very important	2.5%	9.4%	10.4%
Total	100.0%	100.0%	100.0%

Table 124 – The importance of a company being Swiss for the investment decision
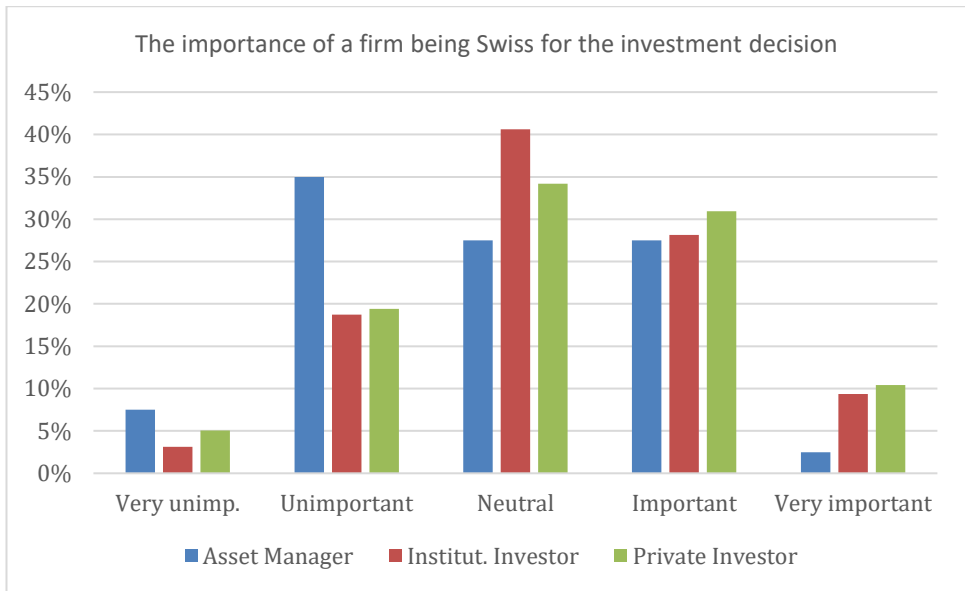
Figure 114 – The importance of a company being Swiss for the investment decision

How important for your investment decisions are ethical aspects i.e. sustainability	Asset Manager	Institut. Investor	Private Investor
Very unimportant	12.5%	9.4%	6.5%
Unimportant	27.5%	28.1%	17.3%
Neutral	32.5%	46.9%	37.1%
Important	27.5%	9.4%	32.0%
Very important	0.0%	6.3%	7.2%
Total	100.0%	100.0%	100.0%

Table 125 – The importance of ethical aspects for the investment decision
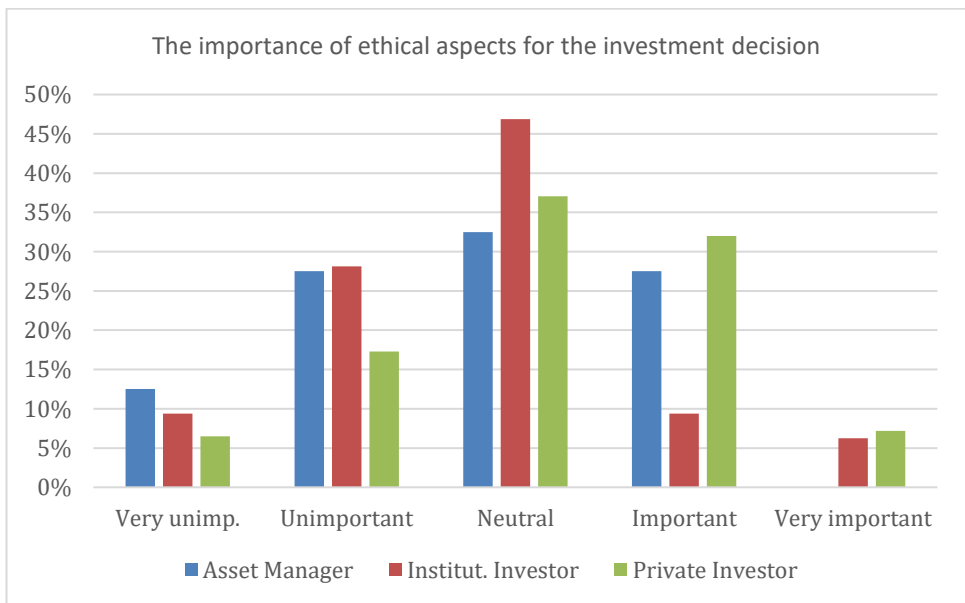
Figure 115 – The importance of ethical aspects for the investment decision

How important for your investment decision is the expected dividend rate	Asset Manager	Institut. Investor	Private Investor
Very unimportant	5.0%	3.1%	3.3%
Unimportant	5.0%	6.3%	3.6%
Neutral	27.5%	21.9%	26.4%
Important	47.5%	53.1%	50.4%
Very important	15.0%	15.6%	16.3%
Total	100.0%	100.0%	100.0%

Table 126 – The importance of the dividend rate for the investment decision
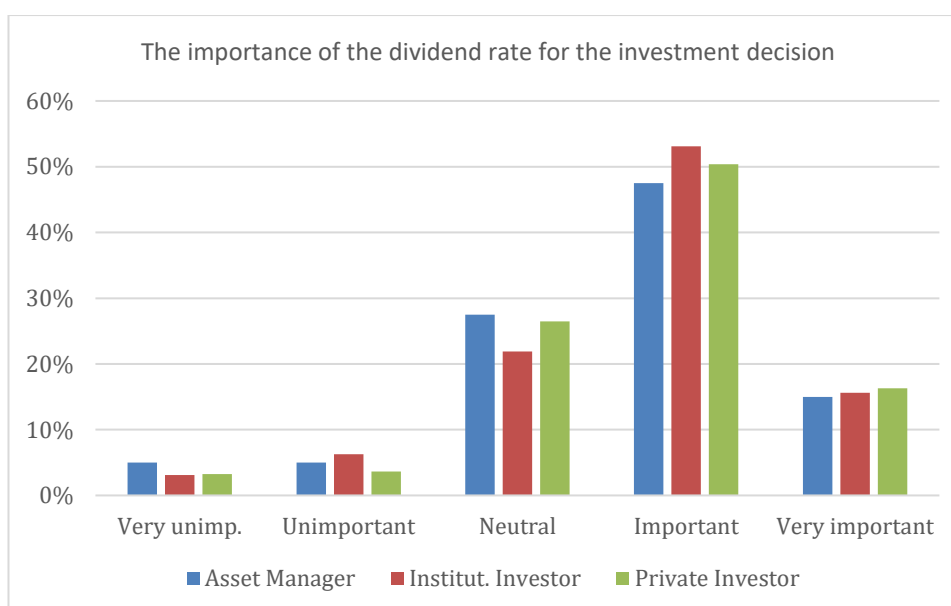
Figure 116 – The importance of the dividend rate for the investment decision

How important for your investment decision is your knowledge of the company	Asset Manager	Institut. Investor	Private Investor
Very unimportant	2.5%	0.0%	0.4%
Unimportant	10.0%	6.3%	2.2%
Neutral	12.5%	9.4%	14.9%
Important	42.5%	53.1%	52.2%
Very important	32.5%	31.3%	30.4%
Total	100.0%	100.0%	100.0%

Table 127 – The importance of company knowledge for the investment decision
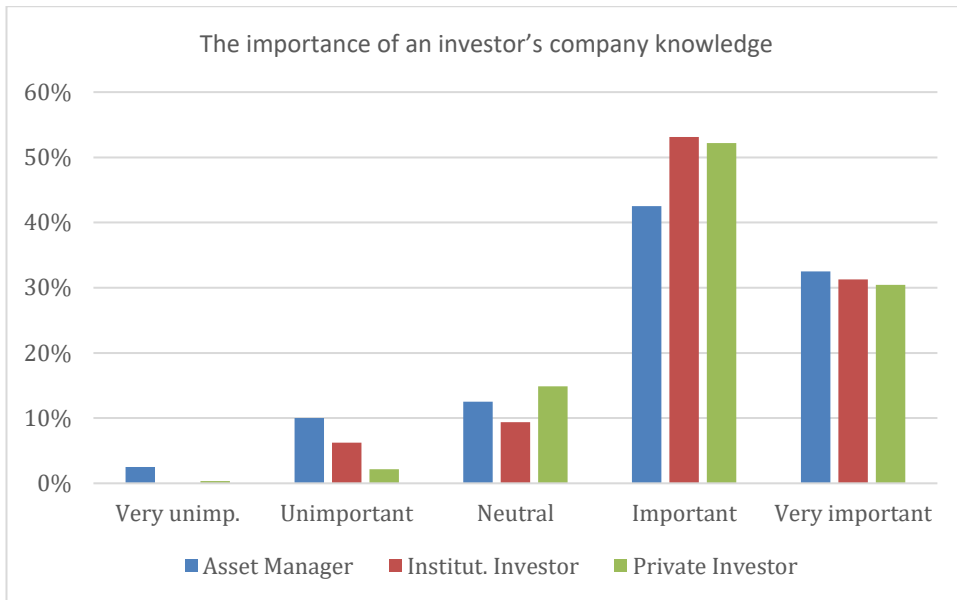
Figure 117 – The importance of company knowledge for the investment decision

How important for your investment decisions is the past performance	Asset Manager	Institut. Investor	Private Investor
Very unimportant	2.5%	3.1%	1.1%
Unimportant	17.5%	15.6%	6.5%
Neutral	22.5%	25.0%	17.3%
Important	42.5%	43.8%	50.5%
Very important	15.0%	12.5%	24.5%
Total	100.0%	100.0%	100.0%

Table 128 – The importance of the past performance for the investment decision
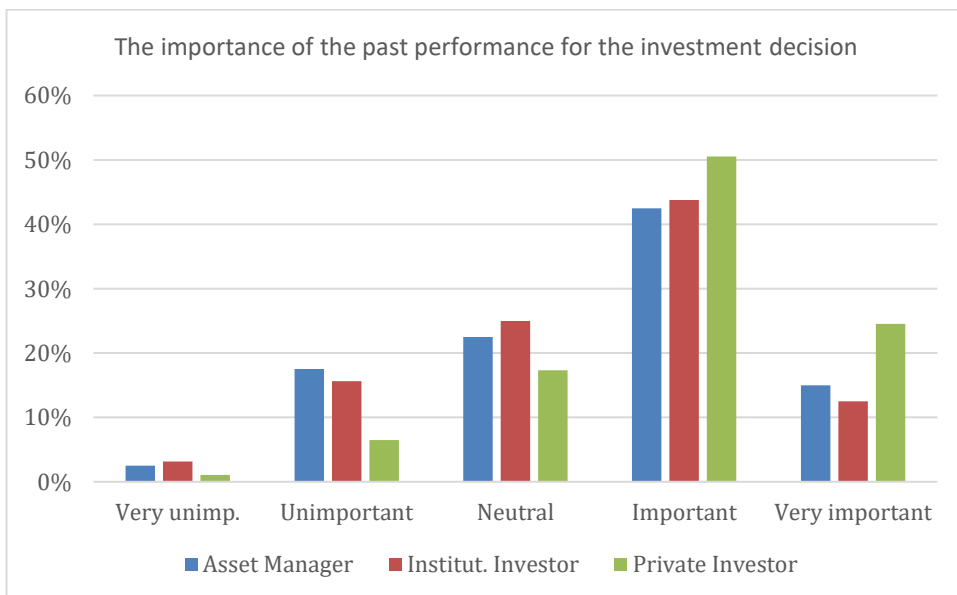
Figure 118 – The importance of the past performance for the investment decision

How important for your investment decision is a low P/E ratio	Asset Manager	Institut. Investor	Private Investor
Very unimportant	2.5%	0.0%	2.0%
Unimportant	5.0%	6.5%	7.5%
Neutral	42.5%	41.9%	44.8%
Important	40.0%	45.2%	35.7%
Very important	10.0%	6.5%	9.9%
Total	100.0%	100.0%	100.0%

Table 129 – The importance of a low P/E ratio for the investment decision
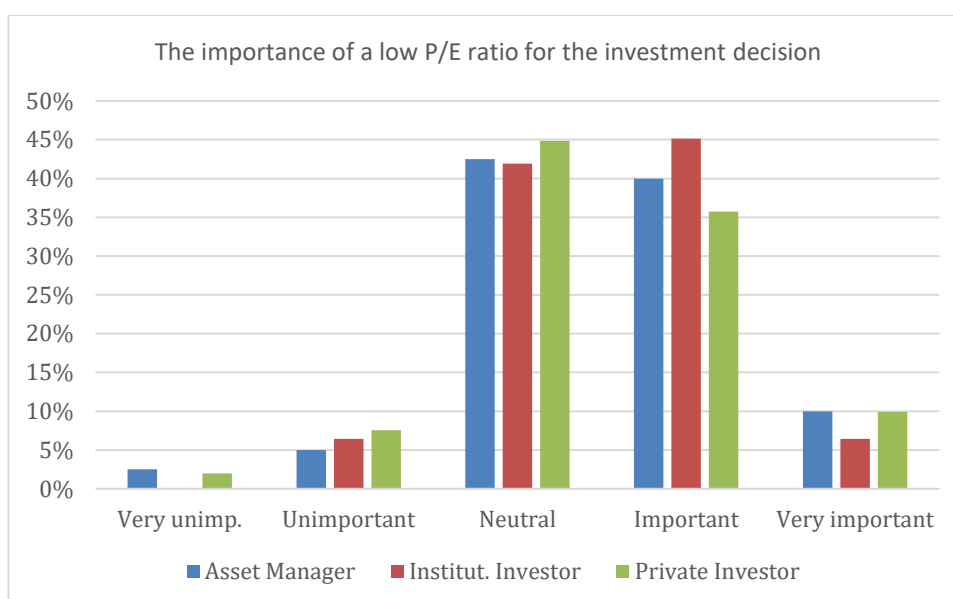
Figure 119 – The importance of a low P/E ratio for the investment decision

How important for your investment decision is the industry the company is in	Asset Manager	Institut. Investor	Private Investor
Very unimportant	2.6%	3.1%	1.1%
Very important	30.8%	12.5%	27.6%
Neutral	30.8%	9.4%	13.1%
Important	33.3%	68.8%	51.6%
Unimportant	2.6%	6.3%	6.5%
Total	100.0%	100.0%	100.0%

Table 130 – The importance of the company's industry for the investment decision
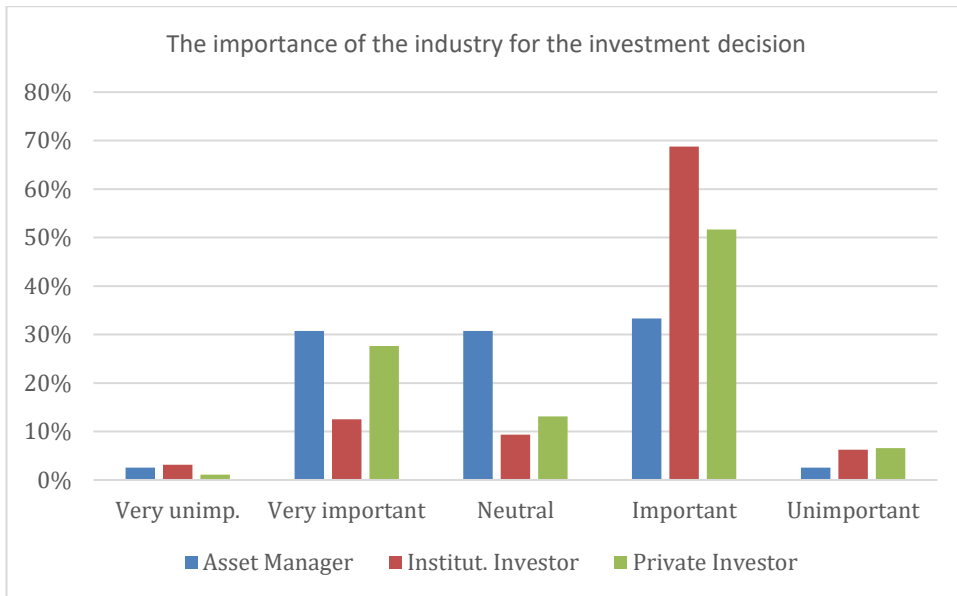
Figure 120 – The importance of the company's industry for the investment decision

How important for your investment decision is it that product is an active managed fund	Asset Manager	Institut. Investor	Private Investor
Very unimportant	5.1%	6.3%	12.3%
Unimportant	30.8%	18.8%	25.0%
Neutral	25.6%	43.8%	38.1%
Important	30.8%	28.1%	19.8%
Very important	7.7%	3.1%	4.8%
Total	100.0%	100.0%	100.0%

Table 131 – The importance of active funds for the investment decision
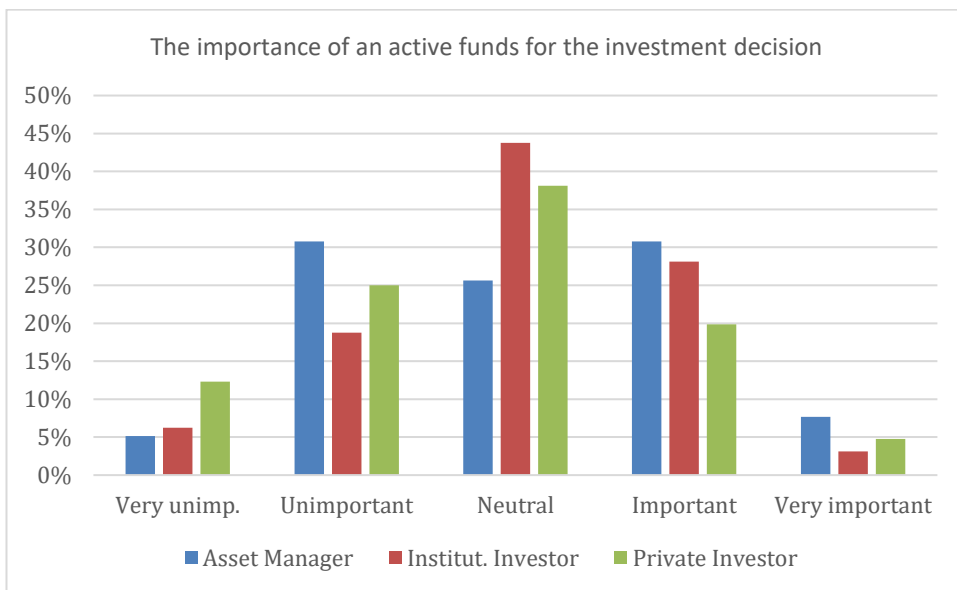
Figure 121 – The importance of active funds for the investment decision

How important for your investment decision is it that the product is an Index fund/ETF	Asset Manager	Institut. Investor	Private Investor
Very unimportant	7.5%	6.7%	6.3%
Unimportant	25.0%	6.7%	17.3%
Neutral	35.0%	56.7%	43.1%
Important	22.5%	26.7%	24.7%
Very important	10.0%	3.3%	8.6%
Total	100.0%	100.0%	100.0%

Table 132 – The importance of passive funds for the investment decision
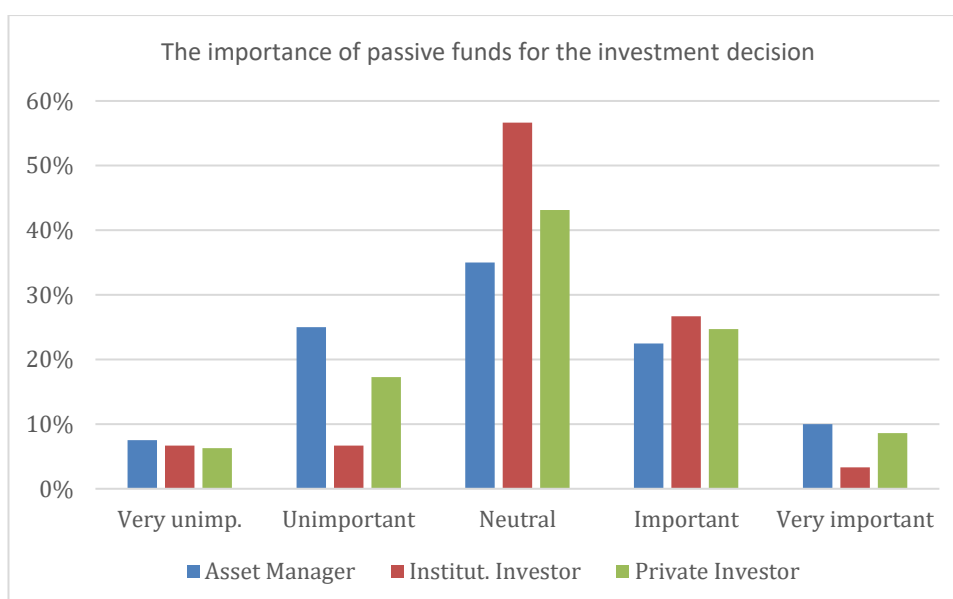
Figure 122 – The importance of passive managed funds for the investment decision

What investment strategies were applied

Interestingly, 50% of the asset managers, 53% institutional investors and 64% of the private investors believed in stock picking as a viable investment strategy and only 16%, 22% and 14% thought otherwise. There was similar support for growth investing, 56%, 53% and 64% but with fewer investors, 8%, 10% and 10% voted against it. The buy and hold strategy was an equally feasible investment strategy with 49% of the asset managers, 52% institutional investors and 58% of all private investors believing in it.

The numbers increased to 66%, 76% and 63% respectively when asked whether fundamental analysis was a superior strategy. Only 9%, 10% and 11% were in contradiction of it.

The numbers for dividend investing were similar, with 59% of the asset managers, 66% of the institutional investors and 66% of the private investors supporting this strategy. Technical analysis on the other hand was seen as a poor, or at most, satisfactory investment strategy as the majority of professional investors voted against it (36%, 38%). The private investors were exactly even in regards of the technical analysis.

Value averaging on the other hand was the least favourable investment strategy as only 13% asset managers, 20% institutional investors and 18% of all private investors supported it. The majority of investors were neutral about it and 25.9%, 40% and 32% respectively concluded that it was a poor or very poor way to invest money.

As anticipated, value investing next to fundamental analysis drew the most attention with 69% of all asset managers, 72% institutional investors and 53% of the private investors in favour of it. Value investing also showed the lowest number in opposition (6%, 7% and 12%). When it comes to investing in active managed funds, the support was not as strong as anticipated. Only 59% asset managers, 58% institutional investors and 52% private investors cared for it whilst 16%, 18% and 19% respectively were against it.

When asked about asset allocation, the numbers were very high. 87% of all asset managers, 71% of the institutional investors and 61% private investors were in favour of it, while only very few were against it and 11%, 16% and 34% were neutral.

Unexpectedly, only 51% of the asset managers, 55% institutional investors and 40% of the private investors believed in passive investing (ETFs, Index funds) with 27%, 7% and 21% voting against it.

The importance of stock picking as an investment strategy	Asset Manager	Institut. Investor	Private Investor
Very poor	2.6%	0.0%	2.9%
Poor	13.2%	21.9%	11.0%
Satisfactory	34.2%	25.0%	22.4%
Good	39.5%	28.1%	43.3%
Excellent	10.5%	25.0%	20.4%
Total	100.0%	100.0%	100.0%

Table 133 – The importance of stock picking as an investment strategy
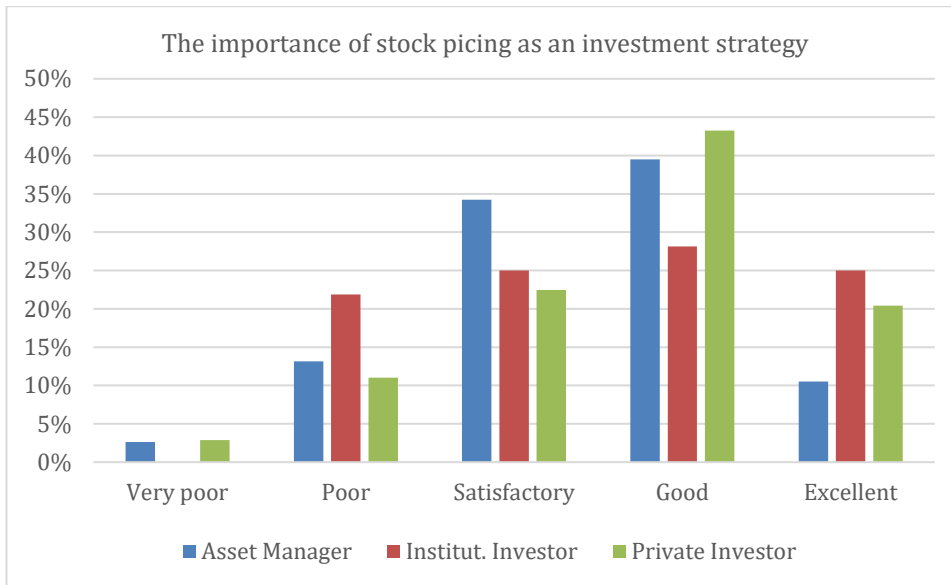
Figure 123 – The importance of stock picking as an investment strategy

The importance of growth investing as an investment strategy	Asset Manager	Institut. Investor	Private Investor
Very poor	2.8%	3.3%	1.4%
Poor	5.6%	6.7%	8.3%
Satisfactory	36.1%	36.7%	26.7%
Good	44.4%	46.7%	53.9%
Excellent	11.1%	6.7%	9.7%
Total	100.0%	100.0%	100.0%

Table 134 – The importance of growth investing as an investment strategy
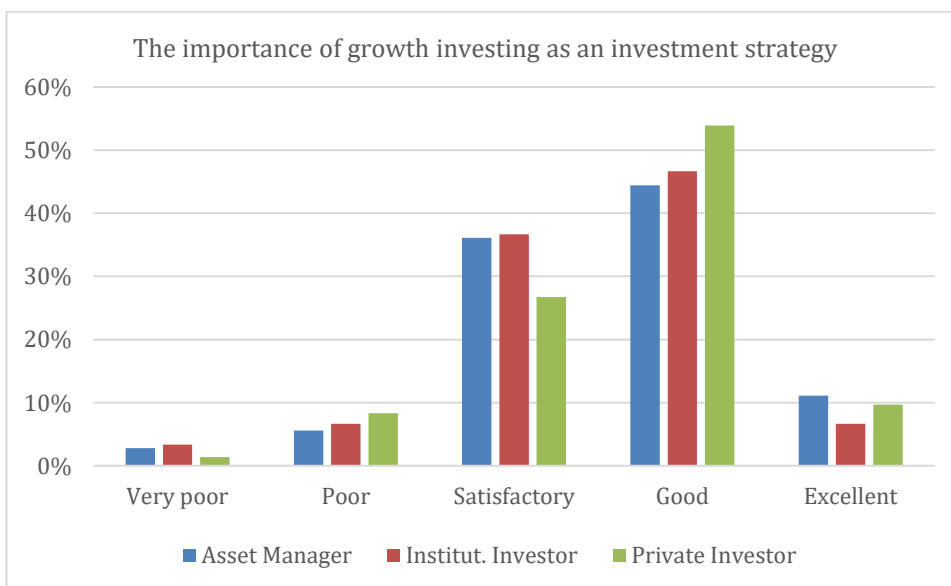
Figure 124 – The importance of growth investing as an investment strategy

The importance of buy and hold as an investment strategy	Asset Manager	Institut. Investor	Private Investor
Very poor	2.7%	0.0%	1.7%
Poor	24.3%	12.9%	9.2%
Satisfactory	24.3%	35.5%	31.4%
Good	35.1%	38.7%	51.5%
Excellent	13.5%	12.9%	6.3%
Total	100.0%	100.0%	100.0%

Table 135 – The importance of buy and hold as an investment strategy
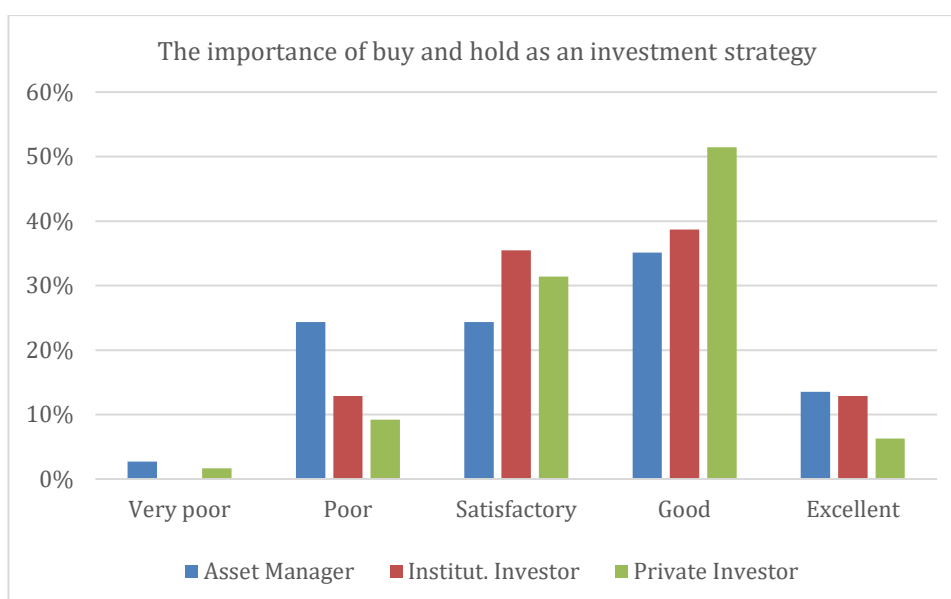
Figure 125 – The importance of buy and hold as an investment strategy

The importance of fundamental analysis as an investment strategy	Asset Manager	Institut. Investor	Private Investor
Very poor	0.0%	0.0%	2.9%
Poor	8.6%	10.3%	7.8%
Satisfactory	25.7%	13.8%	25.9%
Good	45.7%	62.1%	49.3%
Excellent	20.0%	13.8%	14.1%
Total	100.0%	100.0%	100.0%

Table 136 – The importance of fundamental analysis as an investment strategy
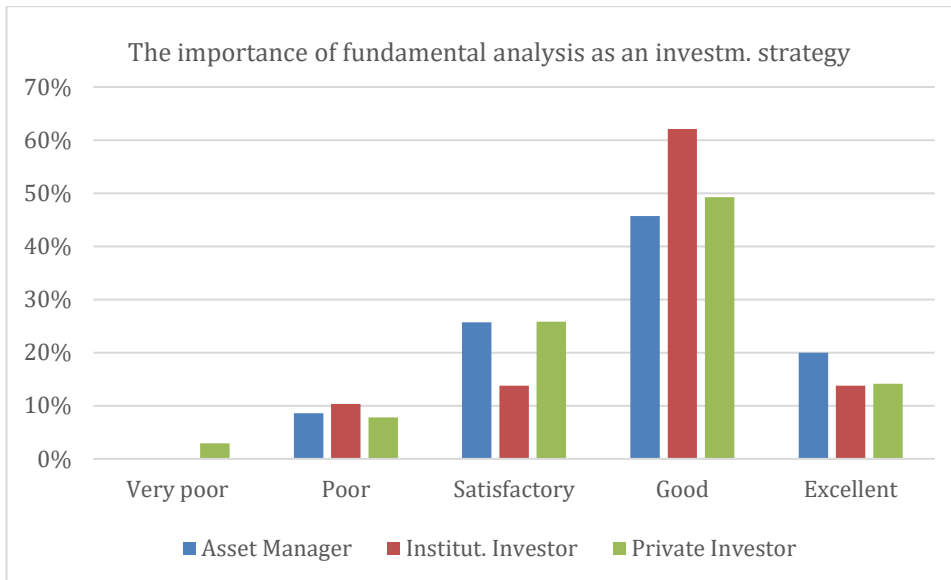
Figure 126 – The importance of fundamental analysis as an investment strategy

The importance of dividend investing as an investment strategy	Asset Manager	Institut. Investor	Private Investor
Very poor	2.7%	3.1%	1.7%
Poor	8.1%	3.1%	8.4%
Satisfactory	29.7%	28.1%	24.1%
Good	37.8%	59.4%	50.2%
Excellent	21.6%	6.3%	15.6%
Total	100.0%	100.0%	100.0%

Table 137 – The importance of dividend investing as an investment strategy
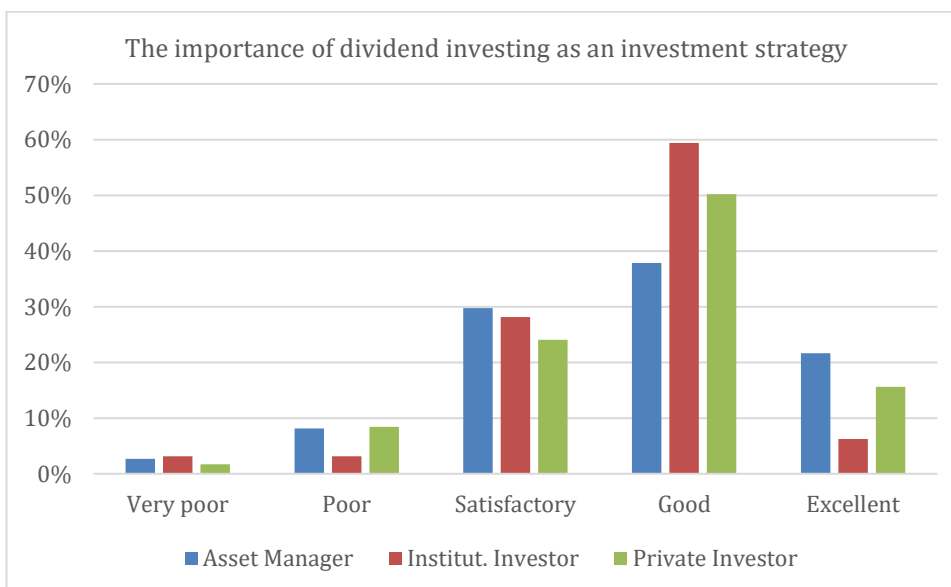
Figure 127 – The importance of dividend investing as an investment strategy

The importance of technical analysis as an investment strategy	Asset Manager	Institut. Investor	Private Investor
Very poor	13.9%	10.3%	7.2%
Poor	22.2%	27.6%	23.6%
Satisfactory	33.3%	27.6%	38.5%
Good	22.2%	27.6%	23.6%
Excellent	8.3%	6.9%	7.2%
Total	100.0%	100.0%	100.0%

Table 138 – The importance of technical analysis as an investment strategy
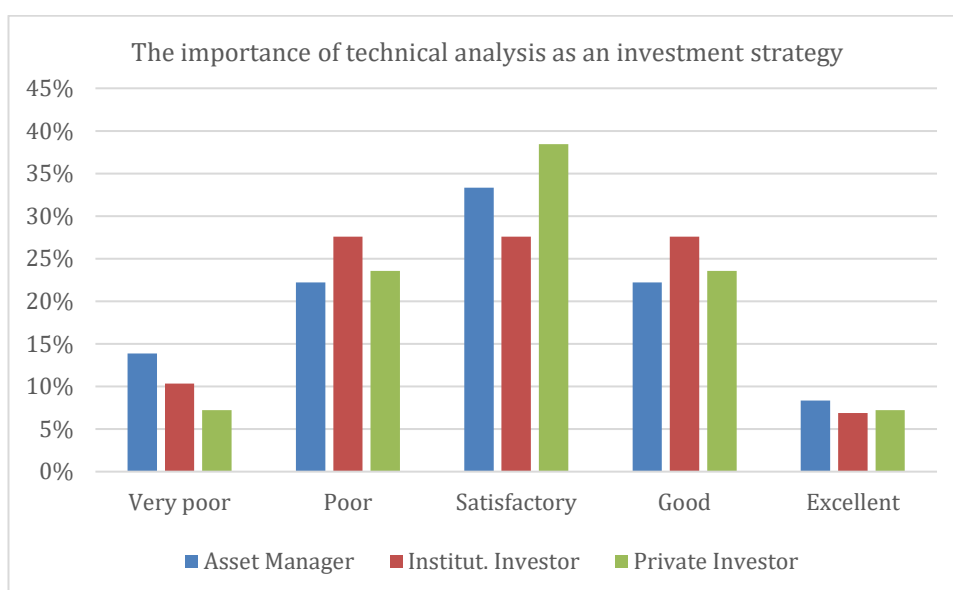
Figure 128 – The importance of technical analysis as an investment strategy

The importance of value averaging as an investment strategy	Asset Manager	Institut. Investor	Private Investor
Very poor	6.5%	4.0%	3.8%
Poor	19.4%	36.0%	28.2%
Satisfactory	61.3%	40.0%	50.0%
Good	9.7%	20.0%	15.4%
Excellent	3.2%	0.0%	2.6%
Total	100.0%	100.0%	100.0%

Table 139 – The importance of value averaging as an investment strategy
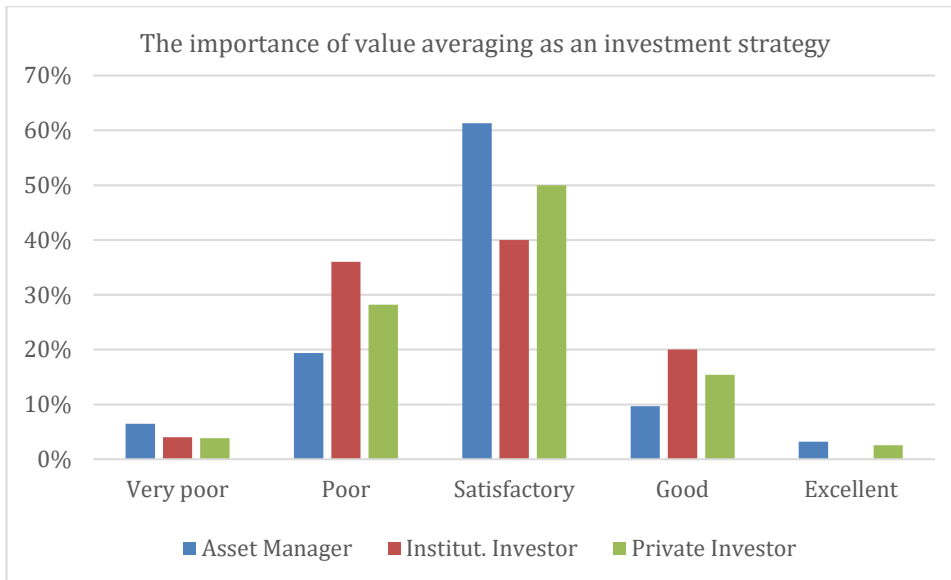
Figure 129 – The importance of value averaging as an investment strategy

The importance of value investing as an investment strategy	Asset Manager	Institut. Investor	Private Investor
Very poor	0.0%	0.0%	2.1%
Poor	5.7%	6.9%	9.9%
Satisfactory	25.7%	20.7%	34.6%
Good	48.6%	51.7%	40.8%
Excellent	20.0%	20.7%	12.6%
Total	100.0%	100.0%	100.0%

Table 140 – The importance of value investing as an investment strategy
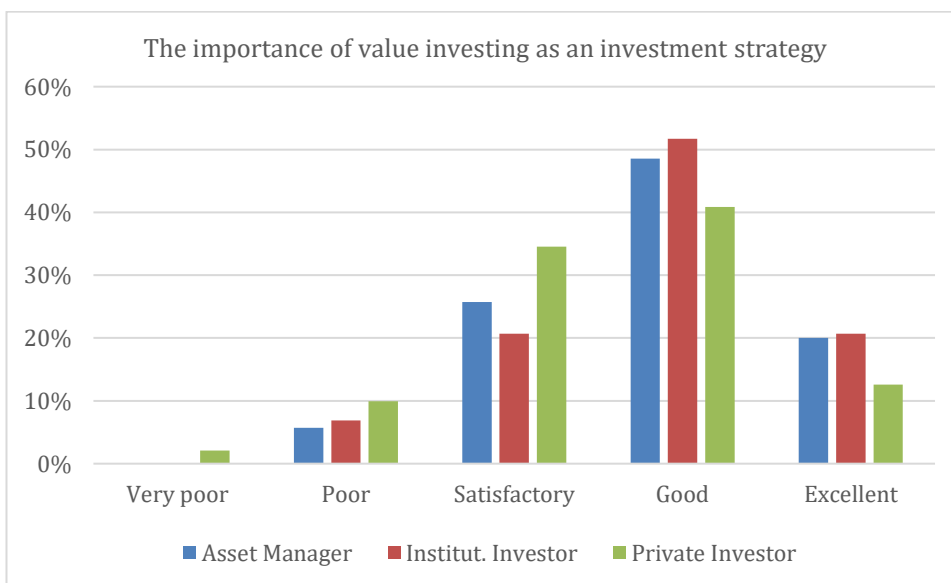
Figure 130 – The importance of value investing as an investment strategy

The importance of investing in active managed funds as an investment strategy	Asset Manager	Institut. Investor	Private Investor
Very poor	2.7%	6.1%	3.0%
Poor	13.5%	12.1%	16.1%
Satisfactory	24.3%	24.2%	29.1%
Good	43.2%	48.5%	44.8%
Excellent	16.2%	9.1%	7.0%
Total	100.0%	100.0%	100.0%

Table 141 – The importance of active investing as an investment strategy
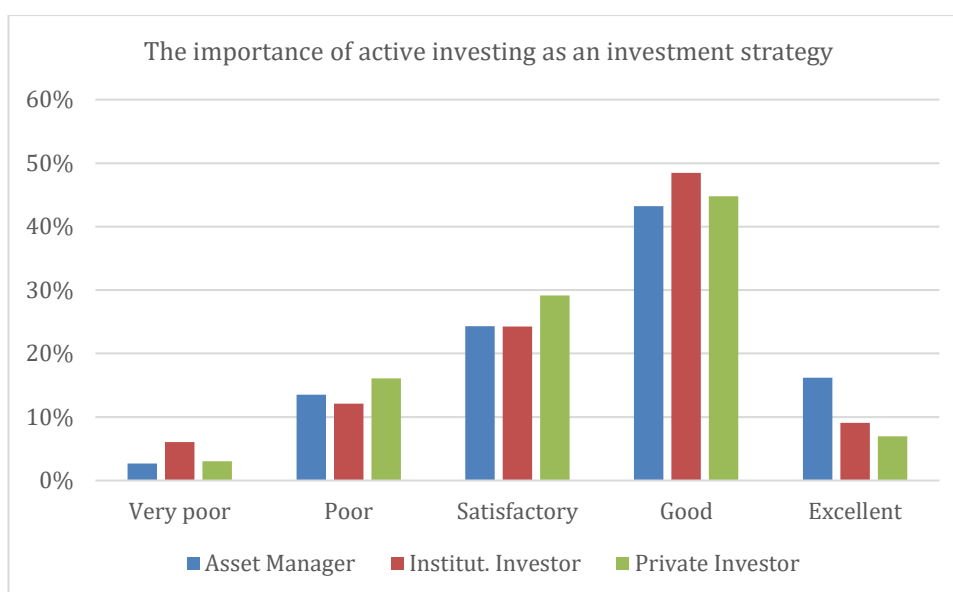
Figure 131 – The importance of active investing as an investment strategy

The importance of asset allocation as an investment strategy	Asset Manager	Institut. Investor	Private Investor
Very poor	2.6%	3.2%	2.4%
Poor	0.0%	9.7%	2.4%
Satisfactory	10.5%	16.1%	34.3%
Good	39.5%	38.7%	47.8%
Excellent	47.4%	32.3%	13.0%
Total	100.0%	100.0%	100.0%

Table 142 – The importance of asset allocation as an investment strategy / application
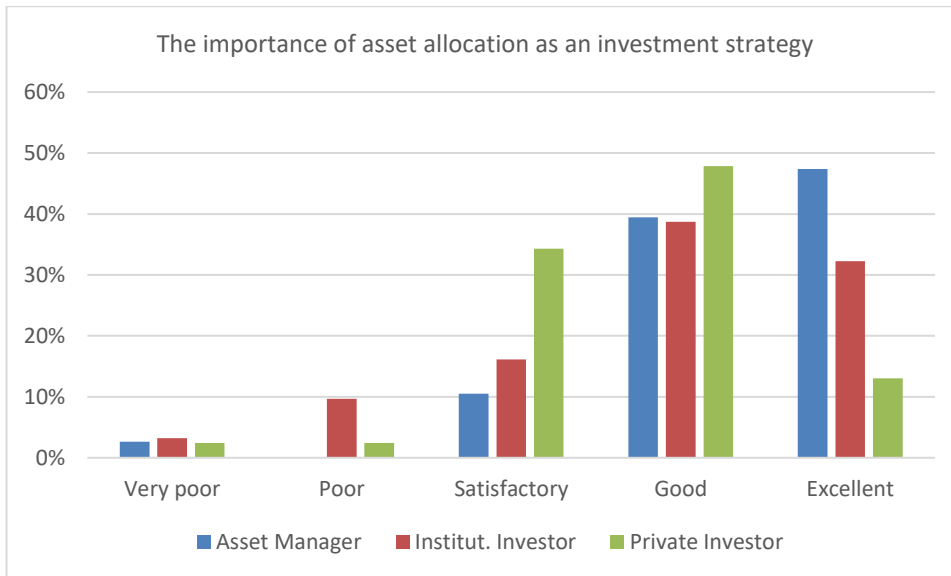
Figure 132 – The importance of asset allocation as an investment strategy

The importance of investing in passive managed funds as an investment strategy	Asset Manager	Institut. Investor	Private Investor
Very poor	16.2%	0.0%	0.9%
Poor	10.8%	6.9%	20.6%
Satisfactory	21.6%	37.9%	38.3%
Good	35.1%	48.3%	31.3%
Excellent	16.2%	6.9%	8.9%
Total	100.0%	100.0%	100.0%

Table 143 – The importance of passive investing as an investment strategy
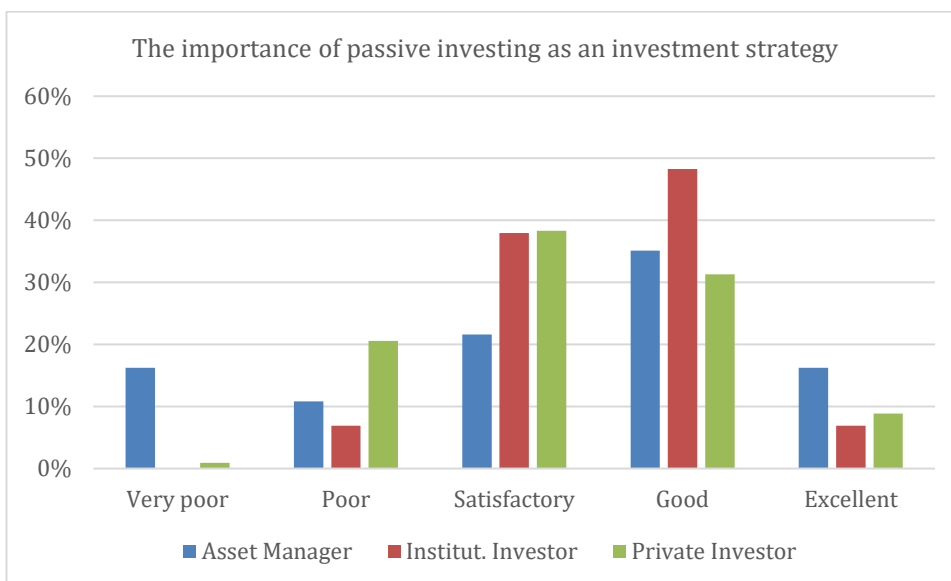
Figure 133 – The importance of passive investing as an investment strategy

10.3.1. Research question 2: further results and analysis

			Experts	Profile Informed Investors	Uninformed Investors	Total
Indicate your annual income range in CHF / US$	bis 60'000	Count	0	16	0	16
		Row %	0.00%	100.00%	0.00%	100.00%
		Col %	0.00%	5.30%	0.00%	4.30%
	60'001 - 80'000	Count	1	6	3	10
		Row %	10.00%	60.00%	30.00%	100.00%
		Col %	2.70%	2.00%	8.60%	2.70%
	80'001 - 100'000	Count	3	24	8	35
		Row %	8.60%	68.60%	22.90%	100.00%
		Col %	8.10%	7.90%	22.90%	9.40%
	100'001 - 120'000	Count	2	26	5	33
		Row %	6.10%	78.80%	15.20%	100.00%
		Col %	5.40%	8.60%	14.30%	8.80%
	120'001 - 140'000	Count	1	40	9	50
		Row %	2.00%	80.00%	18.00%	100.00%
		Col %	2.70%	13.20%	25.70%	13.40%
	140'001 - 160'000	Count	5	43	6	54
		Row %	9.30%	79.60%	11.10%	100.00%
		Col %	13.50%	14.20%	17.10%	14.40%
	160'001 - 180'000	Count	3	32	1	36
		Row %	8.30%	88.90%	2.80%	100.00%
		Col %	8.10%	10.60%	2.90%	9.60%
	180'001 - 200'000	Count	3	29	0	32
		Row %	9.40%	90.60%	0.00%	100.00%
		Col %	8.10%	9.60%	0.00%	8.60%
	200'001 - 220'000	Count	7	16	1	24
		Row %	29.20%	66.70%	4.20%	100.00%
		Col %	18.90%	5.30%	2.90%	6.40%
	220'001 - 240'000	Count	0	12	1	13
		Row %	0.00%	92.30%	7.70%	100.00%
		Col %	0.00%	4.00%	2.90%	3.50%
	> 240'000	Count	12	58	1	71
		Row %	16.90%	81.70%	1.40%	100.00%
		Col %	32.40%	19.20%	2.90%	19.00%
Total		Count	37	302	35	374
		Row %	9.90%	80.70%	9.40%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 144 – Income distribution

				Profile		Total
			Experts	Informed Investors	Uninformed Investors	
How many years experience do you have investing in the stock market	None	Count	0	8	6	14
		Row %	0.00%	57.10%	42.90%	100.00%
		Col %	0.00%	2.60%	17.10%	3.70%
	1 - 3	Count	0	21	8	29
		Row %	0.00%	72.40%	27.60%	100.00%
		Col %	0.00%	7.00%	22.90%	7.80%
	3 - 6	Count	0	37	6	43
		Row %	0.00%	86.00%	14.00%	100.00%
		Col %	0.00%	12.30%	17.10%	11.50%
	6 - 10	Count	4	62	7	73
		Row %	5.50%	84.90%	9.60%	100.00%
		Col %	10.80%	20.50%	20.00%	19.50%
	10 - 15	Count	10	72	4	86
		Row %	11.60%	83.70%	4.70%	100.00%
		Col %	27.00%	23.80%	11.40%	23.00%
	15 - 20	Count	7	47	4	58
		Row %	12.10%	81.00%	6.90%	100.00%
		Col %	18.90%	15.60%	11.40%	15.50%
	> 20	Count	16	55	0	71
		Row %	22.50%	77.50%	0.00%	100.00%
		Col %	43.20%	18.20%	0.00%	19.00%
Total		Count	37	302	35	374
		Row %	9.90%	80.70%	9.40%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 145 – Years' experience by the second class of investor groups

			Profile			Total
			Experts	Informed Investors	Uninformed Investors	
How do you rate your financial investment knowledge	No knowledge	Count	0	1	6	7
		Row %	0.00%	14.30%	85.70%	100.00%
		Col %	0.00%	0.30%	17.10%	1.90%
	Basic knowledge	Count	0	56	26	82
		Row %	0.00%	68.30%	31.70%	100.00%
		Col %	0.00%	18.70%	74.30%	22.10%
	Average knowledge	Count	0	101	2	103
		Row %	0.00%	98.10%	1.90%	100.00%
		Col %	0.00%	33.80%	5.70%	27.80%
	Good knowledge	Count	9	119	1	129
		Row %	7.00%	92.20%	0.80%	100.00%
		Col %	24.30%	39.80%	2.90%	34.80%
	Excellent knowledge	Count	28	22	0	50
		Row %	56.00%	44.00%	0.00%	100.00%
		Col %	75.70%	7.40%	0.00%	13.50%
Total		Count	37	299	35	371
		Row %	10.00%	80.60%	9.40%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 146 – Self-rating of financial investment knowledge

			Experts	Profile Informed Investors	Uninformed Investors	Total
How much of your savings is invested in shares, bonds, funds, etc.	0.1	Count	3	35	15	53
		Row %	5.70%	66.00%	28.30%	100.00%
		Col %	8.30%	12.60%	51.70%	15.50%
	0.2	Count	0	40	6	46
		Row %	0.00%	87.00%	13.00%	100.00%
		Col %	0.00%	14.40%	20.70%	13.40%
	0.3	Count	5	45	4	54
		Row %	9.30%	83.30%	7.40%	100.00%
		Col %	13.90%	16.20%	13.80%	15.70%
	0.4	Count	2	35	0	37
		Row %	5.40%	94.60%	0.00%	100.00%
		Col %	5.60%	12.60%	0.00%	10.80%
	0.5	Count	5	40	3	48
		Row %	10.40%	83.30%	6.30%	100.00%
		Col %	13.90%	14.40%	**10.30%**	14.00%
	0.6	Count	3	25	1	29
		Row %	10.30%	86.20%	3.40%	100.00%
		Col %	8.30%	9.00%	3.40%	8.50%
	0.7	Count	7	23	0	30
		Row %	23.30%	76.70%	0.00%	100.00%
		Col %	19.40%	8.30%	0.00%	8.70%
	0.8	Count	5	23	0	28
		Row %	17.90%	82.10%	0.00%	100.00%
		Col %	13.90%	8.30%	0.00%	8.20%
	0.9	Count	6	9	0	15
		Row %	40.00%	60.00%	0.00%	100.00%
		Col %	16.70%	3.20%	0.00%	4.40%
	1	Count	0	3	0	3
		Row %	0.00%	100.00%	0.00%	100.00%
		Col %	0.00%	1.10%	0.00%	0.90%
Total		Count	36	278	29	343
		Row %	10.50%	81.00%	8.50%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 147 – How much disposable income is invested

				Profile		
			Experts	Informed Investors	Uninformed Investors	Total
How long is your investment horizon	< 1 year	Count	2	10	2	14
		Row %	14.30%	71.40%	14.30%	100.00%
		Col %	5.60%	3.40%	5.90%	3.80%
	1 - 2 years	Count	2	25	1	28
		Row %	7.10%	89.30%	3.60%	100.00%
		Col %	5.60%	8.40%	2.90%	7.70%
	2 - 4 years	Count	3	76	8	87
		Row %	3.40%	87.40%	9.20%	100.00%
		Col %	8.30%	25.70%	23.50%	23.80%
	4 - 7 years	Count	4	54	2	60
		Row %	6.70%	90.00%	3.30%	100.00%
		Col %	11.10%	18.20%	5.90%	16.40%
	7 - 10 years	Count	9	71	12	92
		Row %	9.80%	77.20%	13.00%	100.00%
		Col %	25.00%	24.00%	35.30%	25.10%
	10 - 15 years	Count	10	37	5	52
		Row %	19.20%	71.20%	9.60%	100.00%
		Col %	27.80%	12.50%	14.70%	14.20%
	> 15 years	Count	6	23	4	33
		Row %	18.20%	69.70%	12.10%	100.00%
		Col %	16.70%	7.80%	11.80%	9.00%
Total		Count	36	296	34	366
		Row %	9.80%	80.90%	9.30%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 148 – Investment duration

			Profile			Total
			EXPs	INIs	UNIs	
What is the annual return you expect on your financial investments	1 - 2%	Count	2	6	1	9
		Row %	22.20%	66.70%	11.10%	100.00%
		Col %	5.70%	2.20%	4.20%	2.70%
	2 - 4%	Count	1	42	7	50
		Row %	2.00%	84.00%	14.00%	100.00%
		Col %	2.90%	15.10%	29.20%	14.80%
	4 - 6%	Count	12	90	8	110
		Row %	10.90%	81.80%	7.30%	100.00%
		Col %	34.30%	32.30%	33.30%	32.50%
	6 - 8%	Count	11	57	3	71
		Row %	15.50%	80.30%	4.20%	100.00%
		Col %	31.40%	20.40%	12.50%	21.00%
	8 - 10%	Count	7	42	2	51
		Row %	13.70%	82.40%	3.90%	100.00%
		Col %	20.00%	15.10%	8.30%	15.10%
	10 - 12%	Count	0	20	1	21
		Row %	0.00%	95.20%	4.80%	100.00%
		Col %	0.00%	7.20%	4.20%	6.20%
	12 - 14%	Count	1	3	1	5
		Row %	20.00%	60.00%	20.00%	100.00%
		Col %	2.90%	1.10%	4.20%	1.50%
	14 - 16%	Count	0	6	1	7
		Row %	0.00%	85.70%	14.30%	100.00%
		Col %	0.00%	2.20%	4.20%	2.10%
	18 - 20%	Count	0	5	0	5
		Row %	0.00%	100.00%	0.00%	100.00%
		Col %	0.00%	1.80%	0.00%	1.50%
	20 - 25%	Count	0	4	0	4
		Row %	0.00%	100.00%	0.00%	100.00%
		Col %	0.00%	1.40%	0.00%	1.20%
	25 - 30%	Count	0	2	0	2
		Row %	0.00%	100.00%	0.00%	100.00%
		Col %	0.00%	0.70%	0.00%	0.60%
	>30%	Count	1	2	0	3
		Row %	33.30%	66.70%	0.00%	100.00%
		Col %	2.90%	0.70%	0.00%	0.90%
Total		Count	35	279	24	338
		Row %	10.40%	82.50%	7.10%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 149 – Expected annual return

			Profile			Total
			EXPs	INIs	UNIs	
What is your tolerance for loss in a bad year on the stock market (i.e. 2008)	0	Count	1	6	1	8
		Row %	12.50%	75.00%	12.50%	100.00%
		Col %	2.90%	2.20%	4.80%	2.50%
	0.05	Count	4	26	3	33
		Row %	12.10%	78.80%	9.10%	100.00%
		Col %	11.80%	9.60%	14.30%	10.20%
	0.1	Count	5	50	4	59
		Row %	8.50%	84.70%	6.80%	100.00%
		Col %	14.70%	18.50%	19.00%	18.20%
	0.15	Count	4	32	3	39
		Row %	10.30%	82.10%	7.70%	100.00%
		Col %	11.80%	11.90%	14.30%	12.00%
	0.2	Count	7	71	5	83
		Row %	8.40%	85.50%	6.00%	100.00%
		Col %	20.60%	26.30%	23.80%	25.50%
	0.25	Count	8	59	2	69
		Row %	11.60%	85.50%	2.90%	100.00%
		Col %	23.50%	21.90%	9.50%	21.20%
	0.5	Count	4	13	1	18
		Row %	22.20%	72.20%	5.60%	100.00%
		Col %	11.80%	4.80%	4.80%	5.50%
	> 50%	Count	1	13	2	16
		Row %	6.30%	81.30%	12.50%	100.00%
		Col %	2.90%	4.80%	9.50%	4.90%
Total		Count	34	270	21	325
		Row %	10.50%	83.10%	6.50%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 150 – Tolerance for loss

			Profile			Total
			Experts	Informed Investors	Uninformed Investors	
Who has ever developed a risk profile for you	A private bank	Count	1	25	2	28
		Row %	3.60%	89.30%	7.10%	100.00%
		Col %	2.90%	8.70%	5.70%	7.80%
	A retail bank	Count	3	64	5	72
		Row %	4.20%	88.90%	6.90%	100.00%
		Col %	8.60%	22.10%	14.30%	20.10%
	An asset management company	Count	5	37	3	45
		Row %	11.10%	82.20%	6.70%	100.00%
		Col %	14.30%	12.80%	8.60%	12.50%
	I did it myself	Count	15	76	2	93
		Row %	16.10%	81.70%	2.20%	100.00%
		Col %	42.90%	26.30%	5.70%	25.90%
	Nobody	Count	11	87	23	121
		Row %	9.10%	71.90%	19.00%	100.00%
		Col %	31.40%	30.10%	**65.70%**	33.70%
Total		Count	35	289	35	359
		Row %	9.70%	80.50%	9.70%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 151 – Risk profile development

			Experts	Profile Informed Investors	Uninformed Investors	Total
Can explain- Asset class	Strongly disagree	Count	0	4	15	19
		Row %	0.00%	21.10%	78.90%	100.00%
		Col %	0.00%	1.30%	42.90%	5.10%
	Disagree	Count	0	18	11	29
		Row %	0.00%	62.10%	37.90%	100.00%
		Col %	0.00%	6.00%	31.40%	7.80%
	Neutral	Count	0	24	4	28
		Row %	0.00%	85.70%	14.30%	100.00%
		Col %	0.00%	8.00%	11.40%	7.50%
	Agree	Count	0	144	4	148
		Row %	0.00%	97.30%	2.70%	100.00%
		Col %	0.00%	47.80%	11.40%	39.70%
	Strongly agree	Count	37	111	1	149
		Row %	24.80%	74.50%	0.70%	100.00%
		Col %	100.00%	36.90%	2.90%	39.90%
Total		Count	37	301	35	373
		Row %	9.90%	80.70%	9.40%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 152 – I can explain what an asset class is

			Experts	Profile Informed Investors	Uninformed Investors	Total
Can explain- Coupon	Strongly disagree	Count	0	5	8	13
		Row %	0.00%	38.50%	61.50%	100.00%
		Col %	0.00%	1.70%	25.00%	3.50%
	Disagree	Count	0	23	10	33
		Row %	0.00%	69.70%	30.30%	100.00%
		Col %	0.00%	7.60%	31.30%	8.90%
	Neutral	Count	0	25	4	29
		Row %	0.00%	86.20%	13.80%	100.00%
		Col %	0.00%	8.30%	12.50%	7.80%
	Agree	Count	0	135	7	142
		Row %	0.00%	95.10%	4.90%	100.00%
		Col %	0.00%	44.70%	21.90%	38.30%
	Strongly agree	Count	37	114	3	154
		Row %	24.00%	74.00%	1.90%	100.00%
		Col %	100.00%	37.70%	9.40%	41.50%
Total		Count	37	302	32	371
		Row %	10.00%	81.40%	8.60%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 153 – I can explain what a coupon is

			Profile			
			Experts	Informed Investors	Uninformed Investors	Total
Can explain-Futures	Strongly disagree	Count	0	2	5	7
		Row %	0.00%	28.60%	71.40%	100.00%
		Col %	0.00%	0.70%	14.70%	1.90%
	Disagree	Count	0	27	14	41
		Row %	0.00%	65.90%	34.10%	100.00%
		Col %	0.00%	8.90%	41.20%	11.00%
	Neutral	Count	1	35	10	46
		Row %	2.20%	76.10%	21.70%	100.00%
		Col %	2.70%	11.60%	29.40%	12.30%
	Agree	Count	1	151	5	157
		Row %	0.60%	96.20%	3.20%	100.00%
		Col %	2.70%	50.00%	14.70%	42.10%
	Strongly agree	Count	35	87	0	122
		Row %	28.70%	71.30%	0.00%	100.00%
		Col %	94.60%	28.80%	0.00%	32.70%
Total		Count	37	302	34	373
		Row %	9.90%	81.00%	9.10%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 154 – I can explain what futures are

			Profile			
			Experts	Informed Investors	Uninformed Investors	Total
Can explain-Options (calls/puts)	Strongly disagree	Count	0	1	4	5
		Row %	0.00%	20.00%	80.00%	100.00%
		Col %	0.00%	0.30%	11.40%	1.30%
	Disagree	Count	0	12	9	21
		Row %	0.00%	57.10%	42.90%	100.00%
		Col %	0.00%	4.00%	25.70%	5.60%
	Neutral	Count	0	26	8	34
		Row %	0.00%	76.50%	23.50%	100.00%
		Col %	0.00%	8.60%	22.90%	9.10%
	Agree	Count	2	159	12	173
		Row %	1.20%	91.90%	6.90%	100.00%
		Col %	5.40%	52.80%	34.30%	46.40%
	Strongly agree	Count	35	103	2	140
		Row %	25.00%	73.60%	1.40%	100.00%
		Col %	94.60%	34.20%	5.70%	37.50%
Total		Count	37	301	35	373
		Row %	9.90%	80.70%	9.40%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 155 – I can explain what options are

			Experts	Profile Informed Investors	Uninformed Investors	Total
Can explain-P/E Ratio	Strongly disagree	Count	0	10	13	23
		Row %	0.00%	43.50%	56.50%	100.00%
		Col %	0.00%	3.30%	37.10%	6.20%
	Disagree	Count	0	44	15	59
		Row %	0.00%	74.60%	25.40%	100.00%
		Col %	0.00%	14.60%	42.90%	15.80%
	Neutral	Count	0	26	4	30
		Row %	0.00%	86.70%	13.30%	100.00%
		Col %	0.00%	8.60%	11.40%	8.00%
	Agree	Count	1	127	3	131
		Row %	0.80%	96.90%	2.30%	100.00%
		Col %	2.70%	42.20%	8.60%	35.10%
	Strongly agree	Count	36	94	0	130
		Row %	27.70%	72.30%	0.00%	100.00%
		Col %	97.30%	31.20%	0.00%	34.90%
Total		Count	37	301	35	373
		Row %	9.90%	80.70%	9.40%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 156 – I can explain what the P/E ratio is

			Experts	Profile Informed Investors	Uninformed Investors	Total
Can explain-Rebalancing	Strongly disagree	Count	0	16	18	34
		Row %	0.00%	47.10%	52.90%	100.00%
		Col %	0.00%	5.30%	51.40%	9.10%
	Disagree	Count	1	80	12	93
		Row %	1.10%	86.00%	12.90%	100.00%
		Col %	2.70%	26.70%	34.30%	25.00%
	Neutral	Count	1	38	4	43
		Row %	2.30%	88.40%	9.30%	100.00%
		Col %	2.70%	12.70%	11.40%	11.60%
	Agree	Count	0	97	1	98
		Row %	0.00%	99.00%	1.00%	100.00%
		Col %	0.00%	32.30%	2.90%	26.30%
	Strongly agree	Count	35	69	0	104
		Row %	33.70%	66.30%	0.00%	100.00%
		Col %	94.60%	23.00%	0.00%	28.00%
Total		Count	37	300	35	372
		Row %	9.90%	80.60%	9.40%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 157 – I can explain what rebalancing is

				Profile		Total
			Experts	Informed Investors	Uninformed Investors	
Can explain-Structured products	Strongly disagree	Count	0	2	10	12
		Row %	0.00%	16.70%	83.30%	100.00%
		Col %	0.00%	0.70%	28.60%	3.20%
	Disagree	Count	0	30	12	42
		Row %	0.00%	71.40%	28.60%	100.00%
		Col %	0.00%	10.00%	34.30%	11.30%
	Neutral	Count	1	48	7	56
		Row %	1.80%	85.70%	12.50%	100.00%
		Col %	2.70%	16.00%	20.00%	15.10%
	Agree	Count	3	143	6	152
		Row %	2.00%	94.10%	3.90%	100.00%
		Col %	8.10%	47.70%	17.10%	40.90%
	Strongly agree	Count	33	77	0	110
		Row %	30.00%	70.00%	0.00%	100.00%
		Col %	89.20%	25.70%	0.00%	29.60%
Total		Count	37	300	35	372
		Row %	9.90%	80.60%	9.40%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 158 – I can explain what structured products are

				Profile		Total
			Experts	Informed Investors	Uninformed Investors	
Can explain the fee structure of active managed funds	Strongly disagree	Count	0	14	15	29
		Row %	0.00%	48.30%	51.70%	100.00%
		Col %	0.00%	4.60%	42.90%	7.80%
	Disagree	Count	0	49	16	65
		Row %	0.00%	75.40%	24.60%	100.00%
		Col %	0.00%	16.20%	45.70%	17.40%
	Neutral	Count	0	59	4	63
		Row %	0.00%	93.70%	6.30%	100.00%
		Col %	0.00%	19.50%	11.40%	16.80%
	Agree	Count	1	135	0	136
		Row %	0.70%	99.30%	0.00%	100.00%
		Col %	2.70%	44.70%	0.00%	36.40%
	Strongly agree	Count	36	45	0	81
		Row %	44.40%	55.60%	0.00%	100.00%
		Col %	97.30%	14.90%	0.00%	21.70%
Total		Count	37	302	35	374
		Row %	9.90%	80.70%	9.40%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 159 – I can explain the fee structure of an active managed fund

			Profile			
			Experts	Informed Investors	Uninformed Investors	Total
Can explain the fee structure of passive managed funds	Strongly disagree	Count	0	15	15	30
		Row %	0.00%	50.00%	50.00%	100.00%
		Col %	0.00%	5.00%	42.90%	8.00%
	Disagree	Count	0	50	16	66
		Row %	0.00%	75.80%	24.20%	100.00%
		Col %	0.00%	16.60%	45.70%	17.60%
	Neutral	Count	0	60	4	64
		Row %	0.00%	93.80%	6.30%	100.00%
		Col %	0.00%	19.90%	11.40%	17.10%
	Agree	Count	1	131	0	132
		Row %	0.80%	99.20%	0.00%	100.00%
		Col %	2.70%	43.40%	0.00%	35.30%
	Strongly agree	Count	36	46	0	82
		Row %	43.90%	56.10%	0.00%	100.00%
		Col %	97.30%	15.20%	0.00%	21.90%
Total		Count	37	302	35	374
		Row %	9.90%	80.70%	9.40%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 160 – I can explain the fee structure of a passive managed fund

			Profile			
			Experts	Informed Investors	Uninformed Investors	Total
Can explain the fee structure of Shares/Stocks	Strongly disagree	Count	0	5	12	17
		Row %	0.00%	29.40%	70.60%	100.00%
		Col %	0.00%	1.70%	34.30%	4.60%
	Disagree	Count	0	19	7	26
		Row %	0.00%	73.10%	26.90%	100.00%
		Col %	0.00%	6.30%	20.00%	7.00%
	Neutral	Count	0	27	6	33
		Row %	0.00%	81.80%	18.20%	100.00%
		Col %	0.00%	9.00%	17.10%	8.80%
	Agree	Count	2	177	10	189
		Row %	1.10%	93.70%	5.30%	100.00%
		Col %	5.40%	58.80%	28.60%	50.70%
	Strongly agree	Count	35	73	0	108
		Row %	32.40%	67.60%	0.00%	100.00%
		Col %	94.60%	24.30%	0.00%	29.00%
Total		Count	37	301	35	373
		Row %	9.90%	80.70%	9.40%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 161 – I can explain the fee structure of shares/stocks

			Profile			Total
			Experts	Informed Investors	Uninformed Investors	
I now pay more attention to diversification of my financial investement	Strongly disagree	Count	1	14	2	17
		Row %	5.90%	82.40%	11.80%	100.00%
		Col %	2.70%	4.70%	6.30%	4.60%
	Disagree	Count	2	38	3	43
		Row %	4.70%	88.40%	7.00%	100.00%
		Col %	5.40%	12.70%	9.40%	11.70%
	Neutral	Count	6	52	12	70
		Row %	8.60%	74.30%	17.10%	100.00%
		Col %	16.20%	17.30%	37.50%	19.00%
	Agree	Count	10	129	13	152
		Row %	6.60%	84.90%	8.60%	100.00%
		Col %	27.00%	43.00%	40.60%	41.20%
	Strongly agree	Count	18	67	2	87
		Row %	20.70%	77.00%	2.30%	100.00%
		Col %	48.60%	22.30%	6.30%	23.60%
Total		Count	37	300	32	369
		Row %	10.00%	81.30%	8.70%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 162 – I pay more attention to diversification

			Profile			Total
			Experts	Informed Investors	Uninformed Investors	
I now rather invest for long-term as the short-time is uncertain	Strongly disagree	Count	0	17	2	19
		Row %	0.00%	89.50%	10.50%	100.00%
		Col %	0.00%	6.70%	8.30%	6.20%
	Disagree	Count	7	53	6	66
		Row %	10.60%	80.30%	9.10%	100.00%
		Col %	24.10%	21.00%	25.00%	21.60%
	Neutral	Count	4	55	8	67
		Row %	6.00%	82.10%	11.90%	100.00%
		Col %	13.80%	21.80%	33.30%	22.00%
	Agree	Count	18	127	8	153
		Row %	11.80%	83.00%	5.20%	100.00%
		Col %	62.10%	50.40%	33.30%	50.20%
Total		Count	29	252	24	305
		Row %	9.50%	82.60%	7.90%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 163 – I invest for the long-term

			Profile			
			Experts	Informed Investors	Uninformed Investors	Total
I now rather invest in Single Stocks/Shares than in Funds	Strongly disagree	Count	9	33	3	45
		Row %	20.00%	73.30%	6.70%	100.00%
		Col %	24.30%	11.10%	9.70%	12.30%
	Disagree	Count	10	78	6	94
		Row %	10.60%	83.00%	6.40%	100.00%
		Col %	27.00%	26.20%	19.40%	25.70%
	Neutral	Count	4	62	14	80
		Row %	5.00%	77.50%	17.50%	100.00%
		Col %	10.80%	20.80%	45.20%	21.90%
	Agree	Count	7	74	6	87
		Row %	8.00%	85.10%	6.90%	100.00%
		Col %	18.90%	24.80%	19.40%	23.80%
	Strongly agree	Count	7	51	2	60
		Row %	11.70%	85.00%	3.30%	100.00%
		Col %	18.90%	17.10%	6.50%	16.40%
Total		Count	37	298	31	366
		Row %	10.10%	81.40%	8.50%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 164 – I rather invest in single stocks/shares than in funds

			Profile			
			Experts	Informed Investors	Uninformed Investors	Total
I now rather invest without letting emotions influencing my investment decisions	Strongly disagree	Count	1	10	0	11
		Row %	9.10%	90.90%	0.00%	100.00%
		Col %	2.70%	3.40%	0.00%	3.00%
	Disagree	Count	1	60	9	70
		Row %	1.40%	85.70%	12.90%	100.00%
		Col %	2.70%	20.10%	29.00%	19.10%
	Neutral	Count	6	95	10	111
		Row %	5.40%	85.60%	9.00%	100.00%
		Col %	16.20%	31.90%	32.30%	30.30%
	Agree	Count	18	98	10	126
		Row %	14.30%	77.80%	7.90%	100.00%
		Col %	48.60%	32.90%	32.30%	34.40%
	Strongly agree	Count	11	35	2	48
		Row %	22.90%	72.90%	4.20%	100.00%
		Col %	29.70%	11.70%	6.50%	13.10%
Total		Count	37	298	31	366
		Row %	10.10%	81.40%	8.50%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 165 – I invest without emotions influencing my decisions

			Experts	Profile Informed Investors	Uninformed Investors	Total
I changed my bank/Investment manager because I lost trust in them/him	Strongly disagree	Count	19	99	12	130
		Row %	14.60%	76.20%	9.20%	100.00%
		Col %	54.30%	34.10%	37.50%	36.40%
	Disagree	Count	8	84	3	95
		Row %	8.40%	88.40%	3.20%	100.00%
		Col %	22.90%	29.00%	9.40%	26.60%
	Neutral	Count	5	57	9	71
		Row %	7.00%	80.30%	12.70%	100.00%
		Col %	14.30%	19.70%	28.10%	19.90%
	Agree	Count	1	32	5	38
		Row %	2.60%	84.20%	13.20%	100.00%
		Col %	2.90%	11.00%	15.60%	10.60%
	Strongly agree	Count	2	18	3	23
		Row %	8.70%	78.30%	13.00%	100.00%
		Col %	5.70%	6.20%	9.40%	6.40%
Total		Count	35	290	32	357
		Row %	9.80%	81.20%	9.00%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 166 – Change of bank/asset manager because of loss of trust

			Experts	Profile Informed Investors	Uninformed Investors	Total
Good idea to invest in cash	Strongly disagree	Count	4	21	4	29
		Row %	13.80%	72.40%	13.80%	100.00%
		Col %	11.40%	7.10%	12.10%	8.00%
	Disagree	Count	5	71	7	83
		Row %	6.00%	85.50%	8.40%	100.00%
		Col %	14.30%	24.00%	21.20%	22.80%
	Neutral	Count	9	71	12	92
		Row %	9.80%	77.20%	13.00%	100.00%
		Col %	25.70%	24.00%	36.40%	25.30%
	Agree	Count	7	93	8	108
		Row %	6.50%	86.10%	7.40%	100.00%
		Col %	20.00%	31.40%	24.20%	29.70%
	Strongly agree	Count	10	40	2	52
		Row %	19.20%	76.90%	3.80%	100.00%
		Col %	28.60%	13.50%	6.10%	14.30%
Total		Count	35	296	33	364
		Row %	9.60%	81.30%	9.10%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 167 – I believe it's a good idea to invest in the asset class cash

				Profile		
			Experts	Informed Investors	Uninformed Investors	Total
Good idea to invest in commodities (Oil. Wheat. Sugar. Copper…)	Strongly disagree	Count	2	16	1	19
		Row %	10.50%	84.20%	5.30%	100.00%
		Col %	5.70%	5.50%	3.30%	5.30%
	Disagree	Count	4	41	3	48
		Row %	8.30%	85.40%	6.30%	100.00%
		Col %	11.40%	14.00%	10.00%	13.40%
	Neutral	Count	8	82	12	102
		Row %	7.80%	80.40%	11.80%	100.00%
		Col %	22.90%	28.10%	40.00%	28.60%
	Agree	Count	15	110	12	137
		Row %	10.90%	80.30%	8.80%	100.00%
		Col %	42.90%	37.70%	40.00%	38.40%
	Strongly agree	Count	6	43	2	51
		Row %	11.80%	84.30%	3.90%	100.00%
		Col %	17.10%	14.70%	6.70%	14.30%
Total		Count	35	292	30	357
		Row %	9.80%	81.80%	8.40%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 168 – I believe it's a good idea to invest in the asset class commodities

				Profile		
			Experts	Informed Investors	Uninformed Investors	Total
Good idea to invest in corporate bonds	Strongly disagree	Count	0	1	0	1
		Row %	0.00%	100.00%	0.00%	100.00%
		Col %	0.00%	0.30%	0.00%	0.30%
	Disagree	Count	2	32	2	36
		Row %	5.60%	88.90%	5.60%	100.00%
		Col %	5.70%	11.00%	6.50%	10.10%
	Neutral	Count	6	69	15	90
		Row %	6.70%	76.70%	16.70%	100.00%
		Col %	17.10%	23.60%	48.40%	25.10%
	Agree	Count	14	146	11	171
		Row %	8.20%	85.40%	6.40%	100.00%
		Col %	40.00%	50.00%	35.50%	47.80%
	Strongly agree	Count	13	44	3	60
		Row %	21.70%	73.30%	5.00%	100.00%
		Col %	37.10%	15.10%	9.70%	16.80%
Total		Count	35	292	31	358
		Row %	9.80%	81.60%	8.70%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 169 – I believe it's a good idea to invest in the asset class corporate bonds

			Profile		
			Experts	Informed Investors	Uninformed Investors	Total
Good idea to invest in gold	Strongly disagree	Count	3	8	0	11
		Row %	27.30%	72.70%	0.00%	100.00%
		Col %	8.60%	2.70%	0.00%	3.00%
	Disagree	Count	6	43	1	50
		Row %	12.00%	86.00%	2.00%	100.00%
		Col %	17.10%	14.60%	3.20%	13.90%
	Neutral	Count	8	101	16	125
		Row %	6.40%	80.80%	12.80%	100.00%
		Col %	22.90%	34.20%	51.60%	34.60%
	Agree	Count	10	102	10	122
		Row %	8.20%	83.60%	8.20%	100.00%
		Col %	28.60%	34.60%	32.30%	33.80%
	Strongly agree	Count	8	41	4	53
		Row %	15.10%	77.40%	7.50%	100.00%
		Col %	22.90%	13.90%	12.90%	14.70%
Total		Count	35	295	31	361
		Row %	9.70%	81.70%	8.60%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 170 – I believe it's a good idea to invest in the asset class gold

			Profile		
			Experts	Informed Investors	Uninformed Investors	Total
Good idea to invest in government bonds	Strongly disagree	Count	5	16	0	21
		Row %	23.80%	76.20%	0.00%	100.00%
		Col %	13.90%	5.50%	0.00%	5.80%
	Disagree	Count	8	60	1	69
		Row %	11.60%	87.00%	1.40%	100.00%
		Col %	22.20%	20.50%	3.20%	19.20%
	Neutral	Count	10	84	13	107
		Row %	9.30%	78.50%	12.10%	100.00%
		Col %	27.80%	28.70%	41.90%	29.70%
	Agree	Count	6	105	11	122
		Row %	4.90%	86.10%	9.00%	100.00%
		Col %	16.70%	35.80%	35.50%	33.90%
	Strongly agree	Count	7	28	6	41
		Row %	17.10%	68.30%	14.60%	100.00%
		Col %	19.40%	9.60%	19.40%	11.40%
Total		Count	36	293	31	360
		Row %	10.00%	81.40%	8.60%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 171 – I believe it's a good idea to invest in the asset class government bonds

			Profile			Total
			Experts	Informed Investors	Uninformed Investors	
Good idea to invest in hedge funds	Strongly disagree	Count	8	37	4	49
		Row %	16.30%	75.50%	8.20%	100.00%
		Col %	23.50%	13.10%	13.30%	14.10%
	Disagree	Count	8	95	8	111
		Row %	7.20%	85.60%	7.20%	100.00%
		Col %	23.50%	33.60%	26.70%	32.00%
	Neutral	Count	5	88	17	110
		Row %	4.50%	80.00%	15.50%	100.00%
		Col %	14.70%	31.10%	56.70%	31.70%
	Agree	Count	8	51	1	60
		Row %	13.30%	85.00%	1.70%	100.00%
		Col %	23.50%	18.00%	3.30%	17.30%
	Strongly agree	Count	5	12	0	17
		Row %	29.40%	70.60%	0.00%	100.00%
		Col %	14.70%	4.20%	0.00%	4.90%
Total		Count	34	283	30	347
		Row %	9.80%	81.60%	8.60%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 172 – I believe it's a good idea to invest in the asset class hedge funds

			Profile			Total
			Experts	Informed Investors	Uninformed Investors	
Good idea to invest in high yield bonds	Strongly disagree	Count	2	29	4	35
		Row %	5.70%	82.90%	11.40%	100.00%
		Col %	5.90%	10.00%	13.30%	9.90%
	Disagree	Count	6	65	4	75
		Row %	8.00%	86.70%	5.30%	100.00%
		Col %	17.60%	22.50%	13.30%	21.20%
	Neutral	Count	6	98	16	120
		Row %	5.00%	81.70%	13.30%	100.00%
		Col %	17.60%	33.90%	53.30%	34.00%
	Agree	Count	6	75	4	85
		Row %	7.10%	88.20%	4.70%	100.00%
		Col %	17.60%	26.00%	13.30%	24.10%
	Strongly agree	Count	14	22	2	38
		Row %	36.80%	57.90%	5.30%	100.00%
		Col %	41.20%	7.60%	6.70%	10.80%
Total		Count	34	289	30	353
		Row %	9.60%	81.90%	8.50%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 173 – I believe it's a good idea to invest in the asset class high yield bonds

			Profile			
			Experts	Informed Investors	Uninformed Investors	Total
Good idea to invest in real estate (funds)	Strongly disagree	Count	3	4	1	8
		Row %	37.50%	50.00%	12.50%	100.00%
		Col %	8.80%	1.40%	3.00%	2.20%
	Disagree	Count	2	40	0	42
		Row %	4.80%	95.20%	0.00%	100.00%
		Col %	5.90%	13.70%	0.00%	11.70%
	Neutral	Count	9	71	10	90
		Row %	10.00%	78.90%	11.10%	100.00%
		Col %	26.50%	24.40%	30.30%	25.10%
	Agree	Count	10	122	13	145
		Row %	6.90%	84.10%	9.00%	100.00%
		Col %	29.40%	41.90%	39.40%	40.50%
	Strongly agree	Count	10	54	9	73
		Row %	13.70%	74.00%	12.30%	100.00%
		Col %	29.40%	18.60%	27.30%	20.40%
Total		Count	34	291	33	358
		Row %	9.50%	81.30%	9.20%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 174 – I believe it's a good idea to invest in the asset class real estate

			Profile			
			Experts	Informed Investors	Uninformed Investors	Total
Good idea to invest in shares/stocks	Strongly disagree	Count	0	3	0	3
		Row %	0.00%	100.00%	0.00%	100.00%
		Col %	0.00%	1.00%	0.00%	0.80%
	Disagree	Count	1	8	0	9
		Row %	11.10%	88.90%	0.00%	100.00%
		Col %	2.90%	2.70%	0.00%	2.50%
	Neutral	Count	0	24	10	34
		Row %	0.00%	70.60%	29.40%	100.00%
		Col %	0.00%	8.20%	32.30%	9.50%
	Agree	Count	6	146	15	167
		Row %	3.60%	87.40%	9.00%	100.00%
		Col %	17.10%	49.80%	48.40%	46.50%
	Strongly agree	Count	28	112	6	146
		Row %	19.20%	76.70%	4.10%	100.00%
		Col %	80.00%	38.20%	19.40%	40.70%
Total		Count	35	293	31	359
		Row %	9.70%	81.60%	8.60%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 175 – I believe it's a good idea to invest in the asset class shares

			Profile			Total
			EXPs	INIs	UNIs	
Rebalancing	Very unimportant	Count	0	4	1	5
		Row %	0.00%	80.00%	20.00%	100.00%
		Col %	0.00%	1.50%	10.00%	1.60%
	Unimportant	Count	2	18	0	20
		Row %	10.00%	90.00%	0.00%	100.00%
		Col %	6.10%	6.70%	0.00%	6.40%
	Neutral	Count	4	73	3	80
		Row %	5.00%	91.30%	3.80%	100.00%
		Col %	12.10%	27.00%	30.00%	25.60%
	Important	Count	12	135	3	150
		Row %	8.00%	90.00%	2.00%	100.00%
		Col %	36.40%	50.00%	30.00%	47.90%
	Very important	Count	15	40	3	58
		Row %	25.90%	69.00%	5.20%	100.00%
		Col %	45.50%	14.80%	30.00%	18.50%
Total		Count	33	270	10	313
		Row %	10.50%	86.30%	3.20%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 176 – The importance of rebalancing for higher returns

			Profile			Total
			EXPs	INIs	UNIs	
Reducing retrocessions (kick-backs)	Very unimportant	Count	0	10	1	11
		Row %	0.00%	90.90%	9.10%	100.00%
		Col %	0.00%	3.70%	10.00%	3.50%
	Unimportant	Count	2	33	1	36
		Row %	5.60%	91.70%	2.80%	100.00%
		Col %	6.10%	12.20%	10.00%	11.50%
	Neutral	Count	11	82	1	94
		Row %	11.70%	87.20%	1.10%	100.00%
		Col %	33.30%	30.30%	10.00%	29.90%
	Important	Count	9	107	6	122
		Row %	7.40%	87.70%	4.90%	100.00%
		Col %	27.30%	39.50%	60.00%	38.90%
	Very important	Count	11	39	1	51
		Row %	21.60%	76.50%	2.00%	100.00%
		Col %	33.30%	14.40%	10.00%	16.20%
Total		Count	33	271	10	314
		Row %	10.50%	86.30%	3.20%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 177 – The importance of reducing retrocessions for higher returns

			Profile			Total
			EXPs	INIs	UNIs	
Re-investing dividends/coupons	Very unimportant	Count	0	7	1	8
		Row %	0.00%	87.50%	12.50%	100.00%
		Col %	0.00%	2.50%	10.00%	2.50%
	Unimportant	Count	1	32	1	34
		Row %	2.90%	94.10%	2.90%	100.00%
		Col %	3.00%	11.50%	10.00%	10.60%
	Neutral	Count	10	89	2	101
		Row %	9.90%	88.10%	2.00%	100.00%
		Col %	30.30%	31.90%	20.00%	31.40%
	Important	Count	13	128	6	147
		Row %	8.80%	87.10%	4.10%	100.00%
		Col %	39.40%	45.90%	60.00%	45.70%
	Very important	Count	9	23	0	32
		Row %	28.10%	71.90%	0.00%	100.00%
		Col %	27.30%	8.20%	0.00%	9.90%
Total		Count	33	279	10	322
		Row %	10.20%	86.60%	3.10%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 178 – The importance of re-investing dividends/coupons for higher returns

			Profile			Total
			EXPs	INIs	UNIs	
The choice of active vs. passive managed funds	Very unimportant	Count	0	4	1	5
		Row %	0.00%	80.00%	20.00%	100.00%
		Col %	0.00%	1.50%	10.00%	1.60%
	Unimportant	Count	0	18	0	18
		Row %	0.00%	100.00%	0.00%	100.00%
		Col %	0.00%	6.60%	0.00%	5.70%
	Neutral	Count	11	92	6	109
		Row %	10.10%	84.40%	5.50%	100.00%
		Col %	33.30%	33.90%	60.00%	34.70%
	Important	Count	11	124	3	138
		Row %	8.00%	89.90%	2.20%	100.00%
		Col %	33.30%	45.80%	30.00%	43.90%
	Very important	Count	11	33	0	44
		Row %	25.00%	75.00%	0.00%	100.00%
		Col %	33.30%	12.20%	0.00%	14.00%
Total		Count	33	271	10	314
		Row %	10.50%	86.30%	3.20%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 179 – The importance of active vs. passive funds for higher returns

			Profile			Total
			EXPs	INIs	UNIs	
The choice of asset classes	Very unimportant	Count	0	2	1	3
		Row %	0.00%	66.70%	33.30%	100.00%
		Col %	0.00%	0.70%	11.10%	1.00%
	Unimportant	Count	0	10	0	10
		Row %	0.00%	100.00%	0.00%	100.00%
		Col %	0.00%	3.70%	0.00%	3.20%
	Neutral	Count	2	53	3	58
		Row %	3.40%	91.40%	5.20%	100.00%
		Col %	6.10%	19.40%	33.30%	18.40%
	Important	Count	9	131	4	144
		Row %	6.30%	91.00%	2.80%	100.00%
		Col %	27.30%	48.00%	44.40%	45.70%
	Very important	Count	22	77	1	100
		Row %	22.00%	77.00%	1.00%	100.00%
		Col %	66.70%	28.20%	11.10%	31.70%
Total		Count	33	273	9	315
		Row %	10.50%	86.70%	2.90%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 180 – The importance of the asset class choice for higher returns

			Profile			Total
			EXPs	INIs	UNIs	
The choice of products (shares, bonds, funds, etc.)	Very unimportant	Count	0	3	1	4
		Row %	0.00%	75.00%	25.00%	100.00%
		Col %	0.00%	1.10%	6.30%	1.20%
	Unimportant	Count	1	4	1	6
		Row %	16.70%	66.70%	16.70%	100.00%
		Col %	3.00%	1.40%	6.30%	1.80%
	Neutral	Count	2	38	3	43
		Row %	4.70%	88.40%	7.00%	100.00%
		Col %	6.10%	13.50%	18.80%	13.00%
	Important	Count	17	140	8	165
		Row %	10.30%	84.80%	4.80%	100.00%
		Col %	51.50%	49.60%	50.00%	49.80%
	Very important	Count	13	97	3	113
		Row %	11.50%	85.80%	2.70%	100.00%
		Col %	39.40%	34.40%	18.80%	34.10%
Total		Count	33	282	16	331
		Row %	10.00%	85.20%	4.80%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 181 – The importance of the product choice for higher returns

			Profile			Total
			EXPs	INIs	UNIs	
The current purchasing price	Very unimportant	Count	0	3	2	5
		Row %	0.00%	60.00%	40.00%	100.00%
		Col %	0.00%	1.10%	11.10%	1.50%
	Unimportant	Count	5	24	1	30
		Row %	16.70%	80.00%	3.30%	100.00%
		Col %	15.20%	8.50%	5.60%	9.00%
	Neutral	Count	9	51	3	63
		Row %	14.30%	81.00%	4.80%	100.00%
		Col %	27.30%	18.10%	16.70%	18.90%
	Important	Count	11	126	7	144
		Row %	7.60%	87.50%	4.90%	100.00%
		Col %	33.30%	44.70%	38.90%	43.20%
	Very important	Count	8	78	5	91
		Row %	8.80%	85.70%	5.50%	100.00%
		Col %	24.20%	27.70%	27.80%	27.30%
Total		Count	33	282	18	333
		Row %	9.90%	84.70%	5.40%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 182 – The importance of the current purchasing price for higher returns

			Profile			Total
			EXPs	INIs	UNIs	
The investment duration	Very unimportant	Count	0	1	1	2
		Row %	0.00%	50.00%	50.00%	100.00%
		Col %	0.00%	0.40%	5.60%	0.60%
	Unimportant	Count	2	8	0	10
		Row %	20.00%	80.00%	0.00%	100.00%
		Col %	6.10%	2.80%	0.00%	3.00%
	Neutral	Count	1	34	3	38
		Row %	2.60%	89.50%	7.90%	100.00%
		Col %	3.00%	12.00%	16.70%	11.40%
	Important	Count	13	138	11	162
		Row %	8.00%	85.20%	6.80%	100.00%
		Col %	39.40%	48.80%	61.10%	48.50%
	Very important	Count	17	102	3	122
		Row %	13.90%	83.60%	2.50%	100.00%
		Col %	51.50%	36.00%	16.70%	36.50%
Total		Count	33	283	18	334
		Row %	9.90%	84.70%	5.40%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 183 – The importance of the investment duration for higher returns

			Profile			Total
			EXPs	INIs	UNIs	
Total expense ratio (TER)	Very unimportant	Count	0	3	2	5
		Row %	0.00%	60.00%	40.00%	100.00%
		Col %	0.00%	1.10%	20.00%	1.60%
	Unimportant	Count	0	10	0	10
		Row %	0.00%	100.00%	0.00%	100.00%
		Col %	0.00%	3.70%	0.00%	3.20%
	Neutral	Count	3	61	3	67
		Row %	4.50%	91.00%	4.50%	100.00%
		Col %	9.40%	22.80%	30.00%	21.70%
	Important	Count	13	136	5	154
		Row %	8.40%	88.30%	3.20%	100.00%
		Col %	40.60%	50.90%	50.00%	49.80%
	Very important	Count	16	57	0	73
		Row %	21.90%	78.10%	0.00%	100.00%
		Col %	50.00%	21.30%	0.00%	23.60%
Total		Count	32	267	10	309
		Row %	10.40%	86.40%	3.20%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 184 – The importance of reducing TER for higher returns

			Profile			Total
			EXPs	INIs	UNIs	
Company is a Swiss company	Very unimportant	Count	1	16	1	18
		Row %	5.60%	88.90%	5.60%	100.00%
		Col %	3.00%	5.60%	3.30%	5.10%
	Unimportant	Count	7	63	4	74
		Row %	9.50%	85.10%	5.40%	100.00%
		Col %	21.20%	22.00%	13.30%	21.10%
	Neutral	Count	13	94	12	119
		Row %	10.90%	79.00%	10.10%	100.00%
		Col %	39.40%	32.80%	40.00%	34.00%
	Important	Count	11	83	12	106
		Row %	10.40%	78.30%	11.30%	100.00%
		Col %	33.30%	28.90%	40.00%	30.30%
	Very important	Count	1	31	1	33
		Row %	3.00%	93.90%	3.00%	100.00%
		Col %	3.00%	10.80%	3.30%	9.40%
Total		Count	33	287	30	350
		Row %	9.40%	82.00%	8.60%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 185 – The importance of a company being Swiss for the investment decision

			Profile			Total
			EXPs	INIs	UNIs	
Ethical aspects like sustainability or green investing	Very unimportant	Count	4	21	1	26
		Row %	15.40%	80.80%	3.80%	100.00%
		Col %	12.10%	7.30%	3.30%	7.40%
	Unimportant	Count	7	58	3	68
		Row %	10.30%	85.30%	4.40%	100.00%
		Col %	21.20%	20.20%	10.00%	19.40%
	Neutral	Count	17	106	8	131
		Row %	13.00%	80.90%	6.10%	100.00%
		Col %	51.50%	36.90%	26.70%	37.40%
	Important	Count	5	84	14	103
		Row %	4.90%	81.60%	13.60%	100.00%
		Col %	15.20%	29.30%	46.70%	29.40%
	Very important	Count	0	18	4	22
		Row %	0.00%	81.80%	18.20%	100.00%
		Col %	0.00%	6.30%	13.30%	6.30%
Total		Count	33	287	30	350
		Row %	9.40%	82.00%	8.60%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 186 – The importance of ethical aspects for the investment decision

			Profile			Total
			EXPs	INIs	UNIs	
Expected dividend rate	Very unimportant	Count	2	8	2	12
		Row %	16.70%	66.70%	16.70%	100.00%
		Col %	6.10%	2.80%	6.70%	3.40%
	Unimportant	Count	1	12	1	14
		Row %	7.10%	85.70%	7.10%	100.00%
		Col %	3.00%	4.20%	3.30%	4.00%
	Neutral	Count	10	73	8	91
		Row %	11.00%	80.20%	8.80%	100.00%
		Col %	30.30%	25.60%	26.70%	26.10%
	Important	Count	12	147	16	175
		Row %	6.90%	84.00%	9.10%	100.00%
		Col %	36.40%	51.60%	53.30%	50.30%
	Very important	Count	8	45	3	56
		Row %	14.30%	80.40%	5.40%	100.00%
		Col %	24.20%	15.80%	10.00%	16.10%
Total		Count	33	285	30	348
		Row %	9.50%	81.90%	8.60%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 187 – The importance of the expected dividend for the investment decision

	Profile			Total
		EXPs	INIs	UNIs	
My knowledge of the company	Very unimportant	Count	0	2	0	2
		Row %	0.00%	100.00%	0.00%	100.00%
		Col %	0.00%	0.70%	0.00%	0.60%
	Unimportant	Count	4	7	1	12
		Row %	33.30%	58.30%	8.30%	100.00%
		Col %	12.10%	2.50%	3.30%	3.40%
	Neutral	Count	2	40	7	49
		Row %	4.10%	81.60%	14.30%	100.00%
		Col %	6.10%	14.00%	23.30%	14.10%
	Important	Count	14	150	14	178
		Row %	7.90%	84.30%	7.90%	100.00%
		Col %	42.40%	52.60%	46.70%	51.10%
	Very important	Count	13	86	8	107
		Row %	12.10%	80.40%	7.50%	100.00%
		Col %	39.40%	30.20%	26.70%	30.70%
Total		Count	33	285	30	348
		Row %	9.50%	81.90%	8.60%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 188 – The importance of company knowledge for the investment decision

	Profile			Total
		EXPs	INIs	UNIs	
Past performance (proft/loss over years)	Very unimportant	Count	1	3	1	5
		Row %	20.00%	60.00%	20.00%	100.00%
		Col %	3.00%	1.00%	3.30%	1.40%
	Unimportant	Count	9	20	1	30
		Row %	30.00%	66.70%	3.30%	100.00%
		Col %	27.30%	7.00%	3.30%	8.60%
	Neutral	Count	6	56	3	65
		Row %	9.20%	86.20%	4.60%	100.00%
		Col %	18.20%	19.60%	10.00%	18.60%
	Important	Count	14	144	13	171
		Row %	8.20%	84.20%	7.60%	100.00%
		Col %	42.40%	50.30%	43.30%	49.00%
	Very important	Count	3	63	12	78
		Row %	3.80%	80.80%	15.40%	100.00%
		Col %	9.10%	22.00%	40.00%	22.30%
Total		Count	33	286	30	349
		Row %	9.50%	81.90%	8.60%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 189 – The importance of the past performance for the investment decision

			Profile			Total
			EXPs	INIs	UNIs	
hare/stock has a low P/E ratio	Very unimportant	Count	0	5	1	6
		Row %	0.00%	83.30%	16.70%	100.00%
		Col %	0.00%	1.80%	5.30%	1.90%
	Unimportant	Count	3	19	1	23
		Row %	13.00%	82.60%	4.30%	100.00%
		Col %	9.10%	7.00%	5.30%	7.10%
	Neutral	Count	10	120	13	143
		Row %	7.00%	83.90%	9.10%	100.00%
		Col %	30.30%	44.30%	68.40%	44.30%
	Important	Count	18	98	4	120
		Row %	15.00%	81.70%	3.30%	100.00%
		Col %	54.50%	36.20%	21.10%	37.20%
	Very important	Count	2	29	0	31
		Row %	6.50%	93.50%	0.00%	100.00%
		Col %	6.10%	10.70%	0.00%	9.60%
Total		Count	33	271	19	323
		Row %	10.20%	83.90%	5.90%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 190 – The importance of the P/E ratio for the investment decision

			Profile			Total
			EXPs	INIs	UNIs	
The industry the company is in	Very unimportant	Count	0	5	0	5
		Row %	0.00%	100.00%	0.00%	100.00%
		Col %	0.00%	1.80%	0.00%	1.40%
	Unimportant	Count	3	18	0	21
		Row %	14.30%	85.70%	0.00%	100.00%
		Col %	9.40%	6.30%	0.00%	6.10%
	Neutral	Count	8	36	7	51
		Row %	15.70%	70.60%	13.70%	100.00%
		Col %	25.00%	12.60%	24.10%	14.70%
	Important	Count	12	150	15	177
		Row %	6.80%	84.70%	8.50%	100.00%
		Col %	37.50%	52.60%	51.70%	51.20%
	Very important	Count	9	76	7	92
		Row %	9.80%	82.60%	7.60%	100.00%
		Col %	28.10%	26.70%	24.10%	26.60%
Total		Count	32	285	29	346
		Row %	9.20%	82.40%	8.40%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 191 – The importance of the company's industry for the investment decision

			Profile			Total
			EXPs	INIs	UNIs	
Product is an active managed fund	Very unimportant	Count	4	27	4	35
		Row %	11.40%	77.10%	11.40%	100.00%
		Col %	12.10%	10.00%	20.00%	10.80%
	Unimportant	Count	11	67	3	81
		Row %	13.60%	82.70%	3.70%	100.00%
		Col %	33.30%	24.80%	15.00%	25.10%
	Neutral	Count	6	103	11	120
		Row %	5.00%	85.80%	9.20%	100.00%
		Col %	18.20%	38.10%	55.00%	37.20%
	Important	Count	11	59	1	71
		Row %	15.50%	83.10%	1.40%	100.00%
		Col %	33.30%	21.90%	5.00%	22.00%
	Very important	Count	1	14	1	16
		Row %	6.30%	87.50%	6.30%	100.00%
		Col %	3.00%	5.20%	5.00%	5.00%
Total		Count	33	270	20	323
		Row %	10.20%	83.60%	6.20%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 192 – The importance of active funds for the investment decision

			Profile			Total
			EXPs	INIs	UNIs	
Product is an Index fund or an ETF	Very unimportant	Count	3	16	2	21
		Row %	14.30%	76.20%	9.50%	100.00%
		Col %	9.10%	5.90%	10.00%	6.50%
	Unimportant	Count	6	46	4	56
		Row %	10.70%	82.10%	7.10%	100.00%
		Col %	18.20%	16.90%	20.00%	17.20%
	Neutral	Count	8	122	11	141
		Row %	5.70%	86.50%	7.80%	100.00%
		Col %	24.20%	44.90%	55.00%	43.40%
	Important	Count	8	70	2	80
		Row %	10.00%	87.50%	2.50%	100.00%
		Col %	24.20%	25.70%	10.00%	24.60%
	Very important	Count	8	18	1	27
		Row %	29.60%	66.70%	3.70%	100.00%
		Col %	24.20%	6.60%	5.00%	8.30%
Total		Count	33	272	20	325
		Row %	10.20%	83.70%	6.20%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 193 – The importance of passive funds for the investment decision

			Profile			Total
			EXPs	INIs	UNIs	
The importance of active investing	Very poor	Count	1	7	1	9
		Row %	11.10%	77.80%	11.10%	100.00%
		Col %	3.10%	2.70%	9.10%	3.00%
	Poor	Count	6	40	0	46
		Row %	13.00%	87.00%	0.00%	100.00%
		Col %	18.80%	15.60%	0.00%	15.40%
	Satisfactory	Count	8	70	6	84
		Row %	9.50%	83.30%	7.10%	100.00%
		Col %	25.00%	27.30%	54.50%	28.10%
	Good	Count	12	119	4	135
		Row %	8.90%	88.10%	3.00%	100.00%
		Col %	37.50%	46.50%	36.40%	45.20%
	Excellent	Count	5	20	0	25
		Row %	20.00%	80.00%	0.00%	100.00%
		Col %	15.60%	7.80%	0.00%	8.40%
Total		Count	32	256	11	299
		Row %	10.70%	85.60%	3.70%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 194 – The importance of active investing as an investment strategy

			Profile			Total
			EXPs	INIs	UNIs	
The importance of asset allocation	Very poor	Count	1	4	1	6
		Row %	16.70%	66.70%	16.70%	100.00%
		Col %	3.00%	1.70%	33.30%	2.20%
	Poor	Count	0	8	0	8
		Row %	0.00%	100.00%	0.00%	100.00%
		Col %	0.00%	3.30%	0.00%	2.90%
	Satisfactory	Count	5	74	1	80
		Row %	6.30%	92.50%	1.30%	100.00%
		Col %	15.20%	31.00%	33.30%	29.10%
	Good	Count	9	116	1	126
		Row %	7.10%	92.10%	0.80%	100.00%
		Col %	27.30%	48.50%	33.30%	45.80%
	Excellent	Count	18	37	0	55
		Row %	32.70%	67.30%	0.00%	100.00%
		Col %	54.50%	15.50%	0.00%	20.00%
Total		Count	33	239	3	275
		Row %	12.00%	86.90%	1.10%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 195 – The importance of asset allocation as an investment strategy / application

			Profile			Total
			EXPs	INIs	UNIs	
The importance of buy and hold	Very poor	Count	0	3	1	4
		Row %	0.00%	75.00%	25.00%	100.00%
		Col %	0.00%	1.10%	9.10%	1.30%
	Poor	Count	5	28	2	35
		Row %	14.30%	80.00%	5.70%	100.00%
		Col %	14.70%	10.70%	18.20%	11.40%
	Satisfactory	Count	8	85	2	95
		Row %	8.40%	89.50%	2.10%	100.00%
		Col %	23.50%	32.60%	18.20%	31.00%
	Good	Count	16	126	6	148
		Row %	10.80%	85.10%	4.10%	100.00%
		Col %	47.10%	48.30%	54.50%	48.40%
	Excellent	Count	5	19	0	24
		Row %	20.80%	79.20%	0.00%	100.00%
		Col %	14.70%	7.30%	0.00%	7.80%
Total		Count	34	261	11	306
		Row %	11.10%	85.30%	3.60%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 196 – The importance of buy and hold as an investment strategy

			Profile			Total
			EXPs	INIs	UNIs	
The importance of dividend investing	Very poor	Count	1	3	1	5
		Row %	20.00%	60.00%	20.00%	100.00%
		Col %	2.90%	1.20%	8.30%	1.60%
	Poor	Count	3	21	0	24
		Row %	12.50%	87.50%	0.00%	100.00%
		Col %	8.80%	8.10%	0.00%	7.90%
	Satisfactory	Count	8	65	4	77
		Row %	10.40%	84.40%	5.20%	100.00%
		Col %	23.50%	25.10%	33.30%	25.20%
	Good	Count	16	129	7	152
		Row %	10.50%	84.90%	4.60%	100.00%
		Col %	47.10%	49.80%	58.30%	49.80%
	Excellent	Count	6	41	0	47
		Row %	12.80%	87.20%	0.00%	100.00%
		Col %	17.60%	15.80%	0.00%	15.40%
Total		Count	34	259	12	305
		Row %	11.10%	84.90%	3.90%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 197 – The importance of dividend investing as an investment strategy

| | | | Profile | | | Total |
			EXPs	INIs	UNIs	
The importance of fundamental analysis	Very poor	Count	0	4	1	5
		Row %	0.00%	80.00%	20.00%	100.00%
		Col %	0.00%	1.70%	20.00%	1.90%
	Poor	Count	2	20	0	22
		Row %	9.10%	90.90%	0.00%	100.00%
		Col %	5.90%	8.70%	0.00%	8.20%
	Satisfactory	Count	7	59	0	66
		Row %	10.60%	89.40%	0.00%	100.00%
		Col %	20.60%	25.80%	0.00%	24.60%
	Good	Count	16	115	4	135
		Row %	11.90%	85.20%	3.00%	100.00%
		Col %	47.10%	50.20%	80.00%	50.40%
	Excellent	Count	9	31	0	40
		Row %	22.50%	77.50%	0.00%	100.00%
		Col %	26.50%	13.50%	0.00%	14.90%
Total		Count	34	229	5	268
		Row %	12.70%	85.40%	1.90%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 198 – The importance of fundamental analysis as an investment strategy

| | | | Profile | | | Total |
			EXPs	INIs	UNIs	
The importance of growth investing	Very poor	Count	1	3	1	5
		Row %	20.00%	60.00%	20.00%	100.00%
		Col %	3.10%	1.20%	12.50%	1.80%
	Poor	Count	2	20	0	22
		Row %	9.10%	90.90%	0.00%	100.00%
		Col %	6.30%	8.30%	0.00%	7.80%
	Satisfactory	Count	8	72	1	81
		Row %	9.90%	88.90%	1.20%	100.00%
		Col %	25.00%	29.80%	12.50%	28.70%
	Good	Count	17	124	6	147
		Row %	11.60%	84.40%	4.10%	100.00%
		Col %	53.10%	51.20%	75.00%	52.10%
	Excellent	Count	4	23	0	27
		Row %	14.80%	85.20%	0.00%	100.00%
		Col %	12.50%	9.50%	0.00%	9.60%
Total		Count	32	242	8	282
		Row %	11.30%	85.80%	2.80%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 199 – The importance of growth investing as an investment strategy

			Profile			Total
			EXPs	INIs	UNIs	
The importance of passive investing	Very poor	Count	2	5	1	8
		Row %	25.00%	62.50%	12.50%	100.00%
		Col %	6.30%	2.10%	16.70%	2.90%
	Poor	Count	3	45	2	50
		Row %	6.00%	90.00%	4.00%	100.00%
		Col %	9.40%	18.70%	33.30%	17.90%
	Satisfactory	Count	10	88	2	100
		Row %	10.00%	88.00%	2.00%	100.00%
		Col %	31.30%	36.50%	33.30%	35.80%
	Good	Count	7	86	1	94
		Row %	7.40%	91.50%	1.10%	100.00%
		Col %	21.90%	35.70%	16.70%	33.70%
	Excellent	Count	10	17	0	27
		Row %	37.00%	63.00%	0.00%	100.00%
		Col %	31.30%	7.10%	0.00%	9.70%
Total		Count	32	241	6	279
		Row %	11.50%	86.40%	2.20%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 200 – The importance of passive investing as an investment strategy

			Profile			Total
			EXPs	INIs	UNIs	
The importance of stock picking	Very poor	Count	1	5	1	7
		Row %	14.30%	71.40%	14.30%	100.00%
		Col %	3.00%	1.90%	7.70%	2.20%
	Poor	Count	8	31	0	39
		Row %	20.50%	79.50%	0.00%	100.00%
		Col %	24.20%	11.60%	0.00%	12.40%
	Satisfactory	Count	10	64	2	76
		Row %	13.20%	84.20%	2.60%	100.00%
		Col %	30.30%	23.90%	15.40%	24.20%
	Good	Count	10	112	8	130
		Row %	7.70%	86.20%	6.20%	100.00%
		Col %	30.30%	41.80%	61.50%	41.40%
	Excellent	Count	4	56	2	62
		Row %	6.50%	90.30%	3.20%	100.00%
		Col %	12.10%	20.90%	15.40%	19.70%
Total		Count	33	268	13	314
		Row %	10.50%	85.40%	4.10%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 201 – The importance of stock picking as an investment strategy

			Profile			Total
			EXPs	INIs	UNIs	
The importance of technical analysis	Very poor	Count	7	14	1	22
		Row %	31.80%	63.60%	4.50%	100.00%
		Col %	21.20%	6.00%	20.00%	8.10%
	Poor	Count	8	57	0	65
		Row %	12.30%	87.70%	0.00%	100.00%
		Col %	24.20%	24.40%	0.00%	23.90%
	Satisfactory	Count	6	93	1	100
		Row %	6.00%	93.00%	1.00%	100.00%
		Col %	18.20%	39.70%	20.00%	36.80%
	Good	Count	10	53	2	65
		Row %	15.40%	81.50%	3.10%	100.00%
		Col %	30.30%	22.60%	40.00%	23.90%
	Excellent	Count	2	17	1	20
		Row %	10.00%	85.00%	5.00%	100.00%
		Col %	6.10%	7.30%	20.00%	7.40%
Total		Count	33	234	5	272
		Row %	12.10%	86.00%	1.80%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 202 – The importance of technical analysis as an investment strategy

			Profile			Total
			EXPs	INIs	UNIs	
The importance of value averaging	Very poor	Count	1	6	1	8
		Row %	12.50%	75.00%	12.50%	100.00%
		Col %	3.40%	3.40%	33.30%	3.80%
	Poor	Count	9	50	0	59
		Row %	15.30%	84.70%	0.00%	100.00%
		Col %	31.00%	27.90%	0.00%	28.00%
	Satisfactory	Count	9	96	2	107
		Row %	8.40%	89.70%	1.90%	100.00%
		Col %	31.00%	53.60%	66.70%	50.70%
	Good	Count	9	23	0	32
		Row %	28.10%	71.90%	0.00%	100.00%
		Col %	31.00%	12.80%	0.00%	15.20%
	Excellent	Count	1	4	0	5
		Row %	20.00%	80.00%	0.00%	100.00%
		Col %	3.40%	2.20%	0.00%	2.40%
Total		Count	29	179	3	211
		Row %	13.70%	84.80%	1.40%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 203 – The importance of value averaging as an investment strategy

			Profile			Total
			EXPs	INIs	UNIs	
The importance of value investing	Very poor	Count	0	3	1	4
		Row %	0.00%	75.00%	25.00%	100.00%
		Col %	0.00%	1.40%	20.00%	1.60%
	Poor	Count	3	20	0	23
		Row %	13.00%	87.00%	0.00%	100.00%
		Col %	8.80%	9.30%	0.00%	9.10%
	Satisfactory	Count	6	72	2	80
		Row %	7.50%	90.00%	2.50%	100.00%
		Col %	17.60%	33.50%	40.00%	31.50%
	Good	Count	17	91	2	110
		Row %	15.50%	82.70%	1.80%	100.00%
		Col %	50.00%	42.30%	40.00%	43.30%
	Excellent	Count	8	29	0	37
		Row %	21.60%	78.40%	0.00%	100.00%
		Col %	23.50%	13.50%	0.00%	14.60%
Total		Count	34	215	5	254
		Row %	13.40%	84.60%	2.00%	100.00%
		Col %	100.00%	100.00%	100.00%	100.00%

Table 204 – The importance of value investing as an investment strategy

10.4.   Online survey

Q2 ☑

What is your gender?

○ Male

○ Female

Q3 ☐

Indicate your age group?

○ 16 - 24	○ 35 - 44	○ 55 - 64	○ 75 and over
○ 25 - 34	○ 45 - 54	○ 65 - 74	

Q4 ☐

In which country do you reside?

Switzerland ▾

If **Switzerland** Is **Not Selected**, Then Skip To **What is the highest level of educatio...**   Skip Logic ▾

Q5 ☐

In which Swiss canton do you live?

○ Aargau	○ Graubünden	○ Solothurn
○ Appenzell Ausserhoden	○ Jura	○ Tessin
○ Appenzell Innerrhoden	○ Luzern	○ Thurgau
○ Basel-Land	○ Neuenburg	○ Uri
○ Basel-Stadt	○ Nidwalden	○ Wadt
○ Bern	○ Obwalden	○ Wallis
○ Freiburg	○ Schaffhausen	○ Zug
○ Genf	○ Schwyz	○ Zürich
○ Glarus	○ St. Gallen	

Q6 ☐

What is the highest level of education you have completed?

○ Compulsory school	○ Trade school incl. 'Maturität'	○ Swiss Federal Diploma (eidg. Dipl.)
○ Secondary school	○ Bachelor (BA/BS)	○ University/ETH//Masters
○ Trade school	○ University of Applied Science	○ Doctorate (PHD/DBA)

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Q7

Which qualification(s) do you hold?

- [ ] Chartered Financial Analyst (CFA)
- [ ] Certified Financial Planner (CFP)
- [ ] Master of Finance (or similar)
- [ ] Master of Investment Management (or similar)
- [ ] Professionally Qualified Accountant (e.g. CPA)
- [ ] None of the above

Q8

Indicate your annual income range in CHF or US$ (1 US$ = 1 CHF; total compensation incl. bonus).

- ◯ ≤ 60'000
- ◯ 60'001 - 80'000
- ◯ 80'001 - 100'000
- ◯ 100'001 - 120'000
- ◯ 120'001 - 140'000
- ◯ 140'001 - 160'000
- ◯ 160'001 - 180'000
- ◯ 180'001 - 200'000
- ◯ 200'001 - 220'000
- ◯ 220'001 - 240'000
- ◯ > 240'000

▼ RQ1 - How do intuitional investors' and private investors' knowledge and expertise affect their investment decisions?

Q9

How many years experience do you have investing in the stock market (buying/selling/holding shares, bonds, funds, etc.)?

None	1 - 3	3 - 6	6 - 10	10 - 15	15 - 20	> 20
◯	◯	◯	◯	◯	◯	◯

Q10

How do you rate your financial investment knowledge (Shares, bonds, funds, etc.)?

No knowledge	Basic knowledge	Average knowledge	Good knowledge	Excellent knowledge
◯	◯	◯	◯	◯

Q11

So far, I have gained money on the stock market.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree	I don't know
◯	◯	◯	◯	◯	◯

Q12

It happend more than once that I bought a product (shares, bonds, funds, etc.) because a friend or a family member has bought that product too.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree	I don't know
◯	◯	◯	◯	◯	◯

Q13

My increasing knowledge and expertise in financial investments (shares, bonds, funds, etc.) over the years, are influencing my investment decisions (stock/share market).

Strongly disagree	Disagree	Neutral	Agree	Strongly agree	I don't know
◯	◯	◯	◯	◯	◯

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Q14

Rate the following statements from 'Strongly disagree - to Strongly agree'.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	I don't know
I now pay more attention to diversification of my financial investments	○	○	○	○	○	○
I now rather invest for the short-time as the long-run is uncertain	○	○	○	○	○	○
I now rather invest in Single Stocks/Shares than in Funds	○	○	○	○	○	○
I now rather invest without letting emotions influencing my investment decisions	○	○	○	○	○	○
I changed my bank/Investment manager because I lost trust in them/him	○	○	○	○	○	○
I changed my bank/investment manager because they mostly invested my money into their own products/in products they earn more fees from	○	○	○	○	○	○

Q15

I can explain what the following investment products or terms are.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Asset class	○	○	○	○	○
Coupon	○	○	○	○	○
Futures	○	○	○	○	○
Options (calls/puts)	○	○	○	○	○
P/E Ratio	○	○	○	○	○
Rebalancing	○	○	○	○	○
Structured products	○	○	○	○	○

Q16

I can explain to someone what fees are incurred from buying/selling/holding the following.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Active managed funds	○	○	○	○	○
Passive managed funds	○	○	○	○	○
Shares/Stocks	○	○	○	○	○

Q17

I believe it is a good idea to invest in the following asset classes.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	I don't know
Cash	○	○	○	○	○	○
Commodities (Oil, Wheat, Sugar, Copper...)	○	○	○	○	○	○
Corporate bonds	○	○	○	○	○	○
Gold	○	○	○	○	○	○
Government bonds	○	○	○	○	○	○
Hedge funds	○	○	○	○	○	○
High yield bonds	○	○	○	○	○	○
Real estate (Funds)	○	○	○	○	○	○
Shares/stocks	○	○	○	○	○	○

Q18 ☐

I believe it is a good idea to invest in the following markets.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	I don't know
Australia / New Zealand	○	○	○	○	○	○
Emerging Markets (China, India, Brasil, etc.)	○	○	○	○	○	○
Europe in general	○	○	○	○	○	○
Germany	○	○	○	○	○	○
Switzerland	○	○	○	○	○	○
UK	○	○	○	○	○	○
USA	○	○	○	○	○	○

Q19 ☐

Would you rather invest in Active managed funds or in Passive managed funds (Index funds/ETFs)?

Active managed funds	Passive managed funds	I don't know
○	○	○

▼ 2 - What investment strategies are applied by institutional and private investors'

Q20 ☐

In terms of your financial investments (buying/holding/selling shares, bonds, funds, etc.), what risk profile describes you best?

○ I am a risk-averse investor whose main priority is safety

○ I am rather risk-averse but expect an attractive return on my investment

○ I am not risk averse nor am I a risk taker. I am happy if my amount of money stays the same

○ For higher potential returns I am willing to accept higher levels of risk

○ I am a risk taker but expect superior returns

○ I don't know

Q21 ☑

How long is your investment horizon?

○ < 1 year	○ 2 - 4 years	○ 7 - 10 years	○ > 15 years
○ 1 - 2 years	○ 4 - 7 years	○ 10 - 15 years	

Q22 ☐

How much of your savings is invested in shares, bonds, funds, etc.?

○ 10%	○ 40%	○ 70%	○ 100%
○ 20%	○ 50%	○ 80%	○ I don' know
○ 30%	○ 60%	○ 90%	

Q23

Who has ever developed a risk profile for you? (max 3 answers)

- ○ Nobody
- ○ I did it myself
- ○ A private bank
- ○ A retail bank
- ○ An asset management company
- ○ Other
- ○ I don' know

Q24

Rank the following investment strategies from 'Very poor' to 'Excellent' when their focus is on:

	Very poor	Poor	Satisfactory	Good	Excellent	I don't know
Active investing	○	○	○	○	○	○
Asset allocation	○	○	○	○	○	○
Buy and hold	○	○	○	○	○	○
Dividend investing	○	○	○	○	○	○
Fundamental analysis	○	○	○	○	○	○
Growth investing	○	○	○	○	○	○
Passive investing	○	○	○	○	○	○
Stock picking	○	○	○	○	○	○
Technical analysis	○	○	○	○	○	○
Value averaging	○	○	○	○	○	○
Value investing	○	○	○	○	○	○

⊙ RQ 3 - What investment criteria and decision-making processes are applied by institutionalprivate investors' (in terms

Q25

In how many products (shares, managed funds, bonds, ETFs, etc.) are you invested in? (e.g. 1 share, 1 ETF, 1 fund, etc. equals 1 product)

- ○ 1 - 3
- ○ 4 - 7
- ○ 8 - 11
- ○ 12 - 15
- ○ 16 - 20
- ○ > 20
- ○ I don' know

Q26

What is the annual return you expect on your financial investments?

- ○ 1 - 2%
- ○ 2 - 4%
- ○ 4 - 6%
- ○ 6 - 8%
- ○ 8 - 10%
- ○ 10 - 12%
- ○ 12 - 14%
- ○ 14 - 16%
- ○ 16 - 18%
- ○ 18 - 20%
- ○ 20 - 25%
- ○ 25 - 30%
- ○ > 30%
- ○ I don't know

Q27

What is your tolerance for loss in a bad year on the stock market (e.g. bear market year)?

- ○ 0%
- ○ 5%
- ○ 10%
- ○ 15%
- ○ 20%
- ○ 25%
- ○ 50%
- ○ > 50%
- ○ I don't know

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Q28

How do you usually make your investment decisions (buying/selling shares, bonds, funds, etc.)?

○ I decide myself without consulting anyone

○ I decide myself after discussions with friends or relatives

○ I decide myself after consulting with an investment advisor from my bank

○ The bank or asset manager decides for me

○ Other

Q29

A bank is managing my financial investments (Shares/bonds/funds, etc.). I would - given the quality and products are the same - change to an Online-Asset Manager if I could save 25% of the usual annual asset management fee.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	I don't know
○	○	○	○	○	○

If **Strongly Agree** Is Selected, Then Skip To **If you buy shares/stocks, bonds, fund...**   Skip Logic ▾   ✕

Q30

I would change to an Online-Asset Manager if I - given the quality and products are the same - could save 50% of the usual annual asset management fee.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree	I don't know
○	○	○	○	○	○

Q31

If you buy shares/stocks, bonds, funds, etc., how important for your decisions are the following criteria?

	Very unimportant	Unimportant	Neutral	Important	Very important	I don't know
Company is a Large-Cap (Large Enterprise)	○	○	○	○	○	○
Company is a Swiss company	○	○	○	○	○	○
Ethical aspects like sustainability or green investing	○	○	○	○	○	○
Expected dividend rate	○	○	○	○	○	○
My knowledge of the company	○	○	○	○	○	○
Past performance (proft/loss over years)	○	○	○	○	○	○
Product is an active managed fund	○	○	○	○	○	○
Product is an Index fund or an ETF	○	○	○	○	○	○
Share/stock has a low P/E ratio	○	○	○	○	○	○
The industry the company is in	○	○	○	○	○	○

Q32 ☐

This is the last question. In your opinion, how important are the following factors for an investor to achieve a performance (profit/gain) that is **higher and more sustainable** than the market average?

	Very unimportant	Unimportant	Neutral	Important	Very important	I don't know
Rebalancing (active portfolio management)	○	○	○	○	○	○
Reducing/eliminating Retrocessions (Kick-backs) to the bank/asset manager	○	○	○	○	○	○
Reinvesting dividends/coupons	○	○	○	○	○	○
The choice of active or passive managed funds	○	○	○	○	○	○
The choice of asset classes	○	○	○	○	○	○
The choice of products (shares, bonds, funds, etc.)	○	○	○	○	○	○
The choice of the bank holding your portfolio (share, type of bond, type of fund, etc.)	○	○	○	○	○	○
The current purchasing price	○	○	○	○	○	○
The duration of my investment	○	○	○	○	○	○
Total Expense Ratio (TER)	○	○	○	○	○	○
The financial institution issuing ETFs	○	○	○	○	○	○

Q33 ☐

Please provide your email address if you want to receive the results of this survey

10.5.   Survey results illustration

☐	R_7WJNKdoYEeSxjhj	62.240.192.35	IP Address
☐	R_4ZTf1LSQgBJADwF	212.203.83.135	IP Address
☐	R_cTHwCJx7vqM6gJv	87.236.200.91	IP Address
☐	R_8J2uKoJDHjWMpvL	217.193.169.218	IP Address
☐	R_7aJ3mjldLr1DmRL	62.12.201.87	IP Address
☐	R_dmL5PTrLC72upyB	217.193.153.58	IP Address
☐	R_eRq1v2KbjDbVZR3	62.12.201.87	IP Address
☐	R_1BILR9RHgFcV7vv	98.238.108.186	IP Address
☐	R_6DxENpDUgYboA8B	193.5.216.100	IP Address
☐	R_9mFTNgi5Jfu5Kbr	80.254.147.132	IP Address
☐	R_1FfwBVvjo4cVEuV	193.47.149.78	IP Address
☐	R_cFPW6zyNBeMNulf	178.194.143.152	IP Address
☐	R_eYaISOr7Z3RIOkB	217.110.101.138	IP Address
☐	R_djaFMCsvo7u4pyl	77.109.132.226	IP Address
☐	R_eV7CYvPhigfl03j	62.2.235.194	IP Address
☐	R_e34hgalkKlOjwfD	212.243.44.4	IP Address
☐	R_9vo6oetZ6e50pSd	217.8.209.1	IP Address
☐	R_difiJg2AOfQnFSR	212.243.221.4	IP Address
☐	R_23vCk8jVfuFwvY1	213.142.161.2	IP Address
☐	R_1LjkypBKXhu8uqh	194.116.180.250	IP Address
☐	R_esrGEd8ibRZlwu9	83.137.26.94	IP Address
☐	R_dgMpJO3hrqBnU6F	189.60.58.12	IP Address
☐	R_4H1YFWGT3VVaEBv	212.25.31.68	IP Address
☐	R_bvkujf1zDKfMujj	62.2.209.50	IP Address
☐	R_etX64nIJmy6Zy9D	194.113.77.201	IP Address
☐	R_2n1u5NKyEVNhXUN	195.234.38.91	IP Address
☐	R_0kdvlUe0s7UQgQZ	213.196.129.160	IP Address
☐	R_cwIJqxgrzIGl7Cd	193.135.132.186	IP Address
☐	R_4Ufv9YiDODfxpYx	80.153.7.240	IP Address
☐	R_djvlKHSVu8LmHK5	194.56.118.134	IP Address
☐	R_d4i6rvFHAfoHVCR		IP Address
☐	R_29MdjPTnvFOUIAJ	80.238.208.140	IP Address
☐	R_9nujuUxRWj9XJVX	194.204.70.3	IP Address
☐	R_eKveJxJqb1iXXy5	85.5.123.186	IP Address
☐	R_3yP0bIsvGJ3EEtv	178.82.149.75	IP Address

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10.6.   Profiling results 'Experts' illustration

Nr	EXP	Q1 Investor type	Q2 Gender	Q3 Age	Q4 Residence	Q6 Edcuation	Q7 Qualficiation
1	EXP	Institutional Investor	Male	35 - 44	Switzerland	University/ETH//Masters	Master of Finance (or similar)
2	EXP	Private Investor	Male	65 - 74	UK / GB	Doctorate (PHD/DBA)	Prof. Qual. Accountant (e.g. CPA)
3	EXP	Asset Manager	Male	25 - 34	Switzerland	University/ETH//Masters	None of the above
4	EXP	Asset Manager	Male	35 - 44	Switzerland	University/ETH//Masters	None of the above
5	EXP	Asset Manager	Female	35 - 44	Switzerland	University/ETH//Masters	Master of Investment Magmt
6	EXP	Institutional Investor	Male	45 - 54	Switzerland	University/ETH//Masters	Char. Financial Analyst (CFA)
7	EXP	Institutional Investor	Male	55 - 64	Switzerland	Doctorate (PHD/DBA)	None of the above
8	EXP	Asset Manager	Male	45 - 54	Germany	Secondary school	None of the above
9	EXP	Asset Manager	Male	45 - 54	Germany	Trade school incl. 'MaturitÌ_t'	Master of Finance (or similar)
10	EXP	Institutional Investor	Male	35 - 44	Switzerland	Swiss Federal Diploma (eidg. Dipl.)	None of the above
11	EXP	Asset Manager	Male	35 - 44	Switzerland	Swiss Federal Diploma (eidg. Dipl.)	None of the above
12	EXP	Asset Manager	Male	45 - 54	Switzerland	Trade school incl. 'MaturitÌ_t'	Master of Investment Magmt
13	EXP	Asset Manager	Male	35 - 44	Switzerland	Doctorate (PHD/DBA)	None of the above
14	EXP	Asset Manager	Male	25 - 34	Switzerland	University of Applied Science	None of the above
15	EXP	Private Investor	Male	45 - 54	Switzerland	University/ETH//Masters	None of the above
16	EXP	Private Investor	Male	35 - 44	Switzerland	University/ETH//Masters	Master of Finance (or similar)
17	EXP	Asset Manager	Male	25 - 34	Switzerland	University/ETH//Masters	Master of Finance (or similar)
18	EXP	Private Investor	Male	35 - 44	Switzerland	University/ETH//Masters	Char. Financial Analyst (CFA)
19	EXP	Asset Manager	Male	35 - 44	Switzerland	Bachelor (BA/BS)	Master of Investment Magmt
20	EXP	Asset Manager	Male	35 - 44	Switzerland	University/ETH//Masters	None of the above
21	EXP	Asset Manager	Male	25 - 34	Switzerland	Swiss Federal Diploma (eidg. Dipl.)	None of the above
22	EXP	Private Investor	Male	55 - 64	Switzerland	Trade school	Cert. Financial Planner (CFP)
23	EXP	Institutional Investor	Male	35 - 44	Germany	University/ETH//Masters	Char. Financial Analyst (CFA)
24	EXP	Private Investor	Male	45 - 54	Switzerland	University/ETH//Masters	None of the above
25	EXP	Private Investor	Male	45 - 54	Switzerland	University of Applied Science	Master of Finance (or similar)
26	EXP	Institutional Investor	Male	35 - 44	Switzerland	Swiss Federal Diploma (eidg. Dipl.)	Char. Financial Analyst (CFA)
27	EXP	Private Investor	Male	45 - 54	Switzerland	Doctorate (PHD/DBA)	None of the above
28	EXP	Asset Manager	Male	35 - 44	Switzerland	University of Applied Science	Char. Financial Analyst (CFA)
29	EXP	Private Investor	Male	45 - 54	Switzerland	University of Applied Science	None of the above
30	EXP	Asset Manager	Male	35 - 44	Switzerland	University/ETH//Masters	Master of Finance (or similar)
31	EXP	Institutional Investor	Female	25 - 34	Switzerland	University/ETH//Masters	Master of Finance (or similar)
32	EXP	Asset Manager	Male	35 - 44	Switzerland	University of Applied Science	None of the above
33	EXP	Institutional Investor	Male	45 - 54	Switzerland	University/ETH//Masters	Char. Financial Analyst (CFA)
34	EXP	Asset Manager	Male	35 - 44	Switzerland	University/ETH//Masters	None of the above
35	EXP	Asset Manager	Male	35 - 44	Switzerland	University/ETH//Masters	None of the above
36	EXP	Asset Manager	Male	35 - 44	Switzerland	Swiss Federal Diploma (eidg. Dipl.)	CFP and CPA
37	EXP	Institutional Investor	Male	35 - 44	Switzerland	University/ETH//Masters	Master of Finance (or similar)

Nr	Pro	Q8 Income	Q9 Experience	Q10 Self-rating	Q14_1 Knowledge diversification	Q14_2 Knowledge duration	Q14_3 Knowledge shares/funds
1	EXP	> 240'000	> 20	Excellent knowledge	Strongly agree	Agree	Disagree
2	EXP	200'001 - 220'000	> 20	Excellent knowledge	Strongly agree	Disagree	Strongly disagree
3	EXP	120'001 - 140'000	10 - 15	Excellent knowledge	Neutral	Agree	Strongly agree
4	EXP	> 240'000	15 - 20	Excellent knowledge	Neutral	Disagree	Agree
5	EXP	160'001 - 180'000	10 - 15	Excellent knowledge	Strongly agree	Agree	Agree
6	EXP	> 240'000	> 20	Excellent knowledge	Disagree	Agree	Disagree
7	EXP	> 240'000	> 20	Excellent knowledge	Strongly agree	Agree	Disagree
8	EXP	80'001 - 100'000	> 20	Excellent knowledge	Strongly agree	Stronlgy agree	Strongly agree
9	EXP	80'001 - 100'000	> 20	Excellent knowledge	Strongly agree	Disagree	Neutral
10	EXP	140'001 - 160'000	15 - 20	Excellent knowledge	Strongly agree	Stronlgy agree	Strongly disagree
11	EXP	200'001 - 220'000	15 - 20	Good knowledge	Agree	Agree	Agree
12	EXP	100'001 - 120'000	> 20	Excellent knowledge	Strongly agree	Disagree	Disagree
13	EXP	> 240'000	10 - 15	Good knowledge	Agree	Agree	Agree
14	EXP	140'001 - 160'000	10 - 15	Good knowledge	Agree	Agree	Neutral
15	EXP	180'001 - 200'000	> 20	Excellent knowledge	Strongly agree	Agree	Strongly agree
16	EXP	200'001 - 220'000	> 20	Excellent knowledge	Agree	Neutral	Agree
17	EXP	100'001 - 120'000	6 - 10	Excellent knowledge	Strongly agree	Disagree	Disagree
18	EXP	140'001 - 160'000	6 - 10	Excellent knowledge	Neutral	Stronlgy agree	Strongly agree
19	EXP	> 240'000	> 20	Excellent knowledge	Agree	Stronlgy agree	Strongly disagree
20	EXP	200'001 - 220'000	10 - 15	Excellent knowledge	Strongly agree	Disagree	Disagree
21	EXP	80'001 - 100'000	15 - 20	Excellent knowledge	Strongly disagree	Stronlgy agree	Strongly agree
22	EXP	180'001 - 200'000	> 20	Good knowledge	Strongly agree	Neutral	Agree
23	EXP	> 240'000	15 - 20	Excellent knowledge	Strongly agree	Disagree	Strongly disagree
24	EXP	> 240'000	15 - 20	Excellent knowledge	Neutral	Agree	Strongly agree
25	EXP	140'001 - 160'000	> 20	Good knowledge	Agree	Agree	Strongly agree
26	EXP	200'001 - 220'000	> 20	Excellent knowledge	Agree	Stronlgy agree	Neutral
27	EXP	> 240'000	> 20	Good knowledge	Strongly agree	Stronlgy agree	Neutral
28	EXP	> 240'000	> 20	Excellent knowledge	Strongly agree	Agree	Disagree
29	EXP	200'001 - 220'000	10 - 15	Good knowledge	Agree	Agree	Disagree
30	EXP	180'001 - 200'000	10 - 15	Excellent knowledge	Strongly agree	Stronlgy agree	Strongly disagree
31	EXP	160'001 - 180'000	10 - 15	Good knowledge	Agree	Agree	Strongly disagree
32	EXP	140'001 - 160'000	10 - 15	Excellent knowledge	Strongly agree	Agree	Strongly disagree
33	EXP	> 240'000	> 20	Excellent knowledge	Neutral	Neutral	Agree
34	EXP	160'001 - 180'000	6 - 10	Excellent knowledge	Neutral	Agree	Strongly disagree
35	EXP	60'001 - 80'000	6 - 10	Good knowledge	Strongly agree	Agree	Strongly disagree
36	EXP	> 240'000	15 - 20	Excellent knowledge	Disagree	Agree	Disagree
37	EXP	200'001 - 220'000	10 - 15	Excellent knowledge	Agree	Neutral	Disagree

Nr	Pro	Q14_4 Knowledge emotions	Q17_1 Knowledge cash	Q17_2 Knowledge commod.	Q17_3 Knowledge corp. bonds	Q17_4 Knowledge gold	Q17_5 Knowledge gov. bonds
Nr	EXP	Knowledge emotions	Knowledge cash	Knowledge commod.	Knowledge corp. bonds	Knowledge gold	Knowledge gov. bonds
1	EXP	Strongly agree	Agree	Neutral	I don't know	Neutral	Agree
2	EXP	Strongly agree	Strongly agree	Disagree	Agree	Disagree	Neutral
3	EXP	Agree	I don't know	Disagree	Neutral	Agree	Strongly disagree
4	EXP	Neutral	Strongly agree	Strongly disagree	Strongly agree	Strongly disagree	Strongly agree
5	EXP	Strongly agree	Strongly agree	Neutral	Strongly agree	Strongly agree	Neutral
6	EXP	Agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
7	EXP	Agree	Strongly disagree	Neutral	Strongly agree	Disagree	Strongly agree
8	EXP	Strongly agree	Disagree	Disagree	Strongly agree	Strongly agree	Neutral
9	EXP	Agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
10	EXP	Agree	Disagree	Neutral	Strongly agree	Strongly disagree	Agree
11	EXP	Agree	Agree	Agree	Neutral		Strongly disagree
12	EXP	Agree	Agree	Strongly agree	Agree	Agree	Strongly disagree
13	EXP	Agree	Neutral	Neutral	Agree	Agree	Disagree
14	EXP	Agree	Disagree	Agree	Agree	Agree	Neutral
15	EXP	Agree	Agree	Agree	Agree	Agree	Disagree
16	EXP	Strongly agree	Strongly agree	Agree	Agree	Neutral	Disagree
17	EXP	Neutral	Neutral	Agree	Agree	Disagree	Agree
18	EXP	Strongly agree	Neutral	Disagree	Neutral	Disagree	Neutral
19	EXP	Agree	Neutral	Strongly disagree	Strongly agree	Strongly disagree	Neutral
20	EXP	Agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
21	EXP	Agree	Neutral	Agree	Agree	Agree	Strongly disagree
22	EXP	Strongly agree	Agree	Strongly agree	Neutral	Agree	Neutral
23	EXP	Agree	Strongly disagree	Neutral	Strongly agree	Neutral	Strongly agree
24	EXP	Neutral	Agree	Agree	Neutral	Neutral	Neutral
25	EXP	Agree	Strongly agree		Neutral	Strongly agree	Disagree
26	EXP	Neutral	Neutral	Agree	Agree	Agree	Disagree
27	EXP	Agree	Neutral	Agree	Agree	Disagree	Neutral
28	EXP	Agree	Neutral	Agree	Agree	Neutral	Disagree
29	EXP	Agree	Disagree	Agree	Agree	Agree	Agree
30	EXP	Strongly disagree	Strongly disagree	Agree	Agree	Strongly agree	Strongly agree
31	EXP	Strongly agree	Agree	Agree	Disagree	Disagree	Neutral
32	EXP	Strongly agree	Strongly disagree	Neutral	Disagree	Neutral	Agree
33	EXP	Neutral	Strongly agree	Agree	Strongly agree	Neutral	Agree
34	EXP	Strongly agree	Disagree	Agree	Agree	Agree	Disagree
35	EXP	Strongly agree	I don't know	I don't know	I don't know	I don't know	I don't know
36	EXP	Disagree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Disagree
37	EXP	Neutral	Neutral	Neutral	Strongly agree	Neutral	Strongly disagree

Nr	Pro	Q17_6 Knowledge hedge fund	Q17_7 Knowledge h. y. bonds	Q17_8 Knowledge real estate	Q17_9 Knowledge shares	Q18_1 Australia / NZ markets	Q18_2 Emerging Markets
	EXP						
1	EXP	Knowledge	I don't know	I don't know	I don't know	Agree	Strongly agree
2	EXP	Strongly disagree	Disagree	Agree	Strongly agree	Agree	Agree
3	EXP	Strongly disagree	Neutral	Strongly disagree	Strongly agree	Neutral	Strongly agree
4	EXP	Strongly disagree	Strongly agree	Neutral	Strongly agree	Neutral	Neutral
5	EXP	Neutral	Strongly agree	Strongly disagree	Strongly agree	Agree	Strongly agree
6	EXP	Disagree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
7	EXP	Disagree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
8	EXP	Neutral	Neutral	Neutral	Strongly agree	Strongly agree	Strongly agree
9	EXP	I don't know	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
10	EXP	Strongly disagree	Agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree
11	EXP	Agree		Neutral	Strongly agree	Agree	Neutral
12	EXP	Agree	Disagree	Neutral	Disagree	Disagree	Agree
13	EXP	Agree	Strongly agree	Agree	Strongly agree	Agree	Strongly agree
14	EXP	Agree	Strongly agree	Strongly agree	Strongly agree	Neutral	Strongly agree
15	EXP	Neutral	Disagree	Agree	Agree	Agree	Agree
16	EXP	Agree	Agree	Agree	Strongly agree	Neutral	Agree
17	EXP	Disagree	Disagree	Agree	Strongly agree	Neutral	Agree
18	EXP	Strongly disagree	Neutral	Neutral	Strongly agree	Disagree	Neutral
19	EXP	Disagree	Strongly agree	Strongly agree	Agree	Strongly disagree	Strongly agree
20	EXP	Agree	Strongly agree	Strongly agree	Strongly agree	Agree	Strongly agree
21	EXP	Strongly disagree	Strongly agree	Agree	Strongly agree	Agree	Agree
22	EXP	Agree	Neutral	Neutral	Strongly agree	Agree	Agree
23	EXP	Strongly agree	Strongly agree	Disagree	Strongly agree	Strongly agree	Strongly agree
24	EXP	Neutral	Neutral	Neutral	Agree	Agree	Agree
25	EXP	Strongly disagree	Strongly disagree	Strongly disagree	Strongly agree	Neutral	Agree
26	EXP	Disagree	Agree	Agree	Strongly agree	Agree	Strongly agree
27	EXP	Disagree	Neutral	Disagree	Strongly agree	I don't know	Agree
28	EXP		Agree		Strongly agree	Neutral	Strongly agree
29	EXP	Agree	Agree	Agree	Agree	Neutral	Agree
30	EXP	Strongly disagree	Strongly disagree	Strongly agree	Strongly agree	Disagree	Strongly agree
31	EXP	Neutral	Disagree	Neutral	Agree	Neutral	Neutral
32	EXP	Disagree	Disagree	Agree	Strongly agree	Strongly agree	Strongly agree
33	EXP	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Neutral	Strongly agree
34	EXP	Strongly agree	Agree	Agree	Agree	I don't know	I don't know
35	EXP	I don't know	I don't know	I don't know	I don't know	I don't know	I don't know
36	EXP	Strongly agree	Strongly agree	Neutral	Strongly agree	Neutral	Strongly agree
37	EXP	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Neutral	Agree

Nr	Pro	Q18_3 Europe market	Q18_4 German market	Q18_6 Switzerland market	Q18_7 UK market	Q18_8 US market	Q19 Active vs. Passive
1	EXP	Agree	Strongly agree	Strongly agree	Agree	Agree	Active managed funds
2	EXP	Agree	Agree	Agree	Agree	Agree	Passive managed funds
3	EXP	Agree	Strongly agree	Strongly agree	Agree	Agree	I don't know
4	EXP	Neutral	Neutral	Neutral	Neutral	Strongly agree	Passive managed funds
5	EXP	Neutral	Strongly agree	Strongly agree	Neutral	Strongly agree	Passive managed funds
6	EXP	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Passive managed funds
7	EXP	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Passive managed funds
8	EXP	Agree	Strongly agree	Agree	Agree	Agree	Active managed funds
9	EXP	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Active managed funds
10	EXP	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Passive managed funds
11	EXP	Agree	Agree	Strongly agree	Neutral	Strongly agree	Active managed funds
12	EXP	Disagree	Strongly agree	Strongly agree	Disagree	Agree	Active managed funds
13	EXP	Agree	Neutral	Neutral	Neutral	Agree	Active managed funds
14	EXP	Agree	Agree	Agree	Agree	Agree	Active managed funds
15	EXP	Agree	Agree	Agree	Disagree	Neutral	Passive managed funds
16	EXP	Neutral	Agree	Strongly agree	Agree	Agree	Passive managed funds
17	EXP	Neutral	Strongly agree	Strongly agree	Disagree	Strongly agree	Passive managed funds
18	EXP	Neutral	Strongly agree	Agree	Neutral	Strongly agree	Passive managed funds
19	EXP	Agree	Neutral	Agree	Neutral	Neutral	Active managed funds
20	EXP	Agree	Agree	Agree	Agree	Agree	Passive managed funds
21	EXP	Agree	Agree	Agree	Agree	Agree	Passive managed funds
22	EXP	Agree	Agree	Agree	Neutral	Agree	Active managed funds
23	EXP	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Passive managed funds
24	EXP	Disagree	Neutral	Agree	Neutral	Neutral	I don't know
25	EXP	Neutral	Strongly agree	Strongly agree	Neutral	Strongly agree	Passive managed funds
26	EXP	Agree	Agree	Agree	Neutral	Agree	Active managed funds
27	EXP	Agree	Neutral	Neutral	Disagree	Agree	Passive managed funds
28	EXP	Neutral		Agree	Neutral	Agree	Active managed funds
29	EXP	Agree	Neutral	Agree	Neutral	Agree	Passive managed funds
30	EXP	Strongly agree	Agree	Agree	Agree	Strongly agree	Passive managed funds
31	EXP	Neutral	Neutral	Neutral	Neutral	Neutral	I don't know
32	EXP	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Passive managed funds
33	EXP	Strongly agree	Strongly agree	Strongly agree	Strongly agree	Strongly agree	I don't know
34	EXP	I don't know	I don't know	I don't know	I don't know	I don't know	Passive managed funds
35	EXP	I don't know	I don't know	I don't know	I don't know	I don't know	Passive managed funds
36	EXP	Agree	Agree	Agree	Agree	Agree	Passive managed funds
37	EXP	Agree	Strongly agree	Strongly agree	Agree	Strongly agree	I don't know

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