Ministry of Science and Higher Education
Republic of Poland

eFinanse
financial internet quarterly

THE USE OF BEHAVIORAL FINANCEIN THE WEALTH MANAGEMENT PROCESS

Krzysztof Opolski[1], *Tomasz Potocki*[2]

Summary

The economic theories taking into consideration human behavior and based on the achievements of psychology, sociology, anthropology have been evolving at a blistering pace over the last decade. Owing to that, the behavioral finance has become one of the fastest developing academic areas focused on the analysis of financial markets' behavior. The following presentation of the most common mistakes made by investors will allow the readers of this publication to develop more effective investment strategies and establish control of the customer service in the cooperation between advisors and clients of the Wealth Management services.

JEL classification: E21, E44, G21
Keywords: Wealth Management, behavioral finance, heuristics, prospect theory, bounded rationality

Received: 31.07.2011 Accepted: 22.11.2011

Introduction

A broadly understood investment market, especially the capital market, has always been the subject of research conducted in many fields of science. Empirical research combining economics, mathematics, econometrics, biology and psychology has been providing us with new catalogues of empirical findings which constitute the foundation for construction of descriptive models. On the other hand, varied points of view of investment issues provide a priori prescriptive models, whose main goal is to describe the reality in the most credible way and to try to develop tools with great predictive power. Attempts at developing a holistic model or an investment strategy have been arousing emotions among practitioners and theoreticians of investment markets for many years and currently they also excite the institutions of Wealth Management, managing the property of affluent individuals.

The theories based on human behavior drawn from the science of psychology, have been evolving at a blistering pace over the last decade, making behavioral science one of the fastest developing academic fields focused on the analysis of the behavior of investors in financial markets. Although scientists have already discovered a great number of surprising deviations from rationality which predetermine the investors' decision processes, including those belonging to the HNWI sector (High Net Worth Individuals), there are still many issues to explain if we want to better understand emotions and cognitive mistakes which disturb the investors' decision process and lower their level of wealth. Contrary to traditional economics, behavioral approach offers a more systematic analysis of an investor in the process of becoming rich. Instead of claiming that investors are rational and maximize utility, this

[1] Professor Krzysztof Opolski, The University of Warsaw, The Faculty of Economic Science, ul. Długa 44/50, 00-241 Warszawa, kopolski@wne.uw.edu.pl.
[2] Ph.D. Tomasz Potocki, The University of Rzeszów, The Faculty of Economics, ul. Ćwiklińskiej 2, 35-601 Rzeszów, tpotocki@gmail.com.

approach observes human behavior and offers investment choices based on this behavior. It is vital then to learn the principles governing behavioral economics and the rules that the wealthy should follow when taking decisions, especially when influenced by uncertainty and risk.

The goals of a wealthy client

The *Wealth Management* process starts with a detailed, formalized identification of the goals of the HNWI group. At the very early stage of the analysis the HNWI advisor must determine the process to match the individual profile of a client. This areas covers not only such fields as previous investment experience and resulting attitudes, but also such elements as marital status, time left before retirement or granted guaranties.

Clients usually perceive their goals in a very general way. For example, a typical client describes them as a possibility of financing children's education, affluent retirement and keeping the present living standards (Evensky, 1997, p. 1). Such simplified approach to future financial situation characterizes the lack of basic attributes of a Wealth Management advisor necessary to start the planning process. These goals need specifying the time, amounts and their classification which takes into account priorities.

The first step in the Wealth Management process is detailed definition of client's goals, and the Wealth Management advisor must often educate the client in this area. We should emphasize here the fact resulting from the research conducted by IBM Consulting Service (IBM Consulting Services, 2005, p. 31) showing that this area of activity is vital for further relationship with the client. The ranking of preferences prepared by IBM showing the level of their importance put "customer service quality" in the first place and "quality of investment advice" in the third place. Establishing goals and educating the client are therefore an integral part of the Wealth Management process, vital for further development of work, but also constituting a starting point for developing a long-term relation.

Hidden goals

Clients of a Wealth Management institution, when asked about their goals, are seldom able to provide a detailed specification of their vision of the future, however, they often show lack of interest or even criticism of many investment issues. This attitude is determined by individual experience and convictions. Particularly the issues of risk management seem so obvious to clients that they seldom perceive this area as needing specification (Evensky, 1997, p. 2). Of course, even if this has not been discussed, the basic goal of all investors is to become immune to risk which may all of a sudden depreciation of their wealth. Therefore it is necessary to take this issue into consideration at the beginning of the investment process in the aspect of taken risk. The Wealth Management Process requires that hidden goals are determined and quantified. The consequence of risk is the necessity to provide appropriate reserve for potential costs of risk materialization or fluctuation of market prices (Chorafas, 2006, p. 68). The majority of the Wealth Management advisor's competencies should focus on advising in the area of classifying the degree of risk and the potential costs of covering it. Also in complex or special cases, the advisor should direct the client to appropriate specialists. Only after establishing the appropriate level of reserve for covering the consequences of taken risk, the Wealth Management advisor determines the ways of managing a long-term investment, by which we understand a period of at least 5 years, in accordance with the *Five Years Rule* described by Harold Evensky:

> *„One of the fundamental convictions of a Wealth Management advisor shoud be the principle that the investor should be convinced to invest for at least 5 years. This recommendation should refer to all investment decisions."* (Evensky, 1997, p. 2)

The second category of hidden goals is the reserve for the "rainy day" related to exposure to risk being the consequence of unexpected events in the pejorative sense and security of potential investment opportunities. Going over the safety margin may lower the quality of the client's living standards or restrict their opportunities for development of new business branches. For the advisory objectives in Wealth Management, hidden goals are unquestionable priority. The resources needed to cover expenditure of marginal likelihood may also be subjected to quantification and rooted in appropriate liquid instruments with very low risk.

Medium-term goals

After determining and quantifying hidden goals, the Wealth Management advisor may move to the next category – medium-term goals, usually determined as those which an investor wants to achieve before their retirement. Medium-term goals are those which are consciously planned and determined in the above-mentioned time period. In this area we should take into account the expenditure on education, weddings, extra real estate, other property or travelling round the world (Evensky, 1997, p. 3). The specification of these areas requires three core criteria concerning time, amounts and priorities of an investor. For an example, in the plan of servicing education costs it is necessary to determine the number of years in which education will be financed and the amounts of allocated financial means. Investing capital for the purpose of servicing medium-term goals should also belong to the group of low-risk assets.

Retirement goals

The final main goal of all investors is financial independence and maintaining the present standard of living in the retirement period. Planning these needs is unique in its complexity. Some clients need 3-month cash reserve in this period, others 12-month cash reserves. For some the priority is to have life insurance policy, others do not bother to have it, etc. However, the basic goal is to maintain financial independence and current living standards. Naturally, these goals also require specification concerning dates, amounts and prioritizing their importance. Nevertheless the Wealth management advisor, with such vaguely formulated goals, finds himself in the middle of issues concerning the uncertainty related to the length of life or individual understanding of "current living standards". Determining the time framework in the process of planning the retirement goals is based on the client's life expectancy. The Wealth Management advisors in this area do not refer to life expectancy tables prepared by actuaries, as such approach may turn out to be insufficient. A decisive factor here is unique genes of a client. To take this aspect into consideration while predicting, it is important to determine the length of life of the client's closest relatives.

The complex quantification of the above-mentioned issues is a daunting task, requiring not only determining the retirement age of an investor, but also the situation of a spouse and his/her expectations concerning the retirement period (in case the pre-nuptial agreement has not been made). The determination of the investor profile in this area is a much more complex process than the previous two stages.

In *Wealth Management Process* probably the most important variable in planning strategic investment is time. Having clearly defined time framework allows the Wealth Management advisor to determine the strategy of investment choices and achievement of defined benefits by the client. The definition of goals, their priority and time framework is an integral part of the Wealth Management process. De facto, it is the foundation on which the success of future stages depends.

Risk appetite as a wealth creation factor

The fear of risk is probably the most significant restriction in the decision process, which greatly influences the impossibility to achieve life goals. One of the unique features of the Wealth Management advisor therefore should be the ability of educating the client as regards the levels and types of risk and indicating instruments allowing effective management of various types of risk.

In the investment process, an attempt at generating higher return on investment is inseparably connected with the necessity of taking greater risk and usually a longer horizon of capital investment. On the other hand, risk aversion creates naturally lower return rates. Inclination to taking risk is thus the main determinant of the investor's wealth. The *Barclays Wealth* research (Barclays Wealth in co-operation with Economist Intelligence, 2007, p. 3) shows that the inclination to riskier decisions depends on the wealth level. Around 60% of respondents with assets exceeding 1 million USD point out that increased risk appetite was of key importance for increasing their wealth, compared to only 36% of respondents with assets below 1 million dollars. The inclination to taking risk is closely correlated with the level of wealth. The Wealth Management advisors see the investor's age as superior (if not the main) criterion determining the structure of investment portfolio. The most popular and simple formula determining the inclination to taking risk assumes (a) % of investment in bonds and (100-a) % of resources into shares (Evensky, 1997, p. 15). This strategy may, at "a first glance", be an approximation of the client profile concerning risk.

The risk concept implies the possibility of accepting and avoiding its consequences. Together with the development of the theory of probability and its applications in economics, the approach to understanding and measuring risk gained a new dimension. For those managing investment portfolios the breakthrough moment was the publication by Harry Markowitz from 1952, in which the author wrote: "I was startled by the thought that the need to analyze the risk level is as important as the return rate"..

This statement, though obvious now, was then ground-breaking and laid foundations for further development of the concepts and methods of quantifying risk. It is worth emphasizing that the inclination to risk-taking largely depends on the psychological features of an investor. Benjamin Graham, the forerunner of the fundamental theory of investment, referred to the significance of psychology in risk management, stating: "Investment decisions are determined by intelligence in 25% and by psychology in 75%". (Zarovin, 1987, p. 50).

In our opinion this proportion depends on the investor profile and may fluctuate in time. Especially in the process of long-term creation of capital flows, psychological elements should be of marginal importance. However, as new trends in Wealth Management show, psychological aspects are increasingly determining investment behavior. Therefore, if risk awareness is such an important concept and its management is the responsibility of a Wealth management advisor, it is necessary to learn from him not only the achievements of science, but also behavioral aspects of attitudes to risk. This knowledge should facilitate the performance of the Wealth Management advisor function, namely allocation of capital in an appropriate classes of assets.

The major psychological traps – advices for the wealthiest

From the point of view of the Wealth Management process, the most useful decision analysis is the prescriptive method. Financial advisers should use these criteria when advising HNWI clients to serve their interest the best they can. In the investment process, learning how people formulate their expectations is of key importance. A lot of empirical studies concerning individual behavior of people, including the wealthiest ones, in taking decisions show that there is a regular deviation from rationality resulting in behavior which goes against the first and the second condition of a classic paradigm of rationality. Irrationality schemes, incompatible with the first condition, form the so-called collection of mistakes in the sphere of beliefs, while those incompatible with the second condition determine creation of alternative models of preferences.

At the present stage of behavioral finance development we have discovered over 50 deviations concerning both beliefs and preferences. Below we present only some of them, in our opinion most frequently made by the wealthiest people and their advisors in the investment process. In addition, for each deviation we propose a recommendation helping to diagnose it and to prevent it. Categorization of deviations from rationality that can be found in behavioral finance literature will not be used, as it is not necessary or needed from the perspective of an HNWI client.

Overconfidence

A lot of studies have clearly demonstrated that people are overconfident in the area of formulated assessment of investment opportunities. They are usually affected by two kinds of appearances. On one hand, they sharpen likelihood overestimating the big and underestimating the small. When they think something is 80% likely, they treat it as certain, while something with 20% likelihood is considered as impossible to happen (Fischhoff, Slovic and Lichtenstein, 1977, p. 552−564). On the other hand, the certainty ranges formulated for end prices of financial instruments are too narrow. As Alpert and Raiffa indicated (Kahneman, Slovic and Tversky, 1994, pp. 294-305) this means that when investors were to assess the value of an instrument with 98% likelihood, they only did it with 60% likelihood. Therefore the mistake level, instead of planned 2% equaled 40%.

An interesting observation was made by D. Kahneman (1998, p. 3), who stated that the most resistant to overconfidence are meteorologists and a group of people connected with horse-races. This is due to three reasons:

1) firstly, they encounter such problems every day,
2) secondly, they make clearly probable approximations of the goal function,

3) finally, they obtain clear and regular results of their decisions.

When the above conditions are not met, we can expect overconfidence both of the wealthiest and of their advisors.

The overconfidence phenomenon is also connected with the phenomena of overreaction and too weak reaction to appearing information which may influence the direction of investors' decisions. It is interesting from the perspective of Wealth Management advisors' professionalism that the higher the level of professionalism, the higher the indicator of overconfidence and the larger deviation from proper decisions, which may eventually disturb the portfolios of the wealthiest (Daniel and Titman, 1997, p. 1-5).

The most useful hints that would 'soften' the deviation from rationality that could be offered to advisors and their Wealth Management clients are:

1) be aware that the investment process is connected with uncertainty regardless of the level of knowledge possessed by the client or the advisor. Therefore the probability ranges of taken decisions will be wider and HNWI clients will possess a better and more likely information horizon,
2) do not make hasty and frequent decisions aiming at situations in which investment turns into hazard. Each decision should be preceded by the financial instrument analysis and the portfolio should be subject to regular evaluation, not only concerning the profit level, but also concerning profits from alternative investment forms,
3) avoid situations in which investment in a particular company results from its geographic proximity or local patriotism. A lot of research in psychology of financial markets has shown that shares of local companies are treated as less risky just because of their local nature,
4) do not transfer overconfidence between the advisor and the HNWI client. Too good results in increasing wealth weaken the alertness of both sides of an investment process and increase the overconfidence level. Relating own successes to the results of market portfolios and general trends will demonstrate true skills of Wealth Management advisors.

Optimism and wishful thinking

Most people view their skills and experience unrealistically. In most cases this rule is confirmed in systematic planning. Usually the tasks planned within some fixed period of time are not kept to their deadlines. Thus the decision-maker aims at a very dangerous direction which may be described as control illusion. This is a situation in which we overestimate our possibilities of controlling the situations over which we do not have much influence (for example the financial situation in 2008).

Optimism and wishful thinking are of particular importance in predicting the future evaluation of the assets composing the portfolio of the wealthiest. Research conducted by K. Diether, C. Malloy, A. Scherbina (2002, p. 2113−2141) indicated that the companies of which analysts give the most varying valuations enjoy the lowest growth. This can be attributed to a very simple rule stating that market prices reflect the most optimistic forecasts. Optimists encourage their clients to purchase or optimistic clients make their own purchases, inflating the valuation of shares, as pessimists do not make any investment action at that time. In this way the price of a financial instrument is overestimated as much as it was overestimated by the most optimistic analyst.

The wealthiest investors and their advisors could take advantage of the following advices:

1) use the control mechanism for excessive optimism at each transaction. This will allow you to evaluate the situation in a more credible way and to take into account the fact that everybody can be wrong,
2) use in your investment process all failures that you experienced. This will allow you to find out the traps that we can fall into. It is difficult due to the fact that people prefer to remember their successes, which may make it an even more effective tool in Wealth Management,
3) use portfolio diversification, which will allow you to spread the optimism risk and its allocation into various assets,
4) use objective evaluation, especially in case of key investment for accumulating wealth. Clients of Wealth Management institutions should not use the so-called "second-hand advice",
5) regularity and long-time investment plan are attributes weakening excessive optimism. Therefore there is a need to create a long-term investment plan with mechanisms of capital and market entry/exit control regardless of market environment.

Mistakes resulting from representativeness

Another irregularity disturbing investment processes of the wealthiest are mistakes concerning representativeness. Their main assumption is violation of the Bayes law while assessing likelihood. This is another element distorting the assessment of an instrument which is subject to evaluation process. Research conducted in this area clearly shows that descriptions and analyses affect the context in which we perceive the situation and the frequent choice of a wrong investment strategy. This constitutes a serious deviation from rationality, as at least theoretically the context in which we present a particular situation in financial markets should not influence significantly the evaluation of facts (Hirshleifer, 2001, p. 1545−1548). A lot of behavioral finance studies clearly indicate that people who make the representativeness mistake are responsible for making obvious contradictions in formulating their investment strategies.

The representativeness mistake is also manifested in the so-called small sample size error. A lot of investors do not take into account the fact that some proportions maintained in financial markets gain significance together with the increase of the survey sample. Unfortunately, as D. Kahneman and A. Tversky (1974, p. 1124−1131) show in their research, intuition points at something quite opposite to what would result from the logic of a small sample size.

M. Pompain (2006, p. 128) proposed four questions which could be useful to eliminate this error:

1) How would the investment fund in which you want to invest behave in relation to investment of comparable size and style?
2) What are the rules of employing fund managers in the analyzed fund?
3) Are the managers well-known and did they reach high results in the past?
4) Did the average return rate of the fund exceed average results of market indexes in the period of 3,5 and 10 years?

If we ask ourselves these questions before choosing a particular security, it may help us eliminate this cognitive mistake.

Conservatism

While the mistake of representativeness leads to underestimating the risk of investing in a particular instrument, conservatism influences overestimation of impulses from the market. It is worth mentioning here an example presented by W. De Bondt and R. Thaler (1985, p. 793-805). They analyzed the data concerning the rates of return on investment in shares in American market since 1933. They discovered that shares with very low return rates in the past five years in the period of next five years had much higher return rates than companies with the highest return rates in the past five years. This can be attributed to the fact that investors are inclined to too conservative approach both to the area of profits and the area of losses. The shares of companies described as the biggest losers may be the losers only due to excessive pessimism of investors.

Conservatism is also reflected in one more way considerably affecting the situation of the portfolio of the wealthiest. Once an investor takes the position which brings him/her losses, they will dig into them as they believe that their decision will turn out to be the right one. Thus we fall into the trap of conservatism, evaluating the shares in our portfolio much higher than we would evaluate them if they were only in the sphere of our interest (Barberis, Thaler, 2004, p. 1065-1066). What is even worse, this leads to an illusion that unrealized loss is still not a loss at all.

Conservatism as a cognitive mistake, can often be eliminated through:

1) objective verification of all information, both bad and good,
2) using at the beginning of building the investment strategy the end-points of profits and losses irrespective of the developing situation in financial markets,
3) using analyses and instruments offered by Wealth Management advisors, who can help us understand the instability of the situation we are in at the moment.

Hindsight bias

Each of us should sometimes ask whether the evaluation of the situation we are in is the same as our expectations and preferences the day before it. Most psychological research proves that there is a small group of people who can determine the likelihood of the event from the perspective of the past. The mistake we are making is the effect of hindsight bias.

People managing their wealth should pay special attention to this mistake as it is common in all kinds of analyses in the media. Reading these analyses we have an impression that the authors exactly knew what would happen and when, while they only fall prey to hindsight bias. A lot of studies clearly indicate that these opinions differ considerably from those formulated before the event. For example, for most of 2008, advisors and financial institutions advised their clients to invest in investment funds and then in their reports indicated clearly that economic factors in global markets heralded such breakdown. We can ask whether financial institutions wanted to cheat on their clients or fell into the trap of hindsight bias, manifested here in overconfidence of financial advisors, but only towards past events.

That is why we recommend that those who manage their wealth:

1) ask their advisors for guidelines, assumptions or research which they use when formulating their investment plans, not referring to past but to future results,
2) ask to be shown the results of their client portfolio, especially in times of financial crisis. This may be very useful when verifying the credibility of Wealth Management advisors,

3) expect their advisors to present mechanisms of rewarding/punishing them for advice in order to avoid situations in which they earn a bonus only based on the amount of sold financial value.

Anchoring effect

This effect is one of major factors in evaluating financial instruments. In their decisions, investors take into consideration the latest price level, treating it as privileged, compared to other quotations. For many analysts, exceeding this boundary informs them about growth, for others it heralds immediate losses.

This effect means that the latest price may depend on some original value, which is given as a reference point. If we wanted to eliminate the anchoring effect, we would have to ask analysts to properly assess the future price of the shares of a particular company exclusively on the basis of fundamental values of the company, without considering the past and present quotations. Stephan and Kiell (2000, p. 416-420) checked whether the anchoring effect can be observed in the German market. Investors were shown DAX index graphs for a certain period of time and then half of them were asked whether after 12 months the index value will exceed 6500 points. The other half were asked whether the index value will fall below 4500 points. At the very end each person was asked to anticipate the behavior of the index in the next 12 months. For the first group the expected value of the index was 5930 points, whereas for the second group – 5765 points. We can clearly see that the anchoring effect worked. We can also expect that if different anchoring values were given, investors expectations would also change.

To avoid the anchoring effect, investors should be aware of its existence and they should also ask their advisors whether they have not been influenced by this deviation from rationality. Moreover, we recommend verifying the data on the basis of which advisors help them increase their wealth.

Availability effect

Everything that is new seems the most available and useful. The feature of availability can be found in everything that evokes strong emotions, impresses and stimulates imagination. In capital market, recent price increase may encourage potential investors to purchase shares, while their decrease will provoke selling them. People behaving in this way are affected by the availability effect.

Stephan (1999, p. 101-134) gave his respondents a report on the stock exchange results of 51 German companies, of which 25 were well-known and 26 rather anonymous. When the reports indicated that the prices of the shares of well-known companies generally fall, while those of more anonymous companies grow, most respondents expressed a wrong opinion that the market experienced a downward trend. On the other hand, when the prices of well-known companies generally grew and those more anonymous fell, respondents were convinced that the market showed an upward trend. Each time the well-known companies turned out to be more available, and thus dominated in the evaluation of the whole group.

In order not to be affected by this effect, the authors propose to:

1) choose instruments in which we want to invest only when we formulate the investment strategy (in this way we will not be influenced by information from the press),

2) check the relevance and source of information received by investors in order not to make an investment decision based on unreliable sources,
3) resist the paradox of herd instinct that most investors fell prey to during the “IT bubble” in the second half of the 1990s.

Mental accounting

A frequently observed phenomenon is a situation in which investors use separate accounts in which they record some events, which from the financial point of view should be considered jointly. We often experience situations in which investors take a loan to purchase newly issued shares, although this transaction could be much cheaper if they used the money from the deposit they possess. Or if they use credit cards while keeping money in a savings account. An even more interesting example was provided by J. R. Ritter (2003, p. 433), who pointed out that people often divide their budget into entertainment and consumption. In the second case, they will not buy a lobster and shrimps, even though when they are at the restaurant, they can afford to splash out on such dishes.

M. Pompain (2006, p. 174-176) indicates five major investment mistakes based on mental accounting (the authors present the main four, most important for Wealth Management). Avoiding them will help us to eliminate this effect. These are:

1) mental accounting may offer an illusion that an investor has a number of investment portfolios and each of them has a separate profit and loss account. Such attitude may cause investment loss in case of aggregating these portfolios in spite of the fact that with individual approach, the investor earned in most portfolios,
2) mental accounting may cause irrational approach of investors to sharing profits from investment income and growth. Thus the process of spending interests on profits and securing capital may become vague and result in bad decisions taken concerning their expenditure,
3) mental accounting may encourage bad investment decisions in case of corporate pension plan management. When employees are not offered the purchase of company shares, they diversify their investment portfolio into various shares and securities offering stable income. However, if they gain the options rights, they limit their investment to only purchasing shares of their employer, making their investment portfolio riskier than in the first case,
4) mental accounting makes the investors committed to past profits from particular securities and accounts for the fact that they do not take into account the current situation risk (for example, during the financial crisis). Such situation leads to generating small profits or, worse, great losses.

Summing up the above deviations from rationality, we should state that not taking them into consideration in the investment process of the wealthiest people may lead to the situation in which the HNWI clients will overestimate their skills and knowledge, underestimate risk associated with particular instruments and overestimate their ability to control the events (Kahneman, 1998, p. 4). In addition, if these mechanisms are supported with regularity and objectivism of third parties, we can become partially immune to deviations from rationality and make the first step to better management of our wealth.

Conclusions

We should remember that investment decisions have their financial and emotional dimension. Moreover, investment decisions bring financial and emotional consequences. Unfortunately, Wealth Management clients and advisors forget the second dimension. Investing evokes a range of feelings, from pride, through euphoria, regret to guilt. Therefore each investment process should reflect the achievements of behavioral finance. An investor who regrets some financial loss feels and behaves differently if this loss was clearly the result of his individual mistake and differently when it belonged to systematic risk factors. In addition, when an investor does not control his or her emotions, they introduce toxic behavior into cooperation with their advisor, which is not beneficial for any side. The developing area of behavioral finance, even if it is not consistent with foundations of traditional economics, definitely increases the value of research and enhances our understanding of how to invest and increase our wealth or the wealth of our clients.

References

Barberis, N., Thaler, R. (2004). *A Survey of Behavioral Finance*. Handbook of the Economics of Finance.

de Bondt, W., Thaler, R. (1985). Does the Stock Market Overreact? *Journal of Finance*.

Barclays Wealth in Co-operation with Economist Intelligence Unit. (2007). *Barclays Wealth Insight: Risk, Return and Reward*, Vol. 3.

Chorafas, D. N. (2006). *Wealth Management. Private Banking. Investment Decision and Structured Financial Products*. Elsevier.

Daniel, K., Titman, S. (1997). Evidence on the Characteristics of Cross-Sectional Variation in Stock Returns, *Journal of Finance.*

Diether, K., Malloy, C., Scherbina, A. (2002). Stock Prices and Differences of Opinion: Empirical Evidence That Stock Prices Reflect Optimism, *Journal of Finance*.

Evensky, H. (1997). Wealth Management. *The Financial Advisor's Guide to Investing and Managing Client Assets*, The Irwin/IAFP Series in Financial Planning, McGraw-Hill.

Fischhoff, B., Slovic, P., Lichtenstein, S. (1977). Knowing with Certainty: the Appropriateness of Extreme Confidence, *Journal of Experimental Pyschology: Human Perception and Performance.*

Hirshleifer, D. (2001). Investor Psychology and Asset Pricing, *Journal of Finance*.

IBM Consulting Services (2005). *European Wealth Management and Private Banking Industry Survey*.

Kahneman, D., Slovic, P., Tversky, I. A. (1994). *Judgment Under Uncertainty: Heuristics and Biases*, Cambridge University Press.

Kahneman, D. (1998). Aspects of Investor Psychology, *Journal of Portfolio Management.*

Kahneman, D., Tversky, A. (1974). *Judgment under Uncertainty: Heuristics and Biases*.

Pompain, M. (2006). *Behavioral Finance and Wealth Management.* Wiley Finance.

Ritter, J. R. (2003). Behavioral Finance, *Pacific-Basin Finance Journal.*

Stephan, E., Kiell, G. (2000). *Decision Processes in Professional Investors: Does Expertise Moderate Judgment Biases?* WUV Universitaetsverlag.

Stephan, E. (1999). *Die Rolle von Urteilsheuristiken bei Finanzenscheidungen: Ankereffekte und Kognitive Verfügbarkeit,* Finanzpsychologie.

Zarovin, S. (1987). Investing Psychology Winners and Loses, *Sylvia Porter's Personal Finance.*