

# A Woman's Investment pays the Best Interest:

Literature-based Dissertation on Gender  
Difference in Investing in Emerging  
Markets

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Research dissertation presented for the approval of the University of Cape Town Senate in part fulfilment of the requirements for the degree of Master of Commerce specialising in Finance (in the field of Financial Management) in approved courses and a minor dissertation. The other part of the requirement for this qualification was the completion of a programme of courses.

I hereby declare that I have read and understood the regulations governing the submission of Master of Commerce dissertations, including those relating to length and plagiarism, as contained in the rules of the University, and that this dissertation conforms to those regulations.

**Johannesburg  
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## Abstract

Gender differences in investing is an expanding research area in Behavioural Finance. Research has shown that males and females behave differently in many of their decision-making processes, but this dissertation will focus mainly on the differences in investing behaviours. Because males are generally overconfident and more likely to take risks, they partake more often in competitive types of activities such as trading. Because men overtrade, they incur friction costs which lowers their return. Thus research has shown that, on a risk-adjusted basis, females are better investors than males.

This study, based on the findings of Willows (2012), is a literature-based dissertation that investigates gender differences among mutual fund investors and mutual fund managers, as well as the gender differences in mutual fund investors in both developed markets and emerging markets.

This dissertation found no significant difference in fund performance based on the manager's or the investor's gender based on market context. However, research is currently very limited in terms of investor behaviour along gender lines in an emerging market such as South African. This dissertation's aim is to set the theoretical basis for a fuller empirical exploration of gender differences in emerging markets.

# Contents

Abstract .....	1
Chapter 1: Introduction.....	5
Chapter 2: Literature Review .....	7
2.1 Introduction .....	7
2.2 What is behavioural finance and how does gender play a role?.....	8
2.3 Overtrading.....	8
2.4 Overconfidence .....	10
2.5 Better than average effect.....	13
2.6 Marital Status .....	14
2.7 Optimism .....	14
2.8 Risk tolerance .....	15
2.9 Conclusion .....	19
Chapter 3: Method.....	20
3.1 Introduction .....	20
3.2 <i>She's Built For It</i> : The Research Questions .....	20
3.3 Research Approach.....	21
3.4 Research Method .....	22
3.4.1 Theme-based Reviews .....	22
3.4.2 Mapping Review/Systematic Map .....	23
3.4.3 Rapid Review.....	23
3.4.4 Systemised Review .....	24
3.4.5 The Current Approach.....	24
3.5 Research Process .....	24
3.6 Ethics.....	27
3.7 Limitations and Risks .....	27
3.8 Conclusion .....	27

Chapter 4: Mutual Fund Investing.....	28
4.1 Introduction.....	28
4.2 Definitions.....	28
4.3 Growth in the Industry .....	29
4.4 Behavioural Biases.....	32
4.5 Conclusions.....	33
 Chapter 5: Gender Differences in Mutual Fund Managers and Investors .....	 34
5.1 Introduction.....	34
5.2 Gender in a Professional Setting .....	34
5.3 Gender, Mutual Fund Managers and Investors.....	35
5.4 “Sex Matters: Gender Differences in a professional setting” .....	35
5.4.1 Findings .....	35
5.4.2 Reasons for findings.....	36
5.5 “Fund-Management Gender Composition: The Impact on Risk and Performance of Mutual Funds and Hedge Funds” .....	37
5.5.1 Findings .....	37
5.5.2 Reasons for findings.....	37
5.6 “Is Manager Gender Important in the Performance of Mutual Funds?” and “Do Female Fund Managers Manage Differently?” The Exception to the Rule: Subsamples of Professional Investors .....	38
5.6.1 Findings .....	38
5.6.2 Reason for findings.....	38
5.7 “Are Some Mutual Fund Managers Better than Others? Cross-Sectional Patterns in Behaviour and Performance” .....	39
5.7.1 Findings .....	39
5.7.2 Reason for findings.....	39
5.8 Lay Investors.....	40
5.8.1 Findings .....	40
5.8.2 Reason for findings.....	40
5.9 “Gender Differences in Revealed Risk Taking: Evidence from Mutual Fund Investors” .....	41
5.9.1 Findings .....	41

5.9.2	Reason for findings.....	41
5.10	Conclusions.....	41
Chapter 6:	Gender Differences in Mutual Fund Investors in Emerging and Developed Markets.....	43
6.1	Introduction.....	43
6.2	Characteristics of Emerging and Developed Markets.....	43
6.3	Funds in Emerging and Developed Markets.....	44
6.4	Behavioural Finance in Emerging and Developed Markets.....	46
6.5	Investors in Emerging and Developed Markets.....	48
6.6	Conclusion.....	49
Chapter 7:	Conclusion.....	51
7.1	Summation of Findings.....	51
7.2	Areas for Future Research.....	52
7.3	Limitations and Points to Note.....	53
Appendices.....		54
Bibliography.....		56

## Chapter 1

### Introduction

Women are better investors than men.

The above statement was proven in two publications pertinent to the motivation behind this literature-based dissertation – namely, “Boys will be Boys” (Barber & Odean, 2001) and *She’s Built for It* (Willows, 2012).

Gender difference in investing is an ever expanding sub-section in the Behavioural Finance field of research. Empirical studies, such as the two mentioned above, have been conducted on how males and females behave differently when it comes to their financial and investment decisions. Willows (2012) and Barber & Odean (2001) suggest that the reasons for these differences are linked to overconfidence and varying risk tolerance levels. Most studies on gender difference in investing have focused on the lay investor, the so-called “ordinary man on the street”. However, some studies have looked at professional investors such as fund managers (Atkinson, Baird & Frye, 2003; Niessen & Ruenzi, 2007; Beckmann & Menkhoff, 2008). The reason for looking at professional investors is to investigate if the gender differences found in lay investors are similar to those operating among professional investors.

A common contextual aspect of studies on gender difference in investing is that they occur predominantly in a developed market. The extent to which parallel studies have been conducted in emerging markets, and more specifically in South Africa, is far more limited. Thus this paper will investigate two research questions:

1. Are there gender differences among mutual fund investors that are different to those found in mutual fund managers?

2. Are there gender differences found in mutual fund investors in developed markets that are different to the gender differences found in mutual fund investors in emerging markets?

This dissertation is structured as a literature-based study. It will look at three main thematic points, and systematically analyses the research findings under those three research umbrellas in an attempt to answer the research questions. Following this Introduction, Chapter 2 introduces the main themes and then thoroughly analyses the past literature on gender difference in investing that was reviewed in terms of those themes. In Chapter 3, the research questions will be discussed in more depth. The research questions were derived from the combined deductions of both Willows' (2012) and Barber and Odean's (2001) studies, and it is from these studies that the three main themes were chosen. Chapter 3 also includes a review of the most applicable research methods to use in a literature-based dissertation.

The next three chapters will then delve individually into each theme –mutual fund investing (Chapter 4), gender differences in investors and managers (Chapter 5) and mutual fund investing in emerging and developed markets (Chapter 6). Each chapter contain tables summarising the key findings of the papers that were reviewed, and concludes with the author's conclusions regarding the findings.

Chapter 7 comprises an overall conclusion to the dissertation, and also looks to pave the way for future areas of research.

The value of this dissertation lies in the fact that it provides a solid and rigorous literature background for future empirical studies in gender difference in investing. This paper is unique in that it looks at niche research areas that have not yet been investigation, namely, gender difference in mutual fund investing in an emerging and developed market context.

## Chapter 2

### Literature Review

#### 2.1 Introduction

A.S. Wood (1989), a money manager, describes three aspects that make money managers consistently poor at their profession:

1. Their feelings overcome their reason.
2. They take shortcuts that violate logic.
3. They do not learn or want to learn from past experience.

Wood's article reflects the focus of this dissertation— behavioural finance.

Behavioural finance first became an area of research interest after the publishing of Kahneman and Tversky's (1979) paper on Prospect Theory, which explained that even though investors are expected to be rational, in reality their actions are framed by many biases; this was later confirmed by Ricciardi and Simon (2000).

At the beginning of this literature review, I will look into some of these biases. Certain researchers (Powell & Ansic, 1997; Barber & Odean, 2001; Olsen & Cox, 2001; Niessen & Ruenzi, 2007; Willows, 2012) have found that investors tend to be overconfident and this can lead to overtrading. They have also discovered that gender plays a role in how males and females invest.

I will then move on to discuss the publication by Willows (2012) called *She's Built for It: Differential Investment Performance in South Africa based on Gender*. It is the findings of this study and the discovery of three main themes that are the foundation for this dissertation. My study will review literature that falls under these themes and provide a theoretical base for further research in this field.

## 2.2 What is behavioural finance and how does gender play a role?

“Behavioural finance attempts to explain and increase understanding of the reasoning patterns of investors, including the emotional processes involved and the degree to which they influence the decision-making process” (Ricciardi & Simon, 2000 p. 2).

Before the 1990s standard finance theory was dominant in the field of finance and investment. In 1952 Harry Markowitz published a paper called *Portfolio Selection*, which introduced the now widely accepted Modern Portfolio Theory (MPT). MPT provides a framework that allows investors to select and construct a portfolio of securities based on the expected returns of those securities and the risk tolerance of the investor (Fabozzi, Gupta & Markowitz, 2002). This theory was predicated on the Efficient Market Hypothesis (EMH) which assumes that all investors are rational and that they make decisions based on the trade-off between costs and benefits, weighted by statistically correct probabilities and marginal utilities (Lo 2005).

Kahneman and Tversky's (1979) Prospect Theory is built on the premise that investors do not act rationally. When investors are under uncertain investment conditions they behave with certain biases. Each decision is then assigned a weighting which is usually not consistent with its probability (Ricciardi & Simon 2000).

One of the biases that has become apparent through the research in this field is gender bias. Some researchers have found that males and females behave, trade and invest differently. Not only is there a difference in their trading patterns, but it seems that males tend to trade more than females (Barber & Odean, 2001; Niessen & Ruenzi, 2007; Willows, 2012).

## 2.3 Overtrading

The question of whether investors trade too much was asked by Odean (2009), who noticed that on the New York Stock Exchange (NYSE) the average annual turnover rate was then over 75%. Odean (2009) subsequently tested if a group working in the market (discount brokerage accounts) were overtrading. He sampled 10 000 investors at a discount brokerage house over the period January 1987 to December 1993, and statistically tested

their trades. The results showed that the securities bought underperformed the securities sold. In effect these investors were selling winners and buying losers. This negative performance was compounded by the fact that transaction costs (6% on average) were incurred on every trade. In fact, over a one-year time horizon the average return on a bought security was 3.3% lower than the equivalent on a sold security (Odean, 2009). The results of Odean's study show the effects of investor overconfidence.

If investors are rational, they should understand that the more they trade, the more transaction costs they will incur. These increased transaction costs will consequently decrease their return. Therefore, a rational investor should not overtrade, or rather should only trade when the return on the trade is in excess of the cost. Grinblatt and Keloharju (2001) attempted to understand the intentions behind investors' trading decisions. They hypothesized that overtrading could be rooted in an investor's rational need to rebalance their portfolio or could come from behavioural biases such as momentum, loss aversion, contrarian investing and overconfidence. The findings did prove the existence of behavioural bias elements, in that investors were found *inter alia* to be reluctant to realise their losses – that is, they showed loss aversion Grinblatt and Keloharju (2001).

Studies by Barber and Odean (2001), Niessen and Ruenzi (2007) and Powell and Ansic (1997) have found that overtrading has a gender dimension.

Barber and Odean (2001) found that men traded 45% more than women. Close to 80 000 American households' brokerage accounts were statistically tested for evidence of overtrading, from February 1991 to January 1997. The dataset included information on age, marital status, presence of children and household income; it is possible that a factor other than gender could be the cause of overtrading, but further research would be required to establish that.

Niessen and Ruenzi (2007) had similar findings. Their study was done on the US mutual fund industry using the Centre for Research in Security Prices (CRSP) Survivor Bias Free Mutual Fund Database. The focus was on open-end funds that invested more than 50% of their assets in stocks. The study spanned ten years, from January 1994 to December 2003. Niessen and Ruenzi (2007) found that female fund managers traded less than their male

counterparts. This was measured through the funds' turnover ratio. Females were found to have an 8% lower turnover ratio than males. This number differs significantly from that given by Barber and Odean (2001), but Niessen and Ruenzi (2007) explain this by stating that the professional setting of their study mitigated some of the overtrading risk. This would be due to the fact that both genders had comparable education levels and work experience.

More recent South African literature supports the evidence of overtrading. Willows (2012) discovered that not only does overtrading exist but that men trade more than women (based on the maximum number of switches – 84 (Males) vs. 68 (Females) times over the period 1 January 2001 to 31 December 2011). Willows' (2012) data was collected from a South African investment house which included over 19 000 investor returns from 1 January 2007 to 31 December 2011.

## 2.4 Overconfidence

Fischhoff, Slovic and Lichtenstein (1977) conducted one of the first studies to determine overconfidence. Respondents were asked general knowledge questions; if they did not know the answers, they were asked to give a definite answer anyway. With each answer the respondents were asked to assign a level of confidence from 0% to 100% reflecting how confident they were in the correctness of their answer. The study found attributes of overconfidence across all subjects, both male and female. An apt quote from Wood (1989 p.5) that supports the above findings is: "Most of us think we know more than we do or at least pretend with certainty we don't possess."

One of the reasons for the presence of overconfidence is the self-attribution bias (Deaves, Luders & Luo, 2008)– that is, the tendency to ascribe success to personal effort and failure to external forces. This bias manifests in both males and females, although when both genders have the same or comparable education and experience levels, males tend to attribute their successes to their own skill and know-how whereas females tend to attribute theirs to luck (Powell & Ansic, 1997). Powell and Ansic (1997) conducted a computerised experiment to test a business school's students on their financial decision-making ability. The experiment was a two-pronged approach which on the one hand tested the type of

insurance cover the participant would chose and on the other hand a currency experiment which tested decisions on whether or not to enter a currency market. In the currency experiment, it was found that males tended to overvalue their current positions and females to undervalue them because the females were less confident than the males (Powell & Ansic 1997). What seems to add to the overconfidence problem is investors' inability to learn from past mistakes or their failure to remember them (Ricciardi & Simon 2000).

The self-attribution bias manifests in what Gervais and Odean (2001) believe to be the nature of overconfidence in traders. Their research found that overconfidence is a dynamic trait, and that it waxes and wanes over the span of an investor's trading life. In the early stages of their careers investors are most overconfident. However, as they learn more about the market and experience a number of successes and failures they develop a more realistic view of their abilities. Therefore overconfidence was found to be most prominent in short-term investors (Gervais and Odean, 2001).

Similarly, a study by Lundeberg, Fox and Puncochaf (1994), conducted at a college within the context of an actual psychology course, found that females tended to have a greater understanding of their incorrectness than males and that undergraduate male students showed the highest degree of overconfidence, even when they were wrong. The study gathered data from three psychology courses at college level; 73 males and 181 females participated. During a pre-test and a final exam, students were asked to rate their confidence in their answers on a scale from 1 (pure guess) to 5 (very certain). The key finding was that confidence was dependant of whether the subject was correct or incorrect, and what domain was being tested. In areas such as mathematics males were more confident than females, but no difference was found in areas like learning, memory and experimental design (Lundeberg, Fox & Puncochaf, 1994).

It is important to note that this paper does not purport that females have no confidence, but that males are more confident than females. Niederle and Vesterlund (2007) believe that male's overconfidence means they are more likely to participate in competitive tournament-style arenas. They conducted a laboratory experiment at the University of Pittsburgh, in which participants were asked to solve a real task under two conditions – a

non-competitive piece rate scheme (which rewarded the participant for each correct problem solved) and a competitive tournament scheme. Subsequently, participants were asked to select which of the two schemes they would choose for the next performance. Nearly three-quarters (73%) of males chose the tournament style, while only 35% of females made the same choice. It would seem that males are attracted to competitive environments whereas females shy away from it.

“An over confident investor overestimates the precision of HIS information and thereby the expected gains of gains of trading” (Barber & Odean, 2001: 266). Notice that the authors have capitalised the masculine pronoun to point to the fact that overconfidence seems to be a male dominant characteristic. Barber and Odean (2001) also distinctly state that psychologists have found that, generally in the area of finance, males are more confident than females. Barber and Odean (2001: 265) hypothesise that, “from casual observations, males occupy most of the work force in the financial industry and they expect that males will be overconfident about their financial decision making abilities”. Barber and Odean (2001) analysed data from over 35 000 households utilising a large US discount brokerage house from 1991 to 1997 and found that males traded 45% more than females; this meant that males incurred higher trading costs, which reduced their returns by an average of 2.65% vs. females return reduction of 1.72% (Barber & Odean, 2001).

Niessen and Ruenzi (2007), however, found that, on a risk-adjusted basis, there was not any significant difference in the performance of male and female fund managers. Furthermore, they found that, despite males trading more, this did not hurt their performance. Therefore they refute Barber and Odean’s (2001) findings.

A study carried out by Deaves *et al.* (2008) found contradictions to the notion that males display overconfidence in investing and thus over trade. Due to the p-values on gender difference, it was found that the data did not support prior research of a gender bias in overconfidence and overtrading. Deaves *et al.* (2008) hypothesise that this finding can be explained because females who are in the fields of finance, economics and business, which are considered to be “male disciplines”, are inherently more confident than the rest of the female population, even as confident as the typical males. From anecdotal evidence it would seem that the fields of finance, business, economics and investment sciences are

dominated by males, and by and large this acts as a deterrent to females. Those females who do enter these fields need to have a true sense of self and deep-rooted confidence in their capabilities.

Even though in the literature under survey overconfidence was found to be the main reason for overtrading, it is worthwhile examining whether there are other possibilities. In the following sections, I examine the “better than average effect”, the difference of opinion theory(which has close links to “better than average effect”), marital status, optimism and risk tolerance.

## 2.5 Better than average effect

The “better than average effect” is closely linked to overconfidence. It manifests in a way that makes people believe that they are better than others with regard to their own positive skills and personality traits.

In the study by Deaves *et al.* (2008), questionnaires were administered to economics and finance students at the McMaster University in Canada and the University of Konstanz in Germany. Similar in design to Fischhoff *et al.*'s (1977) study, the students had to state their confidence intervals to their answers to general knowledge questions. Deaves *et al.* (2008) found that it was not only overconfident students who thought their answers were more accurate than they really were, but the better than average effect crept in through the participants' belief that they had performed better than the others.

In a separate study, Glaser and Weber (2007) found that the better than average effect played more of a role than the overconfidence effect. The study was conducted on a German online broker over the period January 1997 to April 2001; the data sample included over 3 000 investors, with over 500 000 buy and sell trades. Correlation tests were run between confidence scores and trading volume. It was discovered that investors who thought they were better than average traded more. This study concluded that overtrading could be attributed to what the authors termed a difference of opinion theory This theory is based on the way in which different individuals interpret the same information based on prior beliefs that act as a filter to incoming new information (Glaser & Weber 2007).

## 2.6 Marital Status

Barber and Odean (2001) found that marital status could be a reason for overtrading. With regard to trading activity and returns earned, there is a pronounced difference between single males and females. One hypothesis that can be drawn from this is that these differences could be explained by differences in risk tolerance levels. Barber and Odean (2001) found that single males traded 67% more than single females, leading to 1.44% less returns. It would be logical to draw the conclusion that single males take on more risk than married males due to their lack of responsibility to a spouse or child.. A study by Love (2009) has findings that support this hypothesis. The study conducted a simulation that tested the response of portfolio allocations by relating it to changes in family composition. That is, it compared the average wealth and portfolio shares across marital status and the presence of children. Females were found to choose safer or less risky asset allocations after a change in marital status (that is, after being divorced or widowed), while, given the same “family shock”, males reallocated to more risky assets (which can be seen in a 20% difference by gender in allocations) (Love 2009).

## 2.7 Optimism

Scheier and Carver (1985) define optimism as an enduring and stable difference in an individual’s tendency to hold positive generalised outcome expectancies for future events. They further argue that optimists will carry on even in the face of negative news because they believe good things will happen to them in the future. Felton, Gibson and Sanbonmatsu (2003) report that optimism can have benefits in health conditions: studies have found that it lowers blood pressure and builds higher immune systems; it can also lead to higher risk tolerance. For optimistic investors, the lure of a risky investment is that the loss may be proportionately small when compared to the potential gain. Felton *et al.* (2003) further state that when an optimist is faced with an unfavourable market, as is seen in a downturn, they have the tendency to engage in active forms of coping that may lead to greater inclination to sell assets that have recently performed poorly. Conversely, pessimists will begin holding their assets in an attempt to ride out the market downturn. In terms of risk-taking, Felton *et al.* (2003) looked at 93 US undergraduate business majors (of which 43 were female and 50 were males) over the period September to November

1997. A portfolio simulator called Stock-Trak was used to facilitate online brokerage accounts. Performance of these accounts was measured relative to the S&P 500. Optimism was measured using a Revised Life Orientation Test (LOT-R). Felton *et al.* (2003) found that males did not necessarily have higher levels of optimism than females. The mean score (15.84 for males and 16.06 for females) was nearly identical, but the way in which optimism was viewed and what it meant to each gender was different. However, females tend to be more risk-averse than males (Powell & Ansic, 1997; Byrnes, Miller & Schafer, 1999; Barber & Odean, 2001; Niessen & Ruenzi, 2007; Love, 2009); this tends to lead them to seem less optimistic than men. Felton *et al.* (2003) found that more optimistic males tend to be more risk seeking.

## 2.8 Risk tolerance

Lastly, risk tolerance has been identified as the one of the reasons for overtrading. “Risk is a central feature of alternatives whose outcome is uncertain. It is one of the most important characteristics considered by people when evaluating alternative courses of action such as adopting new technologies, choosing a career, or making financial decisions” (Ganzach, 2000: 353).

Slovic, Finucane, Peters and MacGregor (2004) found that there are two ways in which humans comprehend risk:

1. Analytically, using algorithms and normative rules;
2. Experimentally, a system which is mostly intuitive.

These explanations of risk support many fundamentals of investment and financial decision making according to Behavioural Finance. That is, investors make use of less analytical tools such as intuition when making financial decisions that involve a risk–reward trade-off (Ricciardi & Simon 2000).

Slovic *et al.* (2004) found that rational and experimental systems work in parallel and depend on each other. That is, analytical reasoning cannot be effective unless it is guided

by emotion and affect. They defined the three ways in which risk is dealt with in everyday life:

1. "Risk as feelings to our fast, instinctive and intuitive reaction to danger."
2. "Risk as analysis brings logic, reason and scientific deliberation to bear on hazard management."
3. "Risk as politics where ancient instincts and moderns scientific analysis clash" (Slovic *et al.*, 2004: 311).

As a species, we have evolved psychologically from the experimental system to the analytical one. The former was all that existed in our primal years, and it helped us to survive. As we evolved and took control of our environment, we developed the need for more analytical tools. As we advanced further as a species, rational thinking became the optimal way to analyse anything, and affect and emotion seemed to hinder that (Slovic *et al.*, 2004).

Ackert, Church and Deaves (2003) believe that emotions can enhance an individual's ability to make rational choices. It allows people to transcend the details, to prioritise and focus. It can drive behaviour that is consistent with economic predictions. This would tie in well with Slovic *et al.*'s (2004) understanding that risk can be experienced experimentally. Human beings' intuition and their emotional reaction to it are inextricably intertwined. Early studies of risk perception found that even though risk and reward are viewed as being positively correlated in the world, it is the opposite in people's minds (Fischhoff *et al.*, 1977). In other words, people's judgement of an activity is based not just on what they think about it but also how they feel about it. Therefore, the inverse relationship between risk and reward in people's minds is often based on whether the perceived outcome or effect will be negative or positive. (Consider, for example, the use of animal testing or pesticides.) The literature suggests that risk tolerance levels can be categorised by gender. Mohan and Chen (2010) attempted to determine if gender plays a role in a firm's Initial Public Offering (IPO) process and its outcome. They hypothesise that it is possible that because females are more risk-averse than their male counterparts, and because they tend to be less confident about their financial decision-making abilities, this might create additional uncertainty around an IPO. This could then lead to an under-priced, discounted or undervalued IPO.

However, their research did not find any difference in firm characteristics of female-led and male-led IPOs; these characteristics include ex-ante risk, gross proceeds and offer price (Mohan and Chen, 2010). There was no difference in under-pricing along gender lines either (Mohan and Chen, 2010).

Conversely, Niessen and Ruenzi (2007) found that females were more risk averse and followed a more consistent and less extreme investment style. They tended to take less unsystematic risks and less small firm risks. Niessen and Ruenzi's (2007) study consisted of over 13 000 fund year observations. Byrnes, Miller and Schafer (1999) support this with their meta-analysis, which showed that males do take on more risks than females in certain contexts and at certain ages.

Powell and Ansic (1997) state that females are less risk-seeking than males, irrespective of framing, familiarity, costs or ambiguity. When conducting their study, Powell and Ansic (1997) designed an experimental computerised decision-making study based on a business school's undergraduate and postgraduate student population. The experiment was broken up into two sections, an insurance-based scenario and a currency market scenario. In the currency section of the study, the results showed that females stayed "in the market" less on average than males. The longest a female stayed in the market was for 4.46 minutes vs. 5.03 minutes for males. This suggests that females have a lower risk tolerance. Additionally, Powell and Ansic (1997) found that males and females adopt different strategies in financial decision making. Males were found to spend more time making a financial decision: 32.28 minutes for males vs. 30.38 minutes for females.

Further evidence of the gender difference in risk tolerance can be seen in Niessen and Ruenzi's (2007) finding that females tend to have a more passive investment style and tend to herd towards the market, whereas male fund managers take a more active investment approach. This is consistent with the claims of previous literature that females are more risk-averse (Niessen & Ruenzi 2007).

Contrary to this was a study by Schubert, Brown, Gysler and Brachinger (1994), which found that in a controlled economic environment females do not make less risky financial choices than males. It would seem that gender biases were only apparent in abstract gambling

choices, but where identical investment and insurance decisions were presented, there was no gender bias.

A study by Wang (2011) indicates how females' lower risk tolerance can manifest in an indirect way. Wang investigated gender differences in financial research. Males were found to conduct more research on mutual funds (before investment commencement) than that their female counterparts. Wang (2011) concludes from this that younger female investors are less risk-averse than males when conducting investment research in order to better understand the risks involved.

When Felton *et al.* (2003) looked for a connection between gender, optimism and risk, they found that when optimists are faced with a downturn in the financial markets they will engage in more risky behaviour by investing in more risky investments in an attempt to regain losses. Felton *et al.* (2003: 35) hypothesised that "males and optimists are more likely to choose riskier investment strategies than females and pessimists". Their results showed that males take on far more investment risk than females do. Optimistic males were active in the futures and options market whereas pessimistic males participated in the more conservative NYSE (Felton *et al.*, 2003).

At the University of Maryland, researchers conducted a meta-analysis of 150 studies to compare the risk-taking tendencies of males and females. The time horizon of the studies was 1967 to 1994. The general findings were that male participants were more likely to take on more risks than females; however, the context of these behaviours varied (Byrnes *et al.* 1999). One finding of this study showed that men and boys engaged in even riskier behaviour when they were aware of the fact that it was not a good idea to take it on. On the other hand, Hyde (2005) believes that males and female are more similar than we are led to believe, especially with regard to the workplace and relationships. Gender differences were found to vary with age and context.

"Many brokers believe, often with good reason, that females are conservative investors, so they pitch what they think will sell," says Bridget Macaskill, president of Oppenheimer Management (Wang, 1994: 108). This can lead to being offered investment products with a lower risk return profile, evidence of which was discussed above. This supports the findings

of Olsen and Cox (2001), who tested gender's influence on investment risk perception. They found that women emphasised the need to reduce their overall risk when constructing an investment portfolio. They also found that risk is far more of an important factor to consider in the areas of profitability, loss and ambiguity (financial assets) among females than among males (Olsen & Cox, 2001). The data was pooled from professional investors (Chartered Financial Analysts [CFA] and Chartered Financial Planners [CFP] holders) through a survey. A further conclusion drawn by Olsen and Cox (2001) is that females attribute greater importance to security than to financial gain.

In this dissertation, overconfidence is cited as the main reason for an investor to overtrade. Support for this can be seen in Barber and Odean (2001), Glaser and Weber (2007) and Willows (2012). This attribute has been found to exist in men more than in females (Wang, 1994; Powell & Ansic, 1997; Barber & Odean, 2001; Powell & Ansic, 1997; Olsen & Cox, 2001; Niederle & Vesterlund, 2007). It could even be plausible to draw a link between personality traits found in males and females that would support findings of overconfidence in males. In a meta-analysis done on *Gender Differences in Personality* (Feingold, 1994), males were found to be more assertive and significantly less anxious than women. It is this assertiveness that might lead men to feel more confident than females.

## 2.9 Conclusion

This literature review of previous work has found that many of the themes discussed above have a gender bias. Overconfidence is most prevalent in men, and is one of the main reasons why they overtrade. This overtrading results in higher trading costs, which leads to a drop in the investor's net returns (Barber & Odean, 2001). Also, due to the difference of option theory and the better than average effect, this tends to manifest in investor overconfidence, too. Risk tolerance was found to have a significant impact on the way males and females behave in a financial and investment decision-making environment, and this can help to explain why overtrading tends to be prevalent among males.

## Chapter 3 Method

### 3.1 Introduction

A number of behavioural themes were identified in Chapter 2. These included how gender plays a role in financial decision making, concepts of overtrading, how overconfidence affects investor behaviour, whether marital status and optimism affect investment decisions, and how males and females view risk.

This chapter introduces the research questions, based on Willows' (2012) study, more fully. It also discusses the research approach and the methodology utilised for this dissertation.

### 3.2 *She's Built For It: The Research Questions*

The findings of Willows' (2012) study is the backdrop of this literature-based dissertation. Willows undertook a study in a South African Investment House that offers unit trusts or mutual funds as its primary investment vehicle. Her data included over 19 000 individual retail investors over the period 1 January 2007 to 31 December 2011. Gender was disclosed in her data as well as the age of the investor, which ranged from 20 to over 60. The internal rate of return (IRR) of each investor was calculated net of trading costs, and this was used as the primary measure of investor return.

Willows' (2012) findings were as follows:

1. Trading frequency lowers investors' return.
2. Males trade more than females.
3. On a risk adjusted basis, females earn higher returns than males.

Apart from the findings and conclusions drawn from Willows (2012), the following contextual details were noted:

1. The data was collected in an emerging-market context: South Africa.
2. The data demographic was that of retail investors.
3. The individual investor's gender was known.
4. Mutual funds or unit trusts were the specified type of investment vehicle.

This dissertation will seek to find a body of evidence that supports the findings that mutual fund female investors in an emerging market earn higher returns than their male counterparts.

Thus the research questions may be posed as follows:

1. Are there gender differences in mutual fund Investors different to those found in mutual fund managers?
2. Are the gender differences found in mutual fund investors and mutual fund managers different in emerging and developed markets?

The value of this study is the nature of the specific themes that will be explored. Based on my extensive survey of publications prior to this study, it would seem that this is the first literature-based dissertation to focus solely of the academic findings on gender difference in mutual fund investing in emerging markets.

### 3.3 Research Approach

Ricciardi (2005) endeavoured to develop a research starting point for scholars interested in behavioural finance by constructing a checklist of 48 concepts. He did this by sampling dissertations written since 1961 which highlighted significant research papers over the sample period. Some concepts found by Ricciardi (2005) were risk perception, overconfidence and financial psychology. From this it is evident that when reviewing literature in the field of behavioural finance (as seen in Chapter 2), the findings should be categorised under such concepts or themes. With this in mind, this method chapter proposes a way to analyse and synthesise literature along thematic lines.

The research approach of this literature-based study is to focus the research questions on three key areas or themes. The areas of focus are:

- **Mutual fund investing:** This theme will set the context for the two research questions. It will look at how the mutual fund industry has developed and why it is relevant to this research. It will look at how the Industries in emerging and developed economies are different, which will help to answer the second research question.
- **Mutual fund managers and mutual fund investors:** This theme will be used to answer the first research question – that is, whether there is a gender difference between mutual fund managers and mutual fund investors, and look for evidence of gender differences in the performance of fund managers and investors.
- **Mutual fund investors in emerging and developed markets:** This theme will help to answer research question 2. It will start looking for the key differences in the two types of mutual fund markets, and then go on to see if any gender differences can be found in mutual fund investors in those two market contexts.

I have reviewed articles over the period 1987–2012, and primarily used three databases – namely; EBSCOhost, Emerald and JSTOR; to a lesser extent APA PsycNET and Wiley Online Library have been useful. Both EBSCOhost and JSTOR are online databases that are reliable and offer an extensive range of publications on Behavioural Finance. JSTOR was useful mainly for accessing older papers and full-text PDFs.

## 3.4 Research Method

### 3.4.1 Theme-based Reviews

A review of literature by Croson and Gneezy(2009) looked at gender differences in economic experiments. These authors identified three main themes or factors, and organised their paper along these thematic lines to discuss relevant evidence found in the literature. It is fundamentally this approach that will guide the layout and basic structure of this dissertation's research methodology.

In a review article entitled “A Typology of Reviews: An Analysis of 14 Review Types and Associated Methodologies”, Grant and Booth (2009) found that, due to an increasing variety of review-based research across all fields of research, a need has arisen for these review types to be categorised. They aimed to provide descriptive insight into the most common types of review techniques, with examples pooled from the health and health information domain. Fourteen review types were identified and mapped against a SALSA framework (Search, Appraisal, Synthesis and Analysis) (Grant and Booth, 2009). The review types found to be most appropriate to this study will be discussed separately below. Advantages and disadvantages of each review type are listed in tables in the appendix at the end of this dissertation.

#### 3.4.2 Mapping Review/Systematic Map

This type of review was established by the Institute of Education in London, England. Its methodology is to map out and categorise existing literature as well as to find gaps in the knowledge base from which further reviews or primary research may take place. A key difference when compared to a scoping review is that the results of a mapping review may lead to further review work, and this is not known beforehand (Grant & Booth 2009).

This dissertation will use a mapping review in the sense that it will categorise the existing literature and search for gaps. However, due to the study’s limitations, it will not delve deeper into any one category or theme.

#### 3.4.3 Rapid Review

A rapid review may be defined as an “assessment of what already is known about a policy or practice issue, by using systematic review methods to search and critically appraise existing research” (Grant & Booth, 2009: 44).

This dissertation will assess how broadly the research area of Behavioural Finance has been approached before, while incorporating the mapping review method.

#### 3.4.4 Systemised Review

This approach is typically used for postgraduate research. It is a method that adopts elements of the systematic review process but stops short of a comprehensive systematic review (Grant & Booth, 2009).

#### 3.4.5 The Current Approach

Because this study is a minor dissertation for a Master's Degree, it seems most appropriate to use a combination of the Systemised and Rapid Review methods.

The research questions were deliberately focused rather narrowly due to time constraints, but the literature will be comprehensively analysed and catalogued nonetheless. Furthermore, a limited number of databases were used and the breadth of articles reviewed was shortened.

### 3.5 Research Process

The research process will be adapted from Croson and Gneezy (2009). Each theme will have a dedicated chapter, where evidence from the literature will be presented and the reasons for the findings will be discussed. These reasons will be based broadly on the literature in Behavioural Finance, including but not limited to the 48 behavioural concepts noted in Ricciardi(2005).

Table 1 lists 16 papers investigating mutual funds which I believe are the most important and relevant papers that identified the theme's investigated in this paper. As discussed earlier in this chapter, the focus will be on certain key themes – that is, mutual fund investors vs. mutual fund managers, and emerging vs. developed markets). These have been categorised in Table 2 and will be elaborated upon in Chapters 5 and 6. This table notes whether the authors have used any other controls apart from gender; these controls include age, wealth, level of education, country, time, type of mutual fund, etc.

**Table 1. Literature Reviewed**

<b>Study</b>	<b>Experimental details</b>	<b>Summary</b>	<b>Gender difference/ Bias</b>	<b>Controls other than gender</b>	<b>Thematic separation<sup>1</sup></b>
<b>Willows (2012)</b>	South African investment house mutual fund returns	Due to men overtrading, females earn a higher return on a risk-adjusted basis.	Yes	Type of mutual fund; country	Emerging market; investors
<b>Wang (2011)</b>	Online survey	Gender, income, knowledge and experience are important influences on the younger generation's investment behaviour.	Yes	Age (18 to 25)	Investors; developed market
<b>Luongo (2011)</b>	Risk and performance metrics from Bloomberg	Funds managed by females outperform those managed by men, with less risky portfolios.	Yes	Country (US); type of funds (mutual and hedge); time (2008 financial crisis)	Fund managers; developed markets
<b>Welch and Wang (2009)</b>	Morningstar Principia Advanced Mutual Funds Module	Differences in mutual fund performance and other characteristics	Yes	Time (3-year performance measure); country (US); no exchange-traded funds or funds closed to investment	Fund manager; developed market
<b>Azmi (2008)</b>	Egyptian Stock Exchange	Determinants of mutual fund performance in an emerging market.	Yes	Country (Egypt); time period	Emerging markets; fund managers
<b>Martenson (2008)</b>	Swedish Premium Pension Scheme and survey	Females face major challenges in their motivation to make financial decisions and in their ability to make money.	Yes	Country (Sweden); age (over 25); type of fund (private mutual funds and stocks)	Developed market; investors
<b>Beckmann and Menkhoff (2008)</b>	Survey	Risk behaviour among male and female fund managers.	Yes	No	Fund managers
<b>Niessen and Ruenzi (2007)</b>	CRSP Survivorship Bias Free Mutual Fund Database. Covers US open-end mutual funds and provides	No fund performance difference. Male-managed funds indicated more extreme performance ranks than female-managed funds.	Yes	Type of fund: actively managed funds in ten key equity fund segments;	Fund managers; developed market

<sup>1</sup> 1. Mutual fund investors vs. managers. 2. Emerging vs. developed markets.

	information on fund returns, fund management structures, total net assets, investment objectives, turnover rates, fee structures, fund managers' identity, and other fund characteristics.			age; education level; country	
<b>Rangana- than (2006)</b>	Questionnaire	Fund selection behaviour	No	Country (Mumbai, India); level of education	Emerging market; investors
<b>Khorana et al. (2005)</b>	Investment Company Institute (ICI) or the Federation Europeenne des Fonds et Societes d'Investissement (FEFSI)	Circumstances in which the mutual fund industry flourished in 56 countries.	No	Time; type (open-end mutual funds)	Emerging and developed markets
<b>Dorn and Huberman (2005)</b>	Survey	Self-reported risk aversion was the greatest factor explaining investor behaviour.	Yes	Age (30–45); education level (college); country (Germany)	Developed market; investors
<b>Atkinson et al. (2003)</b>	MorningStar Principa CD	Fixed income mutual fund managers, performance and investment behaviour.	Yes	Country (US); time; type of fund (fixed income); education level (graduate degree and MBA)	Fund managers; developed market
<b>Chevalier and Ellison (1999)</b>	MorningStar CD	Mutual fund performance linked to various fund manager characteristics.	No	Type of fund (growth or growth income); time	Fund managers; developed markets
<b>Alexander, Jones and Nigro (1998)</b>	Survey	Financial literacy of mutual fund investors needs to be improved.	Yes	No	Investors; developed markets
<b>Capon et al. (1996)</b>	Survey	How investment decisions are made (risk and return).	Yes	Country (US); type of fund (exclusion of money market funds); time	Investors; developed markets
<b>Grinblatt et al. (1995)</b>	Mutual funds from CDA Investment Technologies, Maryland	Mutual fund stock purchases and herding behaviour.	No	No	

### 3.6 Ethics

No ethical clearances were required because no human participants were used to conduct this study nor does it draw any racial inferences.

### 3.7 Limitations and Risks

Some of this study's limitations are derived from the research method — that is, a systemised review (Grant & Booth, 2009). Limitations also arise from the scope and time constraints of the study, and thus the depth and breadth of the papers under review will be limited. The literature search was limited to papers written in English.

### 3.8 Conclusion

In Willows' (2012) study certain contextual details were highlighted. These details have led to the discovery of three key themes, namely: mutual fund investing; emerging vs. developed market investing; gender differences in mutual Fund investors vs. managers. In this literature-based dissertation, the themes identified in published literature will be scrutinised and analysed.

## Chapter 4

# Mutual Fund Investing

### 4.1 Introduction

Mutual funds are becoming increasingly popular investment options. In both developed nations (such as the United States of America) and emerging markets (such as South Africa), the industry has grown tremendously. As of 2001, Assets Under Management (AUM) totalled US\$11.7 trillion globally (Khorana, Servaes & Tufano, 2005). In 2001, South Africa's mutual fund industry was valued at US\$14.5 million (Khorana *et al.*, 2005). In this chapter evidence of the rise in importance of the mutual fund industry will be reviewed in order to provide context and support to answering the two research questions. This chapter begins by showing some of the definitions and characteristics of mutual funds found in the literature under review, and will then move on developments in the mutual fund industry globally. It will then look at how links can be drawn from the mutual fund industry to behavioural finance.

### 4.2 Definitions

A mutual fund, also known as a unit trust, can be defined as “the pooling of investor's funds into a collective investment” (Correia *et al.*, 2010: 4-1). Fund managers then invest these funds in shares, bonds, money market instruments and other assets. Mutual funds entitle investors to a proportional share of the net benefits of ownership of the underlying assets (Van Wyk *et al.*, 2012).

A recognisable mutual fund style as defined by Khorana *et al.* (2005: 146) is that a mutual fund is characterised by a “transparent investment vehicle whose underlying assets are identifiable, with the value of the fund marked-to-market on a regular (usually daily) basis and reflected in the Net Asset Value of the fund, and with new shares created or redeemed upon demand”.

In the United States, a mutual fund is defined by the Investment Companies Act of 1940: “American mutual funds are management companies that (1) invest in a diversified portfolio of assets, and (2) are “open-end” in that they redeem their shares at net asset value (NAV) at any time upon shareholder request” (SEC, 2004). In South Africa, the mutual fund industry is referred to as a Collective Investment Scheme (CIS), which is “an open end collective investment scheme that issues redeemable units and invests primarily in transferable securities or money market instruments” (IOSCO, 1994).

A mutual fund has many different uses for an investor, and some of these advantages and disadvantages can be seen in Table 2.

**Table 2. Advantages and disadvantages of mutual funds as investment vehicles**

<b>Advantages</b>	<b>Disadvantages</b>
Diversification: risk is spread through uncorrelated assets.	Professional fund managers: This can tie into the agency problem. No matter how the fund performs, the manager still gets paid.
Economies of scale: Funds are able to buy large amounts of securities, which results in lower transaction costs than buying individual securities.	Costs and taxes: Fees can vary and this, along with the added capital gain tax trigger, can erode the investors’ return.
Liquidity: Holdings can be converted to cash easily.	Dilution: The fund’s holding may be so large that high returns from a few companies might have a negligible effect on the fund’s overall return.
Professional fund management draws on fund managers’ expertise in asset selection and fund management.	

Source: (Van Wyk *et al.*, 2012).

### 4.3 Growth in the Industry

The first notable study mentioned in Table 1 is by Khorana *et al.* (2005). Their study attempts to explain the growth of the mutual fund industry in 56 countries across the world as at the end of 2001. Khorana *et al.* (2005) initially hypothesised that there were three sets of explanations for the tremendous growth (or lack thereof) in the mutual fund industry. These may be summarised as follows:

- Logically: Funds should prosper in countries where laws and industry regulations make access to investing in mutual funds easy, and protect the investor's rights.
- Supply-side: Competition dynamics in the industry favour the development of mutual funds.
- Demand-side: Certain investor characteristics, including degree of wealth and level of education, tend to promote mutual fund investment.

The US was found to have the largest mutual fund industry in terms of asset size, and to have the largest number of mutual fund firms – 8 307 as of December 2001. Coming in second and third place were France and Korea - 7 144 and 7 177 firms respectively. What makes the mutual fund industry an interesting industry to research is its signs of continued growth. These can be seen by Khorana *et al.*'s (2005) finding that from 1996 to 2001, the ratio of fund size to a country's GDP increased by an average of 7.9%.

Overall Khorana *et al.* (2005) found that more-developed countries had larger thriving mutual fund industries, as did countries with a higher GDP per capita. Also, there was a positive relationship between investor wealth and education and the size of the country's mutual fund industry. Lastly, fund sizes were largest in countries with defined contribution pension plans.

In US markets, the 20 years before 1995 have seen a considerable growth in the wealth managed by institutional investors. Grinblatt, Titman and Wermers (1995) believe this to be due to the termination of fixed costs, allowing institutional investors to become more active traders and therefore price makers. The question is, how have these investment vehicles progressed in emerging markets? The size of the mutual fund industry in BRICS nations in 2001 is shown in Table 3.

Looking at mutual funds in India, Ranganathan (2006) administered a questionnaire to 100 screened respondents in Mumbai. The purpose of the study was to assess fund selection behaviour of individual investors with regard to mutual funds. The screening process was to assess at least some prior knowledge to mutual fund investment. The results showed that, on a five-point scale, the attitude towards the type of mutual fund investment was

“favourable” for shares and all other asset classes, including mutual funds, which were “somewhat favourable”.

**Table 3. Size of the mutual fund industry in BRICS nations, 2001**

Country	Size of Fund (US\$ x 1 million)
Brazil	148 189
Russia	297
India	13 490
China	7 300
South Africa	14 561

Source: Khorana et al. (2005).

Indian’s mutual fund industry started in 1963 with the Unit Trust of India, initiated by the Indian Government and the Reserve Bank (Ranganathan, 2006). Ranganathan(2006)found that39% of respondents indicated that they would prefer to use mutual funds in the future. Also, more mutual fund investors showed favour towards growth and open-end schemes (that is, to buy and sell at NAV prices). Ranganathan(2006) also found that what Indian mutual fund investors looked for most in an investment was yield, security and then liquidity. When compared with traditional equity investing, 48% of small investors preferred to invest in mutual funds.

It would seem from the studies reviewed that the mutual fund industry is a thriving investment option. However, that when looking at it from an emerging and developed market perspective, several differences are apparent. Fund sizes are larger in developed nations and investors are more protected in terms of laws and regulations (Khorana et al. 2005). The smaller fund sizes in emerging markets could be due to how much younger the mutual fund industry is as a whole and how few people have prior knowledge of this investment vehicle (Khorana et al., 2005; Ranganathan, 2006).

#### 4.4 Behavioural Biases

Grinblatt *et al.* (1995) found that mutual funds exhibit a particular behavioural bias known as herding. This means that these funds buy and sell stocks at the same time. Grinblatt *et al.* (1995) came to this conclusion after analysing the holdings of 274 US mutual funds as at 31 December 1974. They found that 77% of mutual funds exhibited herding tendencies. It is important to note that the existence of such behavioural biases in mutual fund investing makes this dissertation's investigation into other behavioural biases (i.e. gender) more relevant.

According to modern finance theory, when investors intend to make an investment decision, they look at risk and returns as well as the covariance of returns with other assets in their portfolio (Markowitz 1952). According to Capon, Fitzsimons and Prince (1996 p.4) portfolio theory alone would be a "naïve vehicle for understanding investment decisions". There are more subtle factors that go into certain investment decisions.

Capon *et al.*'s (1996) study surveyed over 3 000 mutual fund investors in the United States in order to investigate the manner in which consumer (retail) investors make their investment decisions for their mutual fund investment. The investigation took place over one week (ending 5 March) in 1991. It was found that there were several other factors that investors considered apart from risk and return indicators, such as performance bases metrics. Capon *et al.*'s (1996) paper lends itself well to understanding that it is imperative for fund managers to understand consumer behaviour, and that attention needs to be paid to these behavioural biases and the positive value attributes investors attach to non-performance factors. In Capon *et al.*'s (1996) study design, selection criteria were a main component. These included fund manager reputation, investment management style, charity record, confidentiality, scope and responsiveness to enquiries. It was found that of the multiple selection criteria options the reputation of the fund manager and the fund scope were most important to investors. Additionally, gender biases can be inferred from Capon *et al.*'s (1996) study. Of the respondents, 61% were male and 39% were female. Since the study was dominated by males, it would be easy to hypothesise, based on the evidence provided in this dissertation's literature review on risk tolerance, that a male's main areas of concern would be risk and return (in line with the rational investor theory). It

is surprising, then, that the more “softer issues” (and not only performance-based metrics) were also important in their selection criteria.

In a US study, Wang (2011) conducted an online survey that looked at gender differences in financial behaviours in mutual fund investing among younger investors. Wang(2011) found that younger male investors had a higher frequency of conducting mutual fund investment research than their female counterparts. In essence, Wang (2011) found that younger females faced challenges to their financial independence because they exhibited fewer investing behaviours in mutual funds than their male counterparts.

Caponet *al.*'s (1996) study showed similar findings. It found that two groups emerged in terms of mutual fund knowledge – those who were highly knowledgeable and informed and those who were naïve. In general only 25% of respondents were familiar with their mutual fund's investment style and only 27.7% were aware of the domestic or international nature of their investments.

Atkinson, Baird and Frye (2003) found that the gender of the fund manager was a factor considered by investors when deciding on which mutual fund to invest in. Thus, gender plays a role in mutual fund investment.

## 4.5 Conclusions

Globally, the trends and characteristics of the mutual fund industry and its participants (investors and managers) are varied enough to warrant further investigation. In an emerging market context, mutual fund investments are relatively new and have the potential to grow in popularity as a preferred investment vehicle for the lay investor. However, in a developed market the challenges are different. These differences that will be investigated and an explanation of these and other findings will be offered in Chapter 6. In the next chapter (Chapter 5), I examine the first theme of mutual fund investors vs. mutual fund managers and the gender differences discovered.

## Chapter 5

### Gender Differences in Mutual Fund Managers and Investors

*Research Question: Are the gender differences found in mutual fund investors different to those found in mutual fund managers?*

#### 5.1 Introduction

Fund managers are responsible for the construction of a fund, be it mutual or otherwise. Individual investors still decide which fund to invest in and when to invest but the construction of the fund is based on the manager's investment style, and it is this style of investing and asset selection that could have an impact on the investor's return. By focusing on fund managers we can control wealth and knowledge differences which are more difficult to distinguish in the lay investor (Atkinson et al. 2003).

#### 5.2 Gender in a Professional Setting

It is important to note that many preconceived notions and stereotypes still exist about females and their capabilities in the professional space, and more specifically about females being in a managerial position (Heilman, Block, Martell & Simon, 1989). Heilman *et al.*, (1989) found that, in general, male characteristics are more linked to the description of a successful manager than female characteristics. A key finding of Heilman *et al.* (1989) is that the attributes that were ascribed to females when they had a title of "manager" or they were labelled "successful" were all negative. These included adjectives such as bitter, quarrelsome and selfish.

In a South African research context, Littrell and Nkomo (2005) undertook a study of preferred managerial leadership behaviour among genders and racial groups in South Africa. They quoted a nationwide census that was conducted in 2004, where it was found that of the "364 companies listed on the Johannesburg Stock Exchange (JSE) and state-

owned enterprises in South Africa, only 7 have female CEOs and 60% have no females on their boards” (Littrell & Nkomo, 2005: 565). According to Littrell and Nkomo (2005), females account for 41.3% of South Africa’s workforce but only 14.7% of executive managers and just 7.1% of all directors. Consistent with the findings of Heilman *et al.* (1989), Littrell and Nkomo (2005) also found that females are perceived as not naturally possessing leadership traits and that their leadership traits differ significantly from those of their male counterparts.

From the above two studies there is evidence, in local and global contexts, that even in the twenty-first century female still have certain disadvantages through stereotypes of their gender and leadership style, and this can affect their professional careers, including as mutual fund managers.

### 5.3 Gender, Mutual Fund Managers and Investors

The rest of this chapter will look at some of the more noteworthy studies that were examined when looking at mutual fund managers and investors. The findings will be discussed and reasons offered for these findings. It must be stated, however, that even though many studies have found gender differences in the mutual fund investing field, it is difficult to answer definitively why these outcomes exist since researchers can usually only observe the outcome and not the decision-making process itself.

### 5.4 “Sex Matters: Gender Differences in a professional setting”

#### 5.4.1 Findings

In a study by Niessen and Ruenzi (2007), data from the CRSP Survivorship Bias Free Mutual Fund Database was collected based on open-end mutual funds. The results showed that female fund managers took fewer risks than males, followed less extreme investment styles and traded less because they were not as overconfident as their male counterparts. However, there were no negative consequences for investors and no evidence of varying average fund performance. A surprising finding of this study was that female-managed funds received 18% lower inflows on average.

Niessen and Ruenzi (2007) found that risk aversion in female mutual fund managers was not as pronounced as in female retail investors, probably due to male and female mutual fund managers having comparable educations and experience levels.

Hence Niessen and Ruenzi (2007) showed that in terms of risk aversion, investors were not prejudiced by the lower risk tolerance commonly found in female investors or their less extreme investment styles and that there was no statistically significant difference in female fund managers' fund performance when compared to their male counterparts.

#### 5.4.2 Reasons for findings

The first explanation for Niessen and Ruenzi's (2007) findings is overconfidence, which explains the finding that male fund managers traded more than their female counterparts (Lundeberg *et al.*, 1994; Powell and Ansic, 1997; Barber and Odean, 2001; Gervais and Odean, 2001; Niederle & Vesterlund, 2007; Willows, 2012).

The explanation offered for the female fund manager's lower level of risk taking is twofold. The first aspect is emotional. According to Croson and Gneezy (2009: 451). The "affect heuristic", which is "a human's fast, intuitive and instinctive reaction to risk or a risky situation", is a better framework for understanding the gender difference in risk taking. Croson and Gneezy (2009) found that females experience emotions more intensely than males, especially when anticipating a negative outcome. It would then be reasonable to assume that, given the prospect of loss in a risky situation (i.e. as a fund manager), females would shy away from taking on too much risk (Croson & Gneezy, 2009). The second reason offered for female fund managers' lower risk taking is lack of overconfidence. Both males and females display traits of confidence but males have been seen to be more confident than females (Powell & Ansic, 1997; Niederle & Vesterlund, 2007). Niederle and Vesterlund (2007) found that males were significantly more confident than females when it came to certain tasks— for instance, solving maths problems – and that this self-belief was a determinant for their entry into competitive tasks. Again, it can be concluded that male fund managers would therefore be more likely to trade more and take riskier positions.

The finding that female fund managers receive up to 18% lower fund inflows than their male counterparts can be explained by the findings of Littrell and Nkomo(2005). They found that females were still very much underrepresented in corporate leadership structures and that, due to subtly held beliefs of each gender's capabilities, females were not perceived to have leadership traits. Another study supporting this finding and showing further evidence as to why Niessen and Ruenzi's (2007) female fund managers had lower inflows than their male counterparts is that people's idea of what a leader is, is still strongly rooted in male characteristics (Heilman *et al.*, 1989).

## 5.5 “Fund-Management Gender Composition: The Impact on Risk and Performance of Mutual Funds and Hedge Funds”

### 5.5.1 Findings

In another study, Luongo (2011) took two data samples from Bloomberg during the credit crisis of 2008, over 1,3 and 5 year rolling periods, and examined the gender differences among mutual and hedge fund managers with regard to their risk tolerance and performance. The most notable findings were that funds managed by female managers outperformed those managed by male managers with less risky portfolios, and that overall female-managed funds were underrepresented, this despite their superior performance.

### 5.5.2 Reasons for findings

This study looked at gender differences in the mutual and hedge fund industry in a period not previously studied. Given the huge fluctuations in the market during the 2008 credit crisis, it can be seen how the widely documented lower risk appetite of females could be of use to investors during market crashes or major swings. A more equally represented fund industry could lead to more financial stability given the varying investment styles and risk appetites of male and female fund managers (Luongo, 2011). Given prior knowledge of females' lower risk tolerance (Powell & Ansic, 1997; Byrnes *et al.*, 1999; Olsen & Cox, 2001; Felton *et al.*, 2003; Niessen & Ruenzi, 2007; Croson & Gneezy, 2009), lower frequency of trading (Powell & Ansic, 1997; Barber & Odean, 2001; Niessen & Ruenzi, 2007; Willows, 2012) and differentiated leadership and investment style(Heilman *et al.*, 1989; Bajtelsmit &

Bernasek, 1996; Littrell & Nkomo, 2005; Welch & Wang, 2009), it is reasonable to conclude that the findings of Luongo (2011) can be found in behavioural finance concepts.

## 5.6 “Is Manager Gender Important in the Performance of Mutual Funds?” and “Do Female Fund Managers Manage Differently?” The Exception to the Rule: Subsamples of Professional Investors

### 5.6.1 Findings

In order for a study to be robust in its analysis, contra-literature must be examined and discussed. In a study by Welch and Wang (2009) the differences in characteristics of mutual funds and their performance based on fund manager gender was investigated. No significant difference was found in the performance of mutual funds due to management gender.

Welch and Wang (2009) used data from the Morningstar Principia Advanced Mutual Funds Module from 29 February 2004 which included over 9 000 US domestic mutual share funds. They found that female fund managers spread out their risk among more stocks and that, as the fund’s management composition changed from female to male, fund performance increased. Welch and Wang (2009) noted that the absolute value of the difference between male and female managers’ performance was small, and therefore cautioned about interpretation of these results.

Atkinson, Baird and Frye(2003) looked at the performance and investment behaviour of male and female fixed income mutual fund managers. No differences were found in either gender’s performance, risk or fund characteristics.

### 5.6.2 Reason for findings

The findings of Atkinson *et al.* (2003) and Welch and Wang (2009) can be explained as the exception to the rule (Croson & Gneezy, 2009). It seems that the gender differences most commonly seen in lay investors in terms of overconfidence, risk tolerance and over trading are not as prevalent in the subsample of professional investors (Atkinson *et al.*, 2003; Hyde, 2005; Niessen & Ruenzi, 2007; Mohan & Chen, 2010). In a professional setting, males

and females have a comparable set of knowledge and work experience; this nullifies the effects of gender differences found in risk tolerance, overconfidence and overtrading (Deaves et al. 2008). Further support is given to this finding by Dwyer, Gilkeson and List (2002). They found that if they added a financial investment control variable to their regression model the gender differences in mutual fund investors were not as pronounced. When males and females have more comparable levels of financial and investment knowledge, the risk aversion commonly documented in research is not as prevalent.

## 5.7 “Are Some Mutual Fund Managers Better than Others? Cross-Sectional Patterns in Behaviour and Performance”

### 5.7.1 Findings

Behavioural Finance seeks to find alternate explanations for certain observable market phenomena, including fund managers’ performance. Gender difference was highlighted by Niessen and Ruenzi (2007), Welch and Wang (2009) and Luongo (2011). Another explanation of fund manager performance was offered by Chevalier and Ellison (1999). They conducted a study that looked at fund manager performance and its relationship to the fund manager’s ability, knowledge and effort. More specifically, Chevalier and Ellison (1999) wanted to study the relationship between fund manager performance and their age, their average SAT undergraduate scores, and whether or not the manager had an MBA degree. Across-sectional study sampled over 492 growth or growth income fund managers from 1988 to 1994. Chevalier and Ellison (1999) found that managers with MBAs outperformed those who did not have one. This was believed to be attributable to their greater holding of systematic risk. A second finding was that younger managers outperformed older managers, and this was attributed to both survivorship bias and lower expense charges. The final finding was that managers with higher SAT scores performed better as fund managers.

### 5.7.2 Reason for findings

Chevalier and Ellison’s (1999) study is considered relevant because the authors provide alternate reasoning behind the differences in mutual fund managers’ performance. It is reasonable to deduce that knowledge and level of education are all positive contributing

factors to mutual fund managers' performance. However, the fund manager's age and experience do not necessarily mean that an investor is more guaranteed to get superior performance. This could be due to the fact that the propensity to take on risk weakens as one grows older. Maybe fund managers become more risk-averse as they reach the end of their careers and choose to take on less risk for their clients so as to have stable performance. Furthermore, younger fund managers who are more jaded about the true nature of fund management may in their naïveté take on more risk and may outperform older fund managers.

## 5.8 Lay Investors

### 5.8.1 Findings

Atkinson *et al.* (2003) found that gender biases are found in mutual fund investors but not in the main subpopulation of their study, mutual fund managers. This was seen in that the net asset flows of female fund managers were lower than those of their male counterparts. The finding that investors exhibit gender bias is supported by a study done by Powell and Ansic (1997). Due to the fact that males and females use different financial decision-making strategies, this can reinforce gender-based stereotypes that females are less able to make sound financial and investment decisions.

### 5.8.2 Reason for findings

When looking to explain gender differences in investing, one must note that ultimately gender differences have their root in discrimination or in individual preferences (Bajtelsmit & Bernasek, 1996). Heilman *et al.* (1989) and Oakley (2000) state that female managers are considered less competent than their male counterparts. This finding could be the reason for Capon *et al.*'s (1996) finding that female fund managers managed smaller funds; female fund managers are not trusted to the same extent as their male counterparts. Investors use a multi-variant model when deciding on which mutual fund to invest in (Alexander *et al.* 1998). One of these variables is the gender of the mutual fund manager. Littrell and Nkomo (2005) and Heilman *et al.* (1989) found that even in a modern society where females have equal opportunity, gender-based stereotypes still infiltrate the minds of people (including investors) when making certain professional or financial decisions. It is due to the

prejudices of lay investors that female mutual fund managers receive fewer inflows to their funds and therefore manage smaller fund portfolios.

An alternate explanation is the impact that information has on investment decisions. It may be that females differ in their access to information; differences can also be seen in their ability and inclination to use such knowledge or information (Bajtelsmit & Bernasek, 1996). Handley (1994) found that females experience exclusion from informal networks. It is reasonable, then, to conclude that females lack the same prompt access to valuable investment information, and that they will thus invest and behave differently to males.

## 5.9 “Gender Differences in Revealed Risk Taking: Evidence from Mutual Fund Investors”

### 5.9.1 Findings

A study by Dwyer *et al.* (2002) reveals that gender differences seen in risk levels of mutual fund investors can mostly be explained by their level of knowledge. The authors surveyed over 2 000 mutual fund investors and found that, in line with previous research, females were more risk-averse with their most recent, largest and riskiest mutual fund investments.

### 5.9.2 Reason for findings

When a financial investment knowledge control variable was added to the study’s regression model, it was found that the previously significant gender differences observed were now diminished. The implication of this finding is that, to a large extent, levels of risk taking in investment decisions among males and females are diminished when the level of investment knowledge is comparable. It would seem that gender differences are most noticeable and prevalent among investors more than among fund managers.

## 5.10 Conclusions

Even though it may appear that females’ higher risk aversion and lower levels of overconfidence would affect female fund manager’s performance, the professional environment and the equal levels of education and work experience remove that bias.

Most studies seem to find no significant difference in fund performance based on the manager's gender.

The differences in gender risk tolerance which funnels into the fund manager's investment style must be seen as a form of diversification for the mutual fund industry. Therefore, more needs to be done to promote the inclusion of female fund managers so as to enhance the financial stability of the industry as a whole.

When choosing a fund manager it would seem that no particular gender will be advantageous to an investor, but that looking at other factors such as age and level of education will give an investor a performance advantage.

To answer the research question, from analysis of all the above studies, it can be concluded that the gender differences found in mutual fund investors are not the same as those found mutual fund managers.

Female fund managers are still underrepresented in the mutual fund industry, and this could be due to the stereotypes that prevail about females in leadership and managerial positions. Further research is needed to explain why female managers are underrepresented and to look at female investors' biases so that fund managers will be better able to profile and service their clients.

## Chapter 6

# Gender Differences in Mutual Fund Investors in Emerging and Developed Markets

*Research Question: Are the gender differences found in mutual fund investors and mutual fund managers different in emerging and developed markets?*

### 6.1 Introduction

The premise of this final research area is derived from the research questions of Feng and Seasholes (2008). They pointed out that although much research has been done on gender differences in investing in developed markets, not much research on this aspect had been done in emerging stock markets. Feng and Seasholes (2008) wanted to better understand gender differences or similarities in investing behaviour, and thus looked at female and male participation levels to see if gender affects performance in the stock market.

Therefore, the final theme deals with the contextual aspect of mutual fund investing – that is, whether the investor is investing in an emerging market (EM) or a developed market (DM). It will also look into evidence of fund characteristics in both these markets, and see if any gender differences or similarities can be highlighted in either fund manager or investors in either emerging or developed markets.

### 6.2 Characteristics of Emerging and Developed Markets

Mutual funds are well-established institutions in developed markets and much research has been performed on the industry in this context. However, it is still a relatively new concept in EMs. However, this must not take away from the fact that it is a rapid expanding industry and worthy of academic probing.

In South Africa (SA) the unit trust industry is comparable to the mutual fund industry in developed nations like the United States. The only difference between mutual funds and unit trusts is their structure; the difference can best be described as follows: “A unit trust is

overseen by a trust company, while in a mutual fund it is the responsibility of the directors of the mutual fund company to ensure that the fund manager and the custodian perform their duties in accordance with the constituent documents” (Meyer-Pretorius & Wolmarans, 2006: 50).

According to Ramasamy and Yeung (2003), some of the characteristics of an emerging market’s mutual fund industry are market volatility, regulations and the extent of government involvement. Table 4 lists more of the characteristics that differentiate emerging and developed markets.

**Table 4. Characteristics of emerging and developed markets**

<b>Emerging Markets</b>	<b>Developed Markets</b>
Deregulation	Sophisticated markets
Liberalisation	Easy access to capital markets
Economic reform	Macro and micro economic long-term establishment (stability)
Smaller asset pool	Larger asset pool
Macroeconomic and trade reforms	

*Source:* Bekaert and Harvey, 2003; Ranganathan (2006);Azmi (2008).

### 6.3 Funds in Emerging and Developed Markets

When looking at developed nations like the US and Europe, differences can be seen in total asset size, average fund size and market importance of their mutual fund industries (Otten & Schweitzer, 1999; Feng & Seasholes, 2008). The European market can be described as still being in its high growth phase, but it is not as important in financial markets as the US. One important characteristic of the European market is that only five fund groups dominate the market, which decreases competition and increases barriers to entry for other fund managers (Otten & Schweitzer, 1999).

When dealing with an EM it is hard to evaluate investment portfolios, as one is dealing with different risk factors and regulations than in the US mutual fund industry (Azmi, 2008).

In a study by Ramasamy and Yeung (2003) a survey was conducted on what financial advisors consider to be important attributes of a mutual fund. This study was conducted in

Malaysia, whose mutual fund industry was established in the late 1980s. In the late 1990s the industry as a whole was given a boost due to intervention by the country's government. Some of these actions were allowing stockbrokers to operate mutual fund schemes, promoting investment road shows overseas to attract foreign investment, and introducing an Employee Provident Fund to name but a few. Due to these measures the mutual fund industry grew from RM15.7 billion in 1992 to RM60 billion in 1996. An important deduction from Ramasamy and Yeung (2003) is that in some emerging markets government intervention is needed to open up the market to allow free agents to offer accessible forms of investment to the public. A defining characteristic of Malaysia's mutual fund industry is the large government involvement. This is due to the government wanting to get more of the country's equity capital into the hands of its own citizens. Ramasamy and Yeung (2003) also note that in an emerging market some of the most important attributes that financial advisors look for in mutual funds are past fund performance, size of the fund and transaction costs. Favour is shown towards government-linked funds and those whose fund managers are more aggressive, experienced and professionally qualified.

The management style of these funds also varied across markets. In South Africa, companies either sold life insurance products or were just banks. However, the industry has changed and now asset managers also offer unit trust products. The approach to fund managers also varies across the markets. In South Africa, some companies use a "team approach" where no one single manager is responsible for an entire fund. By 2005 single fund managers managed 82% of funds (Meyer-Pretorius & Wolmarans, 2006). In developed markets, on the other hand, investment committees oversee and manage all major funds. Meyer-Pretorius and Wolmarans (2006) note that globally the trend is moving towards a one portfolio manager system, which they believe will lead to more entrepreneurship, aggressive and less risk-averse styles of portfolio management.

In terms of the shareholding of a market's entire equity capital, mutual funds or unit trusts can play a significant role. In South Africa, this is not really the case as unit trusts only hold 4.81% of total corporate equity. In the US, however, their mutual fund holds up to 25% of the country's equity which shows the impact and influence these funds can have (Meyer-Pretorius & Wolmarans, 2006).

There are important reasons for looking into mutual fund and unit trust investing in emerging and developed economies. Similarities can be drawn, as stated in Meyer-Pretorius and Wolmarans(2006):

- Both US and SA industries experienced growth rates of more than double that of their economies.
- Equity funds are still the preferred choice in both the United States and South Africa.
- Actively managed portfolios increased in importance, as seen by the decrease in general equity funds.
- Institutional funds play an important role in both countries; they represent 40% and 25% respectively in the US and South African markets.
- Single portfolio managers manage the majority of funds; this can be seen in 82% and 81% of all funds in South Africa and the US respectively.
- Marketing and managing costs have increased in both countries.
- Costs play a big role in industries in both countries; this can be seen in the average equity fund underperforming the market in both markets.

#### 6.4 Behavioural Finance in Emerging and Developed Markets

This section will look at literature from both emerging and developed markets to see whether biases and gender differences manifest in a similar way.

Azmi (2008) looked at the determinants (including age, gender, size, expense ratio and systematic risk) of mutual fund performance in Egypt, with particular reference to the gender of fund managers. He obtained data from the Egyptian Stock Exchange and looked at the mutual fund performance (measured by the Sharpe Index) from 1 January 1999 to 31 December 2003. Azmi (2008) found that there was a significant relationship between mutual fund performance and the gender of fund manager. Azmi (2008) concludes that for a retail investor wanting to invest during the aforementioned time period, the selection criteria that would have yielded the best result were an open-end fund managed by a woman with a growth objective and a low expense ratio.

In contrast, Niessen and Ruenzi (2007) and Welch and Wang (2009) found no difference in fund performance based on gender in a DM context.

In terms of overconfidence and risk aversion, studies having varying findings when applied to emerging and developed markets.

Beckmann and Menkhoff (2008) surveyed 649 fund managers (of which 19% were female) in the US, Germany, Italy and Thailand, and found that Italian females (DM) were more risk-averse than men but US (DM), German (DM) and Thai (EM) females were not. In terms of overconfidence, across all four countries, female fund managers did not differ significantly from their male counterparts.

Looking specifically at an emerging market, Chen, Kim, Nofsinger and Rui (2007) studied over 46 000 trades from a Chinese brokerage firm. They found that, because Chinese investors hold fewer stocks than US investors (2.60 vs. 4) and trade more frequently ( 27.3% vs. 7.59% monthly turnover), that Chinese investors were more overconfident than US or EM investors.

In a Swedish (DM) study, Berggren and Gonzalez(2010) surveyed students at UMEA University to uncover how gender affected financial decision making. They found that females had higher risk aversion, but that there was no conclusive evidence that either gender was overconfident.

In a US (DM) study, Wann and Lobo(2010) used a market simulation (Stock-Trak) on 10 000 Metropolitan University students, and found that males were more overconfident than females and that females were more risk-averse than males.

In China (EM), one of the biggest emerging economies of the world, Feng and Seasholes (2008) found no evidence of gender biases. They studied over 50 000 individual investors in 15 Chinese brokerage houses and found that, unlike Barber and Odean's (2001) findings, overall both male and female Chinese investors exhibited similar investing behaviour. China is a good context for gender-based investing studies as both males and females are equally represented. Evidence of this can be seen in Feng and Seasholes' (2008) results, which

show a perfect 1:1 male to female ratio among active investors in China, in contrast to Barber and Odean (2001) who found that in the US in the 1960s the active investor market comprised 80% males (Feng & Seasholes, 2008). On the other hand, Feng and Seasholes (2008) found that males had have larger portfolios and traded more than females. However, males and females were found to be similar in their investment behaviour in three distinct ways:

1. Both genders over-weighted local equity by 9% relative to the market.
2. Portfolio performance was not statistically significant.
3. After controlling for factors such as number of stocks and number of trading rights, there was no difference in trading frequency among the genders.

From this we can deduce that there is still scope for research in behavioural finance in both emerging and developed markets.

## 6.5 Investors in Emerging and Developed Markets

In a study by Meyer-Pretorius and Wolmarans (2006) the unit trust industry was examined; the purpose of the study was to gauge, from 1965 to 2005, whether South African investors were better off. Meyer-Pretorius and Wolmarans (2006) looked at the developments of the unit trust industry in South Africa over this time period and compared it to the growth in the US mutual fund industry. In 1965 South Africa had only one unit trust fund with assets under management of ZAR600 000 (South African Rands). By 2005, 567 funds existed and had assets of over ZAR400 billion. The average compounded growth rate of the industry between 1970 and 2005 was 22.34% per annum. Meyer-Pretorius and Wolmarans (2006) claim that the growth in the unit trust industry is not driven so much by their performance but more so by their popularity among investors as an inflation-beating investment.

Meyer-Pretorius and Wolmarans (2006) found that on the whole South African investors are more risk averse than US investors. Evidence of this can be seen in the composition and weighting of money market funds in South Africa. As opposed to other developed nations, South Africa has equity, bond, money market, balanced and mixed funds. By 2005, the

money market funds represented 33% of the total assets in the fund industry; when compared to the global average of 19%, it is clear how Meyer-Pretorius and Wolmarans (2006) concluded that South African investors are generally more risk-averse.

In terms of investor behaviour, South African and US investors are generally on par. This can be seen in the increase in portfolio turnover rate. (The turnover rate is defined as the repurchase values per year as a percentage of total assets)(Meyer-Pretorius & Wolmarans, 2006). In South Africa in 1965, unit trusts were purchased as long-term investments, but between 1998 and 2004, an average South African investor held onto their unit trusts for a mere 2.5 years on average. In the United States during the 1950s, an investor would hold onto their mutual fund investment for an average of 16 years; now this holding period is down to 4 years (Meyer-Pretorius & Wolmarans, 2006).

A common pitfall of mutual fund/unit trust investing for both EM and DM investors is the fact that the costs of this type of investment (transaction fees) can deflate investor return. Meyer-Pretorius and Wolmarans (2006) found that in both South Africa and the US, investor returns were lower than the market return after taking costs into consideration. Between 1988 and 2005 the average equity fund manager earned a 19.5% return, beating the market by 1.5%. However, after accounting for costs, this return diminished to 12.4%, which was lower than the market return. Similarly, in the US, from 1983 to 2003, the average equity market return was 13% whereas equity funds only returned 10.3% on average after costs (Meyer-Pretorius & Wolmarans, 2006).

## 6.6 Conclusion

Sub-dividing research about gender differences in investing along emerging and developed markets is important. From the above literature it can be seen that each market has a definite set of characteristics that have similarities and differences, and it is these attributes that may have an impact on the way investors behave. This dissertation looked at mutual fund and unit trust investing in particular, because it was discovered that there had been little research in this area in the past.

Even though emerging and developed markets are distinctly different, we can see many similarities in the mutual fund/unit trust industries in the United States and South Africa. One of the main problems faced by both EM and DM investors is the cost associated with this type of investment vehicle.

To answer the research question of whether the gender differences found in mutual fund investors and mutual fund managers in emerging countries are different to those in developed markets, most of the studies reviewed in this chapter have shown that there are not significant differences based on market context.

What is most pressing in this specific area's future research is that more must be done to understand the behaviour of South African investors. Meyer-Pretorius and Wolmarans (2006) and Willows (2012) have made strides in our understanding of South African investment behaviours but this is just the beginning if we want to draw solid conclusions of our unique investor population. One unique characteristic in South Africa is the diverse cultures and groups of people who operate in the market. Because South Africa's democracy is only 25 years old, many groups have only of late become economically active in the market and their investment behaviours are yet to be understood (Iheduru, 2004). The behaviours of these sub-groups and also the gender differences that might exist should also be explored, as was done by Littrell and Nkomo (2005) when they looked at gender and race differences in South African leadership. However, caution is required to ensure that the results are not interpreted on the basis of any colour-based stereotypes.

Mutual funds and unit trusts are an easily accessible investment vehicle to a lay investor, and that is one of the main reasons for their growth in popularity in both emerging and developed markets (Khorana *et al.*, 2005). With this growth comes the need to understand what drives it from a market context, and from the points of view of fund managers and investors. Behavioural biases can arise and affect investment choices or fund performance in these market contexts, too. From this chapter and the literature reviewed we can see that much research has been undertaken on this type of investment vehicle in developed markets such as the US and Europe but more must be done to study gender differences in a South African context.

# Chapter 7

## Conclusion

### 7.1 Summation of Findings

This dissertation has reviewed literature on gender differences in mutual fund/unit trust investing with a specific look at their context in emerging and developed nations. As seen in Chapter 4 the mutual fund industry has experienced robust growth globally. Developed nations such as the United States boast the largest mutual fund industry in the world and have seen the most changes in terms of market dynamics and fund investment style. However, when it comes to this field's research in emerging markets, especially South Africa, the scope and depth is limited.

In Chapter 5 the behaviours of mutual fund investors and managers were compared with a specific focus on gender differences. It was found that although the gender differences in risk tolerance and confidence levels were most pronounced in female investors, the professional environment in which mutual fund managers find themselves mutes this difference. It was discovered that neither a male nor a female fund manager would offer an investor a superior performance advantage. However, factors such as age and level of education will positively affect an investor's mutual fund performance. Therefore it can be concluded that given the research reviewed that the gender differences in mutual fund managers are not the same as the gender differences found in mutual fund investors.

Where this dissertation makes its biggest impact is the distinction between mutual funds and unit trusts in emerging and developed markets. The impact is the evidence that there is still more to be done in examining the field of gender differences in this type of investment vehicle in emerging markets. Studies that have found South African investors to be more risk-averse than US investors, for example, need to be investigated further with the view to comparing males and females in both markets and even racial groups in both markets.

Developed markets are seen to have older, larger and more established mutual fund industries. In emerging markets, some of the unique characteristics of the industry include government involvement and regulation changes. One of the biggest obstacles facing emerging market investors is their knowledge of mutual funds and unit trusts as a preferred investment vehicle. It is important for stakeholders such as government, financial services and fund managers to implement marketing and awareness campaigns in to improve investment savvy.

## 7.2 Areas for Future Research

The purpose of this literature-based dissertation was to systematically review the literature in a given field, with emphasis on specific thematic areas, and to give reasons for the findings as well as to set a robust literature base for future empirical studies in the field of behavioural finance. In this dissertation the focus was on mutual fund/unit trust investing, with the need to find gender differences among investor and/or fund managers in emerging and developed markets. One area for future researchers to investigate is the gender differences, commonly found in mutual fund investors in developed markets, in emerging markets and more specifically in South Africa. South Africa as a market context offers researchers many unique opportunities. The field of behavioural finance is still in its infancy here and due to the political, economic and social changes that come with the advent of a new democracy, South Africa has many new participants in the investor population, whose investment style and behaviour must be understood. This is important to fund managers as they need to adapt their service offering and the way they profile clients from the new investor population. The change in economically active citizens has seen an increase in females and multi-racial groups that have unique investment needs and whose members think and behave in a way that would be beneficial to investigate so as to add to the body of knowledge and enable stakeholders to make more accurate conclusions about South Africa's investor population.

Empirical research could also be done on to compare the mutual fund Investors' behaviour among males and females in South Africa vs. the United States. Racial groups could be compared across these two markets, too, as both countries have a history of racial segregation and yet these members of the investor population now both have access to

and participate in a market they were once excluded from. Areas of interest would be to compare mutual fund returns of previously disadvantaged groups from the time of inclusion into the economic and subsequent investment population.

### 7.3 Limitations and Points to Note

Papers that have findings of gender difference were more likely to be reviewed for this dissertation; this can be seen as a limitation of this study. It is easy to review articles that have found gender differences, as those tend to be more readily published than those that do not find differences (Croson & Gneezy, 2009). However, this dissertation has endeavoured to review a variety of literature and has discussed papers that both do and do not find gender differences. What would be most helpful for future research is that both researchers and publishers record and publish the gender of their samples. This will help to expand our understanding in this field of research.

Another limitation to this dissertation is that the number of papers under review was not very extensive given the time and scope constraints. An area of improvement for future researchers would be to conduct a meta-analysis, which is “a technique that statistically combines the results of quantitative studies to provide a more precise effect of the results” (ICS, 2007). Such an analysis would take more papers and databases into consideration, which would lead to more accurate generalisations.

## Appendices

### Appendix 1: Advantages and disadvantages to review methods

#### *Appendix 1.1 Mapping review/systematic map*

<b>Advantages</b>	<b>Disadvantages</b>
Systematically contextualise in depth literature reviews in the broad research field to identify gaps.	Time constrained.
They are a means to identify more specific policy and practice-relevant review questions.	Due to studies being categorised at a macro level, this could lead to an oversimplification of the findings.
Literature may be categorised according to theoretical concepts, population groups or study settings.	No quality review process of studies, as studies are categorised by study design.
It allows for an informed decision to be made about whether or not to conduct an in depth review of all studies in the research field or just a subset.	

#### *Appendix 1.2 Rapid Review*

<b>Advantages</b>	<b>Disadvantages</b>
They are rigorous in their method of literature analysis but make concessions for the depth or breadth of the review process by limiting certain aspects of a systematic review.	The time scale restriction methods introduce bias including publication bias and limiting quality assessment.
Time scales are shortened by focusing to the research question deliberately, looking to review reviews, limiting the amount of physical studies researched and extracting only key variables.	Due to the research question being carefully focused and limitations to the quality and quantity of research papers, one may derive a precise answer to an incorrect question or vice versa.

### ***Appendix 1.3 Systemised Review***

<b>Advantages</b>	<b>Disadvantages</b>
Even though the author may do a comprehensive search through the literature, the extent of the analysis is limited to cataloguing.	Quality assessment is less evident in these studies methods.
The author may also choose to rather limit the number of databases used and then code and analyse the results in a systematic way.	Processes are not described as rigorously as other methods and only a small set of eligible articles are utilised.
These types of reviews form the basis for further study or research.	Can produce greater biases

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