STOCKHOLM SCHOOL OF ECONOMICS

DEPARTMENT OF ACCOUNTING

MASTER'S THESIS

The Impact of Intrinsic Value on the Investment Decision

An empirical study of Swedish equity funds with ethical restrictions

Abstract

This study examines the impact of intrinsic value in fund managers' decision making. The study focuses on restricting factors that limit or influence the fund manager's investment decisions of Swedish equity funds with ethical restrictions. The ethical profile is examined and we investigate how it affects the impact of intrinsic value in particular.

We have performed a series of mini case-studies on seven funds. We have interviewed five fund managers, one equity analyst and two ethical analysts. We have also used the quarterly data of the funds to increase the validity of our study.

Our conclusion is that there exist several restricting factors that limit the impact of intrinsic value in the investment decision. The restricting factors leads to *compensating behavior*, where the managers strive to cover exposure to index developments created through the restricting factors. This has been the rationale behind many investment decisions, rather than considerations of intrinsic value. The ethical profile in particular has led to varying degrees of compensating behavior depending on the range of companies excluded. Other important restricting factors are the 5-10-40 rule, levels of in-house expertise and the liquidity of the investment objects.

Authors: Erik Jacobsson (20197) and Emelie Palm (20298)

Supervisor: Niclas Hellman

Discussants: Alfred Gunnevik (20596), Albin Nylén (20586) and Anders Svensson (20593)

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1. Introduction

98 % of all Swedes save in funds. The open-ended equity fund is the most common fund, and 55 % of the investors place their money in this investment vehicle (www.fondspara.se). Most people are therefore affected by the investment decisions made by the many fund managers that strive to create value for the savers. But how does a fund manager make his decisions? What factors influence his decision making? This thesis aims to contribute to the understanding of the investment decision process for equity fund managers.

The starting point for our essay is that an unrestricted investor that wish to maximize the value for the fund-investors will make his investment decision based on intrinsic value. The purpose of this thesis is to investigate *the impact of intrinsic value on the investment decisions* of a fund manager who is *faced with restrictions*. We have chosen to make a series of mini case-studies of actively managed Swedish equity funds that are marketed as ethical. The ethical branding has different consequences for the different funds, but common for all funds is that a number of companies have been negatively screened so that managers are faced with a restricted list of investment objects. Other characteristics of the study objects constitute further restrictions, such as only being able to invest in Swedish equity. Restricting factors, as defined by this thesis, are factors that limit or influence the fund manager's investment decision. We aim to investigate when restricting factors cause the investor to forgo intrinsic value.

A key concept in our thesis is intrinsic value. We have chosen to use Penman's (2007, p. 4) definition. Intrinsic value is,
"*the worth of an investment that is justified by the information about its payoffs."*
Intrinsic value builds on the notion that a best-estimate value can be calculated for a security based on financial information available to the fund manager. This value is dependent on the future payoffs and is calculated without reference to market price or any other benchmark. A stock can be undervalued if the stock quotation is lower than the intrinsic value, or overpriced if the stock quotation exceeds the intrinsic value. An active fund manager will try to discover mispriced stocks and try to exploit them (Penman, 2007).

All funds we have examined claim to be active. Some of the funds also express at their website that they base their investment decisions on fundamental analysis[1]. However, Hellman (2000) found empirical evidence of investor contexts and market premises that has restricted or reinforced the investor's fundamental opinion of an investment object. He studied the equity investment decision of eight large Swedish institutional investors[2]. We have found no other previous studies that have drawn conclusions of the impact of intrinsic value in the investment decision of fund managers at a disaggregated level.

In light of this we have formulated three questions to guide us through our thesis:
Q1: What restricting factors exist that limit the impact of intrinsic value on fund managers' investment decisions?
Q2: What specific restricting factors does the ethical profile convey?
Q3: What is the relative importance of intrinsic value in the fund managers' investment decisions?

Q1 and Q2 are easier to answer than Q3 is, because the answers will encompass our empirical observations in a direct way. Therefore we have structured our results in section 4 after the former two questions. Results are presented grouped as factors related to formal restricting factors, restricting factors related to in-house expertise and investment object specific restricting factors. Q3 will be directly addressed in our discussion of our results in section 5. Section 2 deals with our frame of reference and section 3 treats our methodology.

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1 AktieAnsvar (http://www.aktieansvar.se/artiklar/varafonder/sverige/index.cfm?show=mal) and Swebank Robur (www.swedbankrobur.se) express explicitly at their website that fundamental analysis is used. Other funds implicitly state this.

2 Two fund management companies, one investment company (closed-end fund), two life insurance companies, one life insurance company/fund management company, one foundation and one non-life insurance company

2. Frame of References

In our Frame of References we explore the concepts of the investment decision, intrinsic valuation factors and restricting factors based on theory and previous research. While our specific study subject is distinguished from rationality and rational choices, this has served as a starting point for our study. We use rationality and the empirical studies' of Koller *et al* (2005) to motivate the focus on intrinsic value.

2.1 Investment Decisions

The *Economic Approach,* as described by Becker (1978. p 5) describes a way to look at rationality:
"The combined assumptions of maximizing behavior, market equilibrium and stable preferences, used relentlessly and unflinchingly, form the heart of the economic approach [...]"
Man is hereby described as an actor who maximizes his wealth or utility given his preferences. Becker's Economic Approach is part of a framework for understanding economic and social behavior. This framework is often called *Rational Choice Theory.* There is a large body of theory concerning how to model decisions faced by a rational investor, such as the rational actor described by Becker.

Raiffa (1968) describes a systematic approach for individuals who are faced with problems of choice. Different courses of action are carefully modelled, and payoff and probabilities tied to the choices are calculated. The choices can then be ranked according to the expected return of each alternative action (Raiffa, 1968).

According to the Rational Choice Theory, the rational decision maker will base his decision on future expected payoffs of the shares. But this approach can be questioned. The fund manager might have other preferences than to maximize the funds wealth, and act thereafter. Is the manager then being rational or not? To enter a discussion of rationality we believe would take focus from the investment decision process that we want to have in focus. Thurén (1996) discusses different kind of problems with rationality and creates a definition that also takes those problems into account. Thurén (1996, p. 120) defines rational action as,
"*to chose the mean that most reliably takes one to the desired goal, given one's knowledge of the path."*

With this definition we can *assume fund value-maximization as our goal* and this way conclude that it is rational to let intrinsic value play a part in the investment decision. In addition to this theoretical motivation for the use of intrinsic value, Koller *et al* (2005) argue for the practical applicability of fundamental analysis in investment decisions. The authors' studies show that companies with higher returns and higher growth are valued higher by the stock market. Market-wide price deviations have been short-lived during the past four decades, and the market has corrected itself to price levels consistent with economic fundamentals within a matter of years. Markets focus primarily on long-term economic fundamentals and this is what should guide managers in their investment decisions (Koller *et al*, 2005).

There are however other considerations for a value-maximizing manager. Even though intrinsic value is important in the choice of the individual security, the fund manager manages a portfolio. As can be seen in figure 2.1, the fund manager has to make a series of decisions before choosing the individual security. Markowitz (1991) talks about two objectives that are common for investors. The first is to maximize returns on investments, and the second is to minimize the variance of the return, all other things being equal. Portfolios with different expected returns can be created, but only the ones with the least uncertainty (given the expected return) can be considered efficient. To achieve these efficient portfolios it is important to diversify the positions in the portfolio. Greater diversification of securities is reached by including more positions, and by having positions in different sectors (Markowitz, 1991). We want to make a distinction between portfolio level decisions, where diversification has to be considered, and individual stock level decisions, where we have motivated that intrinsic value should influence the decision. We have made the delimitation to focus only on the importance of intrinsic value, and restrictions that take the focus from it. In figure 2.1 we illustrate different levels of the investment manager's choices.

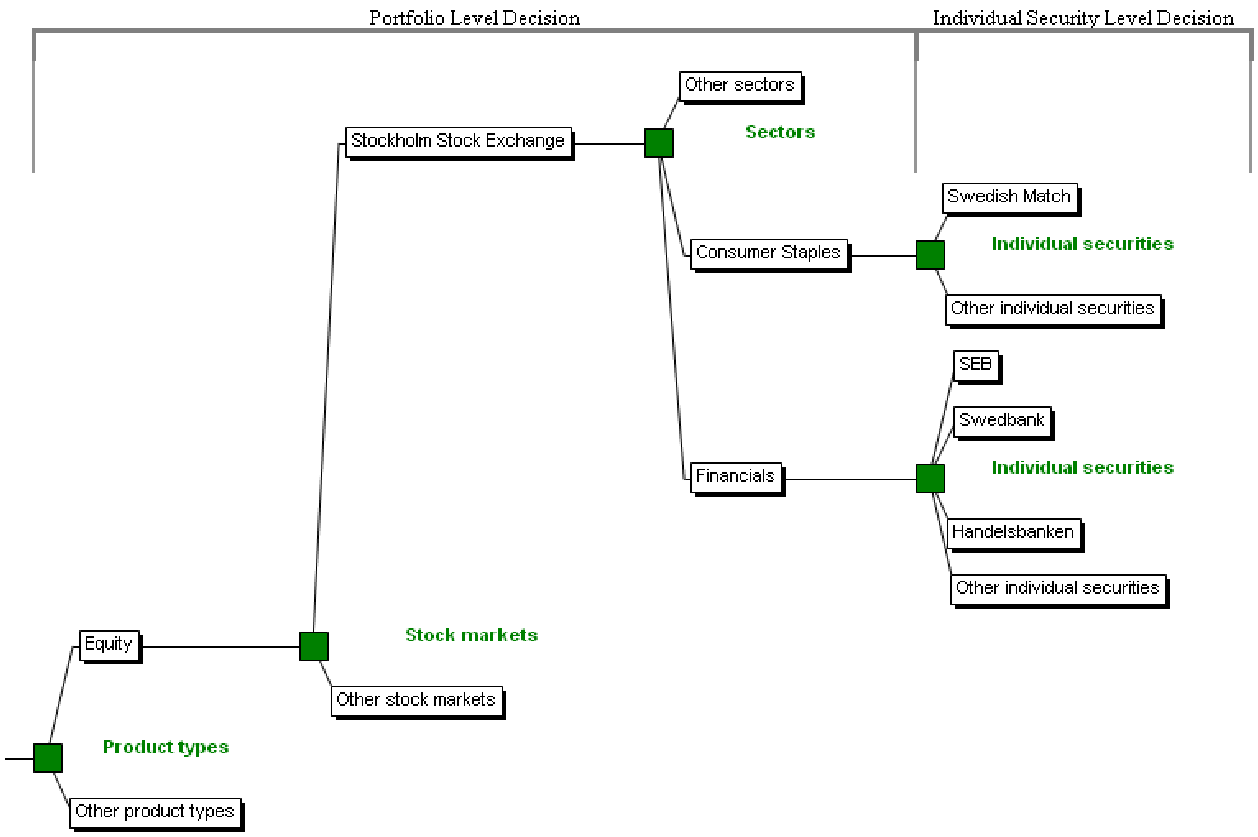

Figure 2.1, Aspects of the investment decision. Only some alternatives for each decision and only some leaf nodes are exemplified.

One way to motivate the individual security level focus is that we have chosen to focus on ethically branded funds. The work with ethics is done on individual company level in the forms that we have encountered. We also want to delimit our thesis and keep a clear focus. We are however aware that there are conflicting objectives for the fund manager and has kept this in mind in our analysis.

2.2 Intrinsic Valuation Factors

Different fundamental valuation techniques are used to estimate intrinsic value. In our thesis we have chosen not to tie the concept of intrinsic value to any specific valuation method. This is also the reason why we have chosen the more neutral term intrinsic value, rather than other terms sometimes used inter-changeably such as warranted value or fundamental value (Penman, 2007).

Penman (2007) defines four methods of valuation that involve forecasting. Dividend Discounting Analysis discounts the dividends from a company, Discounted Cash Flow Analysis discounts free cash flow to investors, Residual Earnings Analysis calculates the value as the book value plus residual earnings and finally Earnings Growth Analysis calculates value as capitalized earnings plus the present value of expected abnormal earnings growth. Hellman (2000) talks about different valuation attributes; dividends, residual earnings, and free cash flow that are involved in the three fundamental valuation models he mentions. Intrinsic valuation factors as discussed in this thesis refer to factors relating to a companies growth, margins on investments made and/or cost of capital, as these are the factors that drive intrinsic value (Koller *et al*, 2005). When talking about equity, we can make assumptions of the future development of these intrinsic valuation factors and estimate future cash flows from the underlying company and hereby estimate an intrinsic value of the equity.

2.3 Restricting Factors and Previous Research

In the introduction part of this thesis we introduced the concept of restricting factors. These restricting factors can be described in terms of different limiting dimensions. The following limiting dimensions were identified based on our fund selection:

- <u>Product types</u> – managers can only invest in equity.
- <u>Stock markets available</u> – managers can only invest in equity noted on the Stockholm Stock Exchange (further on referred to as SSE).
- <u>Ethical considerations</u> – all funds had ethical investment restrictions.
- <u>Diversification</u> – All funds have to have at least 16 positions (and the maximum size of individual positions is further restricted) according to legislative regulations. Some funds had applied a maximum number of positions as well.
- <u>Net flows from the fund</u> – One fund was not retail but directed to institutional investors and was expected to experience larger net flows.

In addition to these a-priori restrictions we have found support for additional restrictions based on previous research on investor behavior at a disaggregated level.

- Hellman (2000) did an empirical study on eight institutional investors. Some of the restricting factors he addressed were *legal conditions*, *low liquidity*, and *index-thinking*[3]. He describes that the institutional investors based their fundamental opinions on both expectations expressed in quantitative and qualitative terms. One important qualitative term is the *market's opinions*. Hellman (2000) also presents previous research that has shown the same results. He shows that *non-public information* played an important part in the decision making.

- Elton *et al* (2003) have studied the effect of incentive fees on mutual fund managers' behavior. The incentive fee is a reward structure; the investment performance relative to some benchmark creates the compensation to the fund manager. They found that *incentive-fee funds* take more risk than non-incentive-fee funds on average and that the risk is increased after a period of poor performance or decreased after a period of good performance (Elton *et al*, 2003).
- Haugen (2004) discusses why most American fund-portfolios look pretty much the same. He explains that it is due to the fact that most funds are benchmarked to the S&P 500 index. He distinguishes managers from individual investors; the managers have to worry about the S&P 500 *tracking error* while individual investors do not (Haugen, 2004).
- Baker (1998) studies the effect of performance benchmarking, by an interview survey to 64 fund managers. She presents that this affects the attitude to risk, to motivation and to *time horizons*. She concludes that the *performance monitoring* leads to short-term thinking (Baker, 1998).
- Coval & Moskowitz (2001) study the geography of mutual fund investments. They found that the fund manager can earn excessive return on nearby investments, thanks to an *informational advantage* i.e. having superior information about local stocks (Coval & Moskowitz, 2001).

The list of limiting dimensions can be increased with,

- <u>Index-thinking</u> – A focus on index weights in the investment decisions. Tracking error emphasizes this.
- <u>Incentive systems and Performance monitoring</u> – Increased risk-taking with poor performance and short-term focus with close performance monitoring.
- <u>Liquidity</u> – Low liquidity might prevent investment.

In figure 2.2 we illustrate the fund manager's restricted choices. We find further motivation on our focus on the individual investment object level in the fact that a number of choices on a higher level have been restricted.

[3] Buying and selling equities on the basis of their index weights

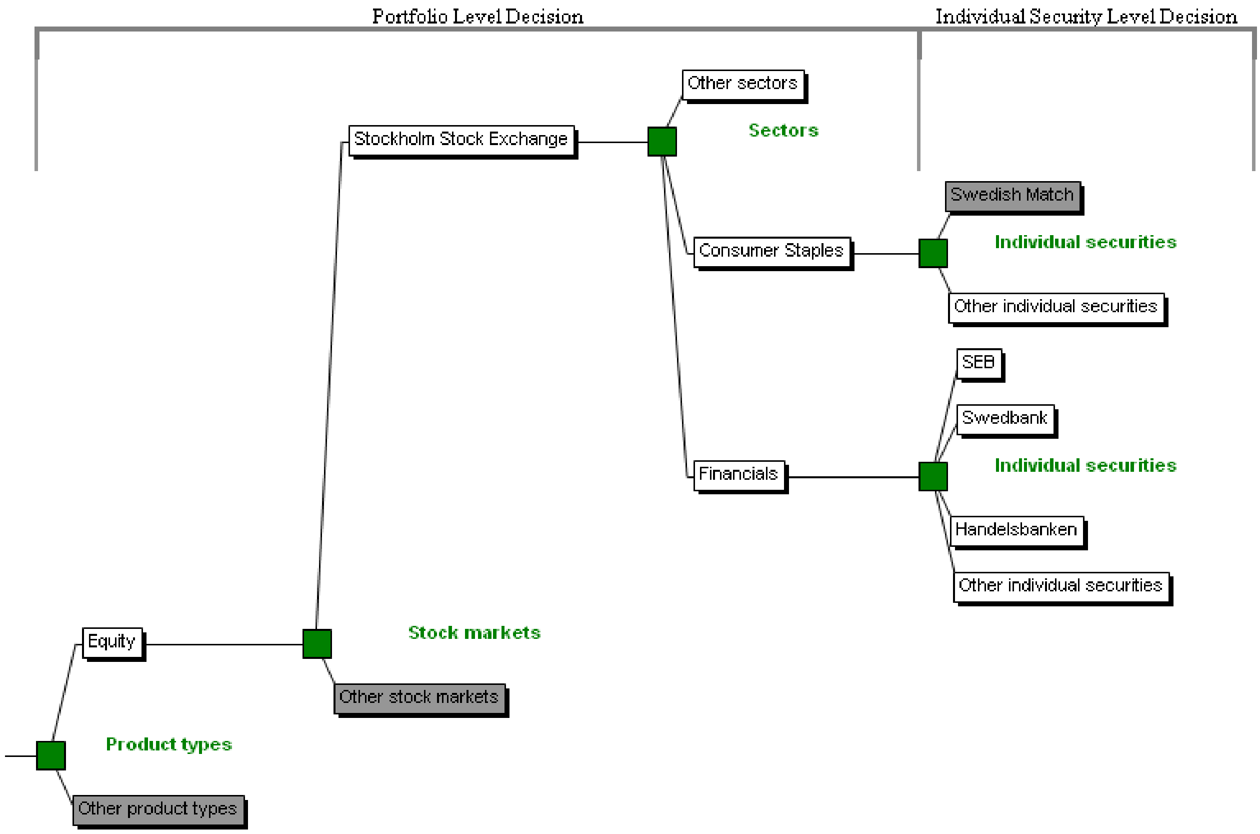

Figure 2.2, Aspect of the investment decision for an investor with restrictions. Only some alternatives for each decision, leaf nodes and restrictions (shaded) are exemplified.

We found no previous research on the effects of the ethical profile on the importance of intrinsic value in investment decision making. Most research on ethical funds argues whether ethical funds are as profitable as non-ethical funds or not.[4] We have used the ETHIBEL classification of the funds into different *generations* that gives a hint of the level of restriction. The first generation is built on negative screening; some companies will be excluded from the fund. The second generation applies positive screening of some aspects or sectors. The third generation chooses companies that are really suited to sustainability, based on a combination of economic, environmental and social criteria comprised by both the first and second generation. This demands a thorough positive screening of all aspects of a company. The fourth generation adds shareholder activism to the sustainable investing approach of the third generation.[5] We have used this distinction between levels of ethical commitment as support in our discussion of the ethical restrictions.

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[4] See Renneboog *et al* (2008) for a list of previous studies on SRI performance

[5] See http://www.ethibel.org/subs_e/1_info/sub1_2.html for a further description

3. Methodology

We started our thesis work with a specific interest in investor behavior. An initial literature search, of ‘investor behavior’ in the databases Business Source Premier, ABI and Science Direct, gave few hits on investor behavior at a disaggregated level. One was written by Hellman (2000) and called *Investor behaviour – An empirical study of how large Swedish institutional investors make equity investment decisions*. We were intrigued by the study of institutional investors’ behavior and decided to make a similar study but introduce further restrictions to make our study unique. We decided to examine ethical Swedish equity funds. We became specifically interested in the relative importance of intrinsic value in the investment decision making.

In the design of our study we tried to find a research design that could capture the complex investment decision making of fund managers. We have therefore chosen a compilation of mini case-studies. We have used both qualitative and quantitative data to describe the phenomenon. This combination increases the validity of a qualitative study (Merriam, 1994; Hellman, 2000; Andersen, 1994). The qualitative data consists of interviews. The quantitative data consists of the quarterly holdings of the studied funds published by the Swedish Financial Supervisory Authority’s (Finansinspektionen, further on referred to as FI). It has been used as preparation for the interviews, during the interviews and after the interviews to verify the answers. Further we have used secondary data from the funds’ homepages, interim reports and data on aggregated net-flows from the fund industry’s promotional organization (Fondbolagensföreningen). Our study contains all parts of a case-study described by Merriam (1998, p. 24), but we have decided to perform several mini case-studies instead of a single case. We perform one interview at several funds, instead of several interviews at one fund. Our ambition was to capture as large a variety of observations as possible rather than to gain the depth a single case study would have given.

To answer our questions we needed an inductive method of scientific inquiry. We wanted no pre-specified hypothesis (see Hellman, 2000, p. 50). We concluded that it was better to start by gathering the empirical data. When performing case-studies an abductive method is often used (Sköldberg in Alvesson & Sköldberg, 1994, p. 42). The abductive method combines both induction and deduction and differs from the two by also attempting to *understand* the investigated phenomena (Alvesson & Sköldberg, 1994, p. 41f). Therefore we did a lot of research about investor behavior, ethical and SRI funds, and behavioral finance before performing the study. By this, we gained knowledge about the area. When we did the data-analysis and the interviews we were still open for all results and searched for further relevant research after all empirical material was gathered and compiled. This method, to gather the empirical material without knowing what results will be concluded, has also been argued for by Merriam (1998, p. 79) and Silverman (in Wästerfors, 1998, p. 71).

3.1 Fund Selection

To answer our question about what restricting factors that limits the impact of intrinsic value we had to choose funds that reflected these restrictions. These restrictions are that the fund can only invest in Swedish equity, and that it has ethical restrictions. The selection has therefore been non-probabilistic (see Chein in Merriam, 1998, p. 61), with a purposeful sampling[6] (see Patton in Merriam, 1998, p. 61). Criteria have been used when we have selected the funds to reflect these restrictions. The criteria that we used to find our study objects were: for the fund to invest in Swedish equity, for it to be marketed as ethical, for it to be actively managed (i.e. no index funds) and for it to be registered in Sweden. The delimitation to Swedish equity funds was made to get a sample size that fitted the scope of the thesis. The ethical branding was chosen to add further restrictions to the funds and to add an element of uniqueness to our study. To delimit our study further, we excluded funds with a specialization such as environmental funds, culture funds or funds donating returns to specific causes. Swedish registration was important to improve our chances to get access to the fund manager. It was important to exclude index-funds so that we could observe active investment decisions. Finally we have chosen only one fund per fund broker, because we found that different funds managed by the same fund broker often faced similar conditions.

To find the funds, we searched FI's register. We also searched Morningstar and the list of PPM funds. We searched for funds that included the key words 'SRI', 'etisk' and 'ethic'. We contacted the agency for consumers interest (Konsument Ombudsmannen), Fondbolagens Förening, an organization to promote ethical investments (SWESIF) and Finansinspektionen by mail and asked for a complete register over ethical funds, but no such register existed. We did however find a survey over the profitability of Swedish ethical funds by Folksam in 2006 (Lundberg & Westholm, 2006). No further studies have been performed since. In the survey we found two more funds that fitted our criteria, though their name did not include any of our ethical search words. We also talked to one of the authors of the report, and asked for her opinion of how to best identify ethical funds.

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[6] Goetz & Lecompte (in Merriam, 1998, p. 62) calls it criterion related sampling

She told us that no complete list or register existed but that our method sounded solid. A full list of every fund, including the funds we chose to exclude in our study, is attached in Appendix A.

At two times we had to decide which fund to choose because the fund brokers offered several ethical Swedish equity funds. For Swedbank Robur we decided to pick their MEGA fund, a fund directed to institutional investors (smallest deposit is 1 MSEK), and from Banco we chose their Special fund, that is restricted to invest in fewer companies than its normal counterpart. These choices where made because we believed that their special conditions could add further restricting factors that could lead to deviations from intrinsic valuation. It also reflects our limiting dimensions in the framework of references. When we had contacted all fund managers we found out that Folksams Aktiefond Sverige had outsourced management through a prime brokerage agreement to Swedbank, and that the manager in our Swedbank Robur fund managed Folksams' fund as well. We decided that it was still interesting to include them both since they face different conditions due to the size of the funds and applied ethical rules.

The seven funds we have included in our paper are Aktie-Ansvar Sverige (managed by Aktie-Ansvar), Banco Etisk Sverige Special (managed by Alfred Berg Fondförvaltning), Carlson Sverigefond (managed by Carlson Fondförvaltning), Cicero SRI Sverige (managed by Cicero Fondförvaltning), Folksams Aktiefond Sverige (managed by Swedbank Robur), Nordea Etiskt Urval (managed by Nordea Asset Management) and Swedbank Robur Ethica Sweden MEGA (managed by Swedbank Robur).

The extent of the restrictions varied in degrees for the different funds. To monitor these and use it in our analysis we made a matrix to keep track of the differences in restrictions. Figure 3.1 illustrates the a priori version that we used as support during the early parts of our study. We divided the funds into groups based on the limiting dimensions presented in the frame of references, where we categorized them as 'more restricted' or 'less restricted'. It was based on information from interim reports, the web site and information sheets.

Fund	*Product types*	*Stock markets*	*Ethical considerations*	*Diversification*	*Net flows from the fund*
Aktie-Ansvar		x			
Banco Etisk Sverige Special			x	x	
Carlson Sverigefond	x	x	x		
Cicero SRI Sverige	x			x	
Folksams Aktiefond Sverige	x				
Nordea Etiskt Urval	x	x		x	
Swedbank Robur Ethica Sweden MEGA	x	x	x		x

Figure 3.1, x means more restricted [7]

3.2 Data Analysis

The starting point for our data sampling is the second quarter of 2007, this is when the aggregated net flows from all equity funds became negative (www.fondbolagen.se). This was chosen because we wanted to perform our study in the context of a receding 'bear market'. We have collected the transactions made by each of the funds every three months, based on the quarterly reports publicly available and on data provided by FI. The last report used was released in September 2008, giving us a total of 6 reports each and 5 transaction periods. We also asked every fund for data on net flows and derivatives – though we only got data on net flows from one fund. We then used the interim reports to analyse the balance sheet, which showed us to what extent they had used derivatives and gave a hint about the flows of the funds.

All funds had an index they were compared against; five out of seven was benchmarked to the SIX Portfolio Return Index (further on referred to as SIX PRX). For increased comparability we have compared all funds against this index. This index was included in the data for every fund. The different companies in the portfolio were divided into sectors as defined by the Global Industry Classification Standard[8]. For every period the portfolio weights, the change in portfolio weights and the change in quantity was calculated for. Then the reports were analysed regarding deviations from

[7] The fund is restricted if it claims to have a fewer number of holdings (diversification), has more than negative screening (ethical considerations), only invests in companies at the OMXS (stock markets), can only use other instruments than equity in a restricted way (product types), and if had large net-flows from/to the fund (MEGA fund, least investment is 1 MSEK)

[8] See www.omxnordicexchange.com

index or differences in the past weights. We searched for patterns that seemed unusual or deviated from the other funds. Especially large deviations from index weights were paid attention to.

After the interviews we went through the data again to cross-reference our observations and results from the interviews with the data. We also did calculations to verify empirical results from the interviews that could be supported by the quantitative data.

3.3 Interviews

All fund managers were first contacted by letter, where we described that we are writing our master's thesis about the investment decision process of ethical fund managers. We called them a few days later. Four fund managers, one equity analyst and two ethical analysts agreed upon meeting for an interview. One fund broker did not wish to participate at all, and so we had no further information about the fund than official data published at their homepage, by Fondbolagens Förening and by FI.

The data analysis was used as preparation for the interviews. We also used secondary data, such as interim reports, information sheets and the web sites of the companies. The interviews were held during approximately an hour. Both writers were present; one took notes and the other asked the questions. The interviews were semi-structured; interviews with open questions according to Merriam (1998, p. 88), and we tried to ask relevant follow-up questions when needed.

All interviews were recorded and then transcribed. We have used the funnel-technique, to ask questions on a wider level at first to get more specific questions at the end (Patel & Davidson, 1994, p. 65). At every interview we asked about the interviewee's background, the general structure of day-to-day work, the portfolio strategy and how the ethical aspect played out. We had also prepared an overview of the portfolio broken down sector-by-sector, containing weights and the SIX PRX for each interview. If we had a specific question about a company or a sector we presented the quarterly data in an overview for it as well. This was done to get more specific answers, and so that we would be able to back our questions with solid data. At all interviews, we asked questions about the Consumer Staple sector. We always tried to ask specific questions to avoid general answers, and we knew that we wanted compare the answers with the data afterwards so specific questions became crucial. We also asked all interview subjects questions about Ericsson AB. We wanted to have at least one company that we asked all interviewees about so we could compare the answers.

We started by asking about the strategy and the thoughts the interviewee had about the company, then we asked about the reaction to the profit warning on October 16, 2007[9]. These questions were backed by an overview of the Information Technology with weights, change in quantity, stock price and the SIX PRX weights for every quarter. We also showed an overview of the fund's holdings with a portfolio weight larger than 5 % in the latter interviews, when we had appreciated the importance of the 5-10-40 rule, and asked about the effect on stock picking. We finished the interview by questioning whether the interviewee could give a concrete example when he had been restricted or reinforced due to the ethical aspect of the fund.

[9] See http://www.ericsson.com/se/releases/prquarterview20074.shtml

4. Results

We will now present the results of our study. Each sub-section contains first empirical observations and then our analysis of the observations supported by data, theory and previous research where necessary. Initially we describe the impact of the performing determining indices, the characteristics of the SSE and introduce the concept *compensating behavior.* These are important observations and conclusions that are vital for the understanding of the other results, and the concept of compensating behavior is used in the discussion of the other results. We then proceed to discuss the formal restrictions, i.e. restrictions that apply to all funds and that exist due to formal regulation or commitments. Then we discuss restrictions related to aspects of information, and these are fund broker specific issues. The final part is related to the investment object specific factors that cause deviation from intrinsic value, namely the liquidity. Each section's findings are summarized and observations related to compensating behavior are discussed in a separate sub-section in the end.

For each section the funds will be referred to as fund 1 through 7, and the managers as fund manager 1 through 7. In each section the numbers have been changed, so as to further ensure the anonymity of the interview subjects (i.e. numbers are consistent only for 4.1.1 through 4.1.4, 4.2.1 through 4.2.3 and so on). At some points we are not specific about what fund we are talking about, and this has been done to further guarantee the funds anonymity. A final measure to ensure the anonymity of funds was to edit some quotations that have been used as empirical support.

4.1 The Setting for the Fund Managers' Investment Decision

This section will go through parts of the setting in which our fund managers made their decision necessary to understand the rest of our results. These are specifically the characteristics of the SSE and the performance determining indices for the funds. We also introduce the important concept of compensating behavior.

4.1.1 Characteristics of the Stockholm Stock Exchange

The characteristics of the SSE have proved to be an important factor when it comes to the decision making of the fund managers. The characteristics of the market are somewhat special; it is very small compared to for example New York Stock Exchange & NASDAQ. Roll (1992) presents empirical evidence that small markets are more volatile. The SSE further contains small number of large market cap companies that weigh heavy in the indices. Also, there exist several companies that are unique on the exchange, i.e. they have no close substitutes. Another characteristic is that there are few companies in the consumer staple and energy sectors. Fund manager 3 describes the market:
"Overall there is a problem with the Swedish Stock Exchange, there is a relatively small number of companies with this character [refers to Swedish Match]; consumer staples, not so many oil, gas companies either, energy. As there are in Europe. This makes the Swedish Stock Exchange sensitive to the business cycle."

4.1.2 Performance Determining Indices and Tracking Error

One thing that has been similar for all the funds that we have examined is that they all evaluate performance primarily against an official index. One fund was benchmarked to the SIX60 Index Cap, which is an index of the 60 most traded companies on the SSE capped so that no company weigh more than 10 % (www.six.se). Another fund benchmarked against the OMXSB Cap, which is an index comprising of the 80 to 100 most traded companies with a cap so that no company can weigh more than 10 % (www.omxnordicexchange.se). The five remaining funds benchmarked against the SIX PRX, which is an index that reflects all companies on the SSE with a cap so that no company can weigh more than 10 % (www.six.se). All the indices use the calculating method to re-invest dividends.

A few funds claimed not to look at the benchmark index in their investment decisions, but it became obvious that it played a large role for all funds. Fund 5 measures performance solely against an index but officially claim not to look at the index when making their investments. We asked about what role the index really plays in the investment decision:
"Well… That's a very good question. We claim not to look at the index [when we make the

investment decision] but at the same time, it's in here [points at his head] that you look at it anyway."

All fund managers had positions in the largest companies on the SSE (with the exception for the cases where ethical restrictions prevented them). Fund manager 2 talks about the risk of owning no shares in a large company, in this case Ericsson:
"Even if we try not to have our starting point in the index we cannot ignore it totally. Ericsson still weighs quite a bit so should we choose not to own anything it is quite a big risk we are taking"
Fund manager 1:
"We can absolutely be zero weighted in a small sector. But we'll probably own Ericsson, even if we don't like Ericsson. Because Ericsson weighs 7 % of the SSE and that's a big bet to us. We'll be under-weighted by 1 % or 2 % and, yeah, then we are enormously negative even though it weighs 7 %."
Fund manager 3 also talks about the heavy weighing companies, and the problems that can arise if you do not like them:
"We cannot own nothing in H&M, that can be the right thing but it is a VERY large position you are taking. Maybe we do it sometimes, but rarely as big bets as 9 %. On the Swedish stock market you can have a position where you are quite below index, a fairly big bet, but you still have quite a lot of stocks. It is a bit ungrateful to manage a fund in such an environment."

Fund manager 4 describes what they do when the fund experienced substantial uncertainty regarding Ericsson:
"[their reports] has been either very positive or very negative. Either or. Every time. You want companies that are more predictable. [with this uncertainty] we remain at the index weights."

Fund manager 5 describes the same situation:
"If there is substantial uncertainty you can remain close to index weights over those days [when quarterly reports are released], we have done that some times."

Most of the fund managers are measured on *tracking error*[10]. This is a measure of how closely the fund follows their index. Funds 1 and 3 have formal restrictions that they cannot exceed. Fund 2, 4 and 7 present the tracking error in their interim report but do not have formal boundaries. For them

[10] Tracking error can either be used ex post, i.e. as a measure of historical performance or as a risk control tool to predict future deviations. The data that we have encountered is ex post tracking error, and is measured as $T.E = \sqrt{(E((d - b)^2))}$, (d-b) equals the difference between portfolio return and index return

it was rather something that they are expected to consider. Fund manager 4 stated that all funds within the fund broker had a tracking error of about 4 %. Fund 6 present the tracking error in the interim report. Fund 5 does not present the tracking error in the interim report, but is still measured on it and the fund manager said that it was approximately 5 %. Regardless if the tracking error was a formal restriction or not, almost all of the funds strived to remain within 1 % and 5 %.

Fund	***Alfa***	***Beta***	***Gamma***	***Delta***	***Epsilon***	***Zeta***	***Eta***
Tracking Error	1.6%	1.8%	2.5%	2.6%	-	2.1%	1.1%

Figure 4.1, Tracking Error presented in the half-yearly report of 2008.

Since the funds all measure performance against an index, we appreciate that this becomes the natural starting point for their investment decisions. We tried to investigate if this conflicts with opinions of intrinsic value. One important observation is that even if a manager really did not see intrinsic value in a company he rarely weighed zero if it was one of the bigger companies on SSE. Instead they had an under-weight relative their index. Three fund managers expressed serious long-term concerns about the profitability of Ericsson. The company is facing hard competition from Chinese competitors, and the company is losing ground on its profitable high-margin markets. Other problems include the exposure to Telecom operators, which can reduce their CAPEX expenditures on a short- and mid-term perspective (making Ericsson lose business). One fund manager described it as a sectoral problem that the Siemens-Nokia cooperation has been unsuccessful. Two of the fund managers described that they had little confidence for the management in Ericsson. An example of poor leadership that was given was that the management failed to predict the reduced profit earlier in association with the unexpected profit warning during the fall in 2007. We revisited our FI-data to see how a negative opinion was reflected in actual investment decisions. Figure 4.2 shows three funds' positions in Ericsson during the studied period, accompanied by the SIX PRX.

	2008			**2007**		
	Q3	***Q2***	***Q1***	***Q4***	***Q3***	***Q2***
Alpha	8.8	4.9	4.4	7.9	9.4	8.3
Beta	7.8	7.2	6.0	4.9	9.4	9.4
Gamma	9.1	6.6	5.1	6.2	9.1	9.3
SIX PRX	**7.5**	**6.5**	**5.4**	**6.1**	**9.3**	**9.4**

Figure 4.2, Portfolio Weights (in %) in Ericsson in three funds and the SIX PRX

Fund manager Gamma has never deviated by more than 30 bps from the index, with an exception for a brief over-weight over the reporting period for Q3 2008. Fund manager Beta was never under index by more than 70 bps. Fund manager Alpha's biggest under-weight was 160 bps. Even though the manager's saw potentially large problems for the company ahead and none of the interview objects had a positive opinion of the stock, the funds had much money invested in absolute terms. None of the discussed funds ever had less than 4.4 % of their market value invested in Ericsson, and frequently as much as 6 % to 9 %.

Our material further suggests that if fund managers are unsure about a (large market cap) stock, they still tend to remain close to index and thereby having substantial positions. Fund managers 2 and 4 do not have a clear long-term opinion about Ericsson, and describes it as one of the most difficult companies to analyze.

	2008			**2007**		
	Q3	***Q2***	***Q1***	***Q4***	***Q3***	***Q2***
Delta	9.9	5.7	4.4	5.7	9.8	9.2
Epsilon	6.3	4.6	5.1	5.9	9.3	9.2
SIX PRX	7.5	6.5	5.4	6.1	9.3	9.4

Figure 4.3, Portfolio Weights (in %) in Ericsson in two funds and the SIX PRX

Fund manager Delta remains within 100 bps of the index for all periods but two, where he took somewhat larger bets as response to news flows. Fund manager Epsilon remains within 30 bps for 4 periods.

This reasoning leads to the conclusion that even if a manager believes a company with a small-cap has a larger intrinsic value than that of a large-cap company; he can end up owning more shares in the large company. Investments on intrinsic value are thus strongly restricted by the index weights. One explaining factor could be that all the funds have their incentive systems tied to the performance. Since the fund managers are measured on performance based on an index comparison rather than to perform as well as possible, incentive is created to focus on the index rather than to focus on investing on intrinsic value.

Elton *et al* (2003) have studied the effect of incentive-fees on the behaviour of the fund managers. They found that incentive-fee funds, funds with compensation structure that relates to the investment performance relative to some benchmark, take more risk than non-incentive-fee funds on average and that the risk is increased after a period of poor performance or decreased after a period of good performance (Elton *et al*, 2003). In our results we did not see any increased risk-taking, we rather got the impression that funds strived to remain close to the index. We interpreted the tracking errors as relatively low, and that this supports our assumption. Haugen (2004) discusses why most American fund-portfolios look pretty much the same. He explains that it is due to the fact that most funds are benchmarked to the S&P 500 index. His explanation is that the managers are afraid of under-performance (this will lead to termination), but also over-performance because then suspicion will be raised regarding the level of risk of the fund. He distinguishes managers from individual investors; the managers have to worry about the S&P 500 tracking error while individual investors do not (Haugen, 2004).

Baker (1998) studies the effect of performance benchmarking. He illustrates that the incentive to perform better than the benchmark is to keep the fund management contract, and attracting a positive award. He describes that the fund manager might expect to lose the fund contract if he perform worse than the benchmark. This performance monitoring affects the attitude to risk and return, and creates a short-term thinking. He found empirical results for short-term thinking and shorter holding periods due to the performance benchmark and monitoring system (Baker, 1998). These studies show results in line with our observation of the index' central position in the investment decision, and suggests that a reason for this is the ties to performance measurement reward-systems.

In Kaplan & Norton's (1992) article about the balanced scorecard they begin by describing how managers' behavior is strongly affected by the measurement system. They write:"What you measure is what you get", meaning that the manager's focus and activity strongly is related to what he is measured on. In Kaplan & Norton's work we find further evidence to a link between, on the one hand index-determined performance and tracking error measurement and the other hand the performance-determining index' central role in investment decisions.

Hellman (2000) refers to the buying and selling of equities on the basis of their weights in an index as index-thinking. He found that the stock's index weights had a significant impact on several institutional investors' investment decisions. He observed that two of the institutional investors held stocks in companies that they had negative fundamental opinions about, due to index-thinking. He also observed that some institutional investors' alternative by default was holding the index weight of a company if they were uncertain about the development of a stock. This index-thinking was reinforced if the investor was monitored closely by media and principals and experienced external pressure (Hellman, 2000). These results are in line with our observations and conclusions.

4.1.3 Compensating Behavior Defined

As a consequence of the importance of the index that the companies compare performance against and the restrictions imposed on the funds the funds will try to compensate the companies that they are unable to have desired exposure towards. They do this by taking positions in somehow related companies. This is what we have chosen to call compensating behavior. While several researchers have pointed to the importance of the benchmark index, it has to our knowledge not been discussed in terms of compensating behavior.

We have identified two dimensions in the compensating behavior. Compensating behavior can have inter-sector focus, i.e. one sector where the company is underweighted is compensated with overweight in another sector. It can also have intra-sector focus, i.e. a specific company is excluded and overweight is taken in another company within the sector to remain weighted at par in the sector as a whole. Another dimension is what the fund exactly is trying to compensate. In some cases the companies just wanted to replicate the exposure of un-available companies in general. In this group we have included the cases when companies' cyclical-qualities were compensated for. In other cases more specific exposures were focused on, such as exposure to rising oil-prices. The following diagram illustrates different types of compensation.

	Inter-Sector	**Intra-Sector**
General exposure coverage	Covering general exposure by sectoral over- and under-positioning.	Covering general exposure by over- and under-weighting in individual companies.
Specific exposure coverage	Covering exposure to specific factors, such as rising oil-prices, by sectoral over- and under-positioning.	Covering exposure to specific factors, such as rising oil-prices, by over- and under-weighting in specific companies.

Figure 4.4, Different types of compensating behavior

The desire to compensate deviations from the comparative index is what guides these investment decisions. In other words, the desire to compensate index-exposure comes at the expense of intrinsic value considerations.

This is one of the strongest conclusions our thesis makes, and we saw this behavior in all the examined funds. The funds with more excluded/un-available companies showed more tendencies of compensating behavior. In each of the following result-sections, we have a sub-section called Compensating Behavior to illustrate how the specific restricting factor has led to this phenomenon.

4.1.4 Summary

In this section we have reviewed some important settings for the fund manager to make his investment decisions within.

- Important characteristics of the SSE include the lack of direct substitutes of many companies and the individually heavy weight of some companies. The small (few companies, and low sector-weight) Consumer Staples and Energy sectors are other characteristics.
- The performance determining index is important in the investment decision, both according to our observations and previous research. All funds measure performance solely against a benchmark index and keep constant track of deviations from it.
- The conflicts with investments on intrinsic value due to the index-focus become most obvious in companies weighing heavy in the index: even if the manager does not see intrinsic value in a share, he might hold a substantial amount to avoid large index deviations. When the manager was uncertain about a share, he remained close to the index weight.
- We have also defined an important concept for our results, that of compensating behavior.

4.2 Formal Restrictions

In this section we will discuss how formal restrictions that all funds face, specifically the 5-10-40 rule and the ethical restrictions, have influenced the impact of intrinsic value in the investment decision.

4.2.1 The 5-10-40 Rule

In the Swedish law for investment funds (Lagen om värdepappersfonder, 1990:1114), there are specific regulations on how concentrated a fund's portfolio is allowed to be. The law stipulates that individual positions cannot exceed 5 % of the market value of the portfolio. A position can be as big as 10 %, but positions between 5 % and 10 % cannot exceed 40 % put together (Lagen om värdepappersfonder, 1990). This has been described as a problematic factor by all of the fund managers.

Fund manager 5 is often put in a situation where his large positions (> 5 %) together exceed 40 %. FI has criticized the fund for this. He tells us about how relative valuation becomes important in this situation:
"(...) I want to have the portfolio in one way, but risk-control tells me that I can't. Then I have to make a quick decision. FI decrees that you immediately have to sell off positions so that you fall below 40 %... BUT! They also stipulate that you have to have your shareholders best in mind, so you can't sell of to a large discount (...) So I have to sit down and think about what company I believe in the least. I believe in all, but ranked amongst each other there is one or two that I believe in the least, and those are the ones I sell off"

Since some companies naturally weigh heavy in the indices, funds cannot take as big bets as they would like in them. Fund manager 3 describes this:
"Some companies weigh relatively much which makes it difficult to over-weight. As an example, H&M is a tremendous company, but we can't weigh any more in it. Then you have to look for other companies if you want exposure to a sector [...] (H&M) weighs almost 10 % of our fund!"

Fund manager 3 describes how a narrower index becomes even more problematic:
"[it is problematic,] especially with the more narrow indices. [The index is] more narrow, becomes increasingly difficult. We have liked the telecom companies, Astra, Telia, that weigh a lot. Then we have had smaller companies that we had large positions in, more than 5 %, and then we are making big bets in them, SSAB for an instance, in which we had a big over-weight. Then you suddenly have to look, you're forced to choose, prioritize. So yeah, the rule is problematic [...] It becomes more difficult with a more narrow benchmark, it is difficult to manage that type of rule."

	Fund 1	Fund 2	Fund 3	Fund 4	Fund 5	Fund 6	Fund 7
Consumer Discretionary	10.2	8.2	9.0	8.9	8.2	6.7	8.9
Consumer Staples							
Energy							
Financials	7.8	11.0	8.7	7.7	6.3	7.2	9.0
Health Care	5.3	7.6	5.1		9.3		
Industrials				11.6	5.8		
Information Technology	7.7	6.3	8.7	9.9	8.8	6.9	9.1
Materials							
Telecom. Services	9.3	7.3	9.8		9.9	7.3	8.4
Other Fund		6.7					
Sum	**40.2**	**47.1**	**41.4**	**38.1**	**48.2**	**28.1**	**35.5**

Figure 4.5, Total weight (in %) of companies that weigh more than 5 % grouped by sector. Exemplified by one quarter (other quarters looked similar)

Figure 4.5 shows the holdings that exceed 5 %. As is shown, all funds diversify the larger holdings into different sectors (except financials in fund 2 and industrials in fund 4[11]). As described in the text most funds are close to the 40 % limit, some even have more than 40 %. We can also observe holdings that are close to the 10 % limit, e.g. fund 1's holding in Consumer Discretionary. In fund 4 the fund manager told us he wanted to increase the weight in the Financials, but could not increase either the holding over 5 % (total of 38.1 %), or the one close to 5 % (4.8 %). So he bought shares in a third bank he did not have any holding in before. This was all confirmed by FI-data.

To summarize, we observed three cases when the 5-10-40 rule directly affected the investment decision. First, when funds are not able to take positive bets due to an invest objects naturally heavy weight in the index. The funds can not be as exposed to a company as they would have liked. Second, when funds want to take positive bets in several mid-sized companies, they are likely to exceed 40 % together, in which case the fund manager has to value the companies relative to each other to see which one he believes the most in. He is forced into a situation where he has to choose between a set of companies that all are considered to have substantial intrinsic value. Thirdly, when there are similar companies, the fund might be forced to invest in the one he likes the least so as not to exceed 5 % in the preferred companies (this has been observed in the commercial banking sector). In all these cases the regulation infringes on intrinsic value considerations. The more concentrated the fund's comparative index is, the sooner companies' bets will lead to positions over 5 % due to the individually heavier weights of stocks that follow from fewer companies.

Hellman (2000, p. 159f) presents a situation where one of the interviewees “swaps” Astra for Ericsson; the interviewee weights up Astra to 9 % at the expense of Ericsson (weight down Ericsson from 10 %). If the 40 % limit had not been there the interview object would not have weighted down Ericsson. This result has also been shown in our study, where fund managers are forced to prioritize holdings over 5 %. Hellman (2000) concludes that the 5-10-40 rule influenced the decision regarding the portfolio weights in terms of possible numerical combinations.

4.2.2 Ethical Restrictions

The ethical restrictions faced by the fund managers differ. We will initially focus on the negative screening that was observed in all funds and then we look at the cases where ethical considerations played a part later in the investment process.

Fund 1 has arranged their ethical considerations so that the fund manager is given a range of possible investment opportunities that include about 80 % of the market cap. All companies have to be evaluated, and of practical reasons they start from the large cap and moves downwards. This means that most small companies are excluded by default. Within those investment objects that the manager can choose from, he acts as a manager of an ordinary Swedish equity fund without restrictions (i.e. no interaction with the ethical team). The companies are screened based on pre-set criteria, such as that a company cannot have more than 5% of its sales from tobacco, oil, alcohol, gambling, weapons or pornography. This includes among others AxFood, since more than 5 % of their sales stem from tobacco and beer. There are no exceptions to these screens. The ethic screening creates problems for the fund manager, and that it can be difficult to get exposure to some sectors. The company engages in dialogue with investment objects and tries to make them behave more socially responsible.

Fund 2 has an ethical analyst team that act as support for all fund managers. Only a very few companies are negatively screened, such as Swedish Match, Saab and the internet poker sites. The analyst team has never added a company to the list of excluded companies (except those originally there). The focus of their ethical team is to see where the ethical considerations can create value. The fund manager therefore has regular contact with the ethical team, and they give

[11] Fund 4 also had two holdings that were larger than 4.7 % in the industrial sector, and one more holding larger than 4.7 %.

recommendations of companies that are good investments from an ethical perspective. The interview object tells us that even if he could invest in the excluded companies, he would not, since he does not see long-term value in them.

Fund 3 uses negative screening. A few Swedish companies are excluded and these include Swedish Match, Saab and the internet poker sites. The fund manager describes that, with the exception of Swedish Match, the ethic screens do not affect him. In the interview the manager brought an ethical expert. The fund manager did not know precisely what companies where excluded, when the evaluation of companies was done or how often. The list of excluded companies rarely changes.

Fund 4 has an active ethical analyst team that continuously works with ethical questions. The ethical department has an elaborate list of companies that are excluded, and this list is often updated (many times as a response to news flows). Companies excluded can include OMXS companies and the manager is notably affected by companies' exclusion. Still, the fund manager is given a list of excluded companies and invests freely without intervention thereafter. The manager is able to influence what companies the ethical team should analyse. Before a company is excluded, the fund manager sits down with the ethical team and they discuss the consequences of the exclusion. The ethical team meets companies on a regular basis, and especially focuses on emerging markets and companies' (ethically questionable) activities there. The team tries to publicly attract attention to issues they find important.

Fund 5 uses negative screening and excludes a few companies, just like fund 2 and 3. The list has not had any additions or subtractions since it was written. Something that differ the fund from 2 and 3 is an elaborate policy on inside information management. If a person employed of the fund broker has any connections to a listed company, he cannot participate in the discussion of it and usually the company as an investment object all together. The company has had an ''ethical mindset'' from the funds start and even before the fund was officially branded as ethical. However, the fund manager admits that the fund could work more with the ethical considerations, perhaps by employing an ethical manager. Even though the ethical mind-set is present in all the managed funds (of which all are not branded ethical), the ethical part *''is not part of the fund brokers main business idea''*.

Just like for funds 2, 3 and 5, a few companies are excluded for fund 6 and these include Swedish Match, Saab and the internet poker sites. The fund does not have any in-house ethical expertise. There is no further ethical work than the negative screening.

Fund 7 has an environmental department that works actively for a sustainable society. The department is responsible for all funds within the fund broker and has created a list containing 11 companies. Only Swedish Match is excluded for the Swedish fund. The fund manager can freely invest without intervention, except he can not invest in Swedish Match. He thinks it is problematic that Swedish Match is excluded. The company is engaging in dialogues with companies to work for ethical questions.

To summarize how the funds are affected by their ethical restrictions, we can group them into two groups. On one hand, we have fund 1 and fund 4 that have more far-reaching exclusions than the others. Restrictions can exclude large OMXS companies, or whole sectors. Their lists of excluded companies are continuously updated and add a factor of uncertainty to the managers. They are notably affected by this in their fund management.

On the other hand, we have funds 2, 3, 5 and 6 which just exclude Swedish Match, Saab and the internet poker sites. Finally we have fund 7, who just exclude Swedish Match. These funds are much less affected by their exclusions. Two of the interview objects are even doubtful if they would invest in any of the excluded companies if they could. Since the lists have not changed (at least during our studied period) a sense of stability can be felt. Fund manager 5 tells us:
''People ask me: Why are you ethical? That will only lead to worse performance! But no, I don't think so […] it would be different if we couldn't buy (as an example) Astra. That would have led to bigger problems.''

There are some aspects of the ethical branding that further affects the investment decision. One would be in the cases where ethical considerations reach beyond negative screening, namely in fund 2 and fund 4. Fund 2's ethical analyst support function continuously advises on companies that are best in class from an ethical perspective. The point of this is to find value creating aspects. An ethical analyst from fund 2 exemplifies it:
"From an ESG perspective all large Swedish banks perform well but Swedbank has consistently scored a little better than the rest, and this type of information is considered by our fund managers".
Fund 4 also expresses that they believe that companies that take social responsibility are good investments, and that they consider this in their investment decisions. We want to be careful about making statements about if positive screening means a deviation from intrinsic valuation factors. If ethical considerations create value or not is matter of controversy and it falls outside the focus of this thesis, so a lengthy discussions will be avoided. Renneboog *et al* (2008) summarize the

discussion. Proponents claim that the SRI screening processes can generate value-relevant information (foremost good managerial quality and reduced risk for social crises). Opponents mean that if there were to exist such information they could easily replicate the screens (Renneboog *et al*, 2008). Since funds 2 and 4 only considers some aspects of ethical considerations, and according to our observations does not use it categorically, we categorize this as second generation ETHIBEL ethical thinking.

Another aspect to consider is that funds 1, 2, 4 and 7 engages in dialogue with companies and try to affect their behavior this way. However, in neither of the cases we have found evidence that this has affected the fund management. In no cases was the fund managers asked to remain in a position under ongoing negotiations. Fund managers were never asked to take positions so that the ethical functions could engage in dialogue. Dialogues appear to happen independently of fund management. These funds incorporate some aspects of fourth generation ETHIBEL thinking, but since they do not live up to the third generation according to our observations they cannot formally qualify for the fourth generation either.

These results on how restricted companies are can be put into terms of the generations of ethical thinking, as described by ETHIBEL[12]. In the diagram below we summarize the spread of the levels of ethical commitment by the different fund, and the impact of a generation of thinking on the importance of intrinsic value as found in our study.

[12] http://www.ethibel.org/subs_e/1_info/sub1_2.html

	Fund's whose ethical considerations correspond to the specific level	Impact on intrinsic value in investment process
1st Generation: Negative screening	All funds	Potentially large, depending on the amount of screened objects.
2nd Generation: Positive screening certain aspects	Fund 2 and 4	We observed few cases of positive screening, and impact is inconclusive
3rd Generation: Wholesome positive screening	None	-
4th Generation: Active dialogues with investment objects	Funds 1, 2, 4 and 7*	None found *

* The funds engaged in dialogues, but did not live up to the third generation of ethical thinking, so they do not formally qualify.

Figure 4.6, The levels of ethical commitment and its impact on the importance of intrinsic value

It was the first generation of ethical considerations that caused the most deviations from intrinsic value-based investment decisions. Not only through the direct effect of disabling investments in companies that was judged to have intrinsic value, but through the compensating behavior that followed these exclusions as well.

We want to nuance the discussion of the problems related to negative screens. In some cases the fund manager is able to influence what companies that should be analyzed by the ethical team. Perhaps more important: the ethical team and the fund manager sit down and discuss whether a company should be blacklisted and what consequences this will have. Even though it is claimed that the ethical analysis is done independently of the economical considerations of the fund we *believe* that this not always is the case. At one point, a large IT-company in Sweden was under scrutiny for the poor work conditions of its suppliers located in the third world. However, no action was taken by the ethical analysts. At this point we believe that an exclusion of this company would have created a difficult situation for the fund manager so they (formally or informally) agreed not to act. We open for the possibility that the ethical analysis influences and is influenced by the fund management and investment decision process to a larger extent than what has been explicitly said in interviews and other secondary data in some of the funds we have studied.

Finally we want to comment on Fund 1's lacking opportunity to invest in small-cap exposure due to ethical exclusion. The reasoning is that small companies lack the facilities and mind-set to live up to the set ethical standards. While in itself a restriction that potentially prevents investing based on intrinsic value, the practical consequences are limited compared with the other funds as we shall see in section 4.3.2 where we discuss the implications of stocks' liquidity, and the funds' general inability to invest in small-cap companies.

4.2.3 Compensating Behavior

The ethical screening and the 5-10-40 rule leads to compensating behavior. Fund 1 screened sectors include all oil related sub-sectors. To get exposure to rising oil prices the fund has invested in companies that produce products for the oil industry, such as AtlasCopco, Sandvik or ABB. The fund manager talks about compensating exposure to the oil-sector:

"We have been able to have positions in substitutes, or not substitutes but comparable sectors, such as SSAB or even AtlasCopco and Sandvik who supply products to this sector that is having a boom time, so indirectly… indirectly you are exposed to what also has driven the oil-sector, at least a bit."

Another sector that is influenced by the screen is the financial sectors. The two major Swedish investment companies, Kinnevik and Investor, are unavailable (due to interests in the arms-industry). To compensate for this and remain weighted at par in the financial sector, the fund has over-invested in Nordea:

"[the 5-10-40 rule] becomes especially decisive for the biggest companies on the stock exchange [...] Nordea weighs somewhere between 7 and 8 percent of the index. You have to decide which companies to allow to be your five biggest [...] it becomes especially complicated in the ethic funds, because you have to compensate blacklisted companies with others. So it could be so that Nordea has been over-weighted due to technicalities and so forth."

Fund 4 has blacklisted a large telecom company. This creates some problems for the fund manager: *"The problem with the ethical funds is that they haven't been allowed [the telecom company], [they] have done well lately. Then we try to compensate it with something else. [How do you solve that?] Then we have to look at the other telecom companies. [...] [They] have taken different risks, they have been exposed to emerging markets and that hasn't been very good lately."*
We see that due to the SSE's inherent characteristics, i.e. its relatively small size, it is difficult to find perfect substitutes to blacklisted companies. In this case the manager is looking for substitutes and in the process has to forego some of the intrinsic valuation factors that he found value creating in the original company i.e. the company specific risk exposure. Other excluded companies are easier to substitute. This manager explains that since the only company that Investor holds that is off limit is SAAB, it is possible to take direct positions in those companies. The same point of view was expressed by fund manager 1 and 6.

Fund 2, 3 and 5 are faced with fewer excluded companies so their compensating behavior is less prominent. The only company that is described as potentially interesting of the screened ones is Swedish Match. We will further discuss the implications of this exclusion in section 4.3.2 when we discuss the Consumer Staples sector. We categorically found a link between a high degree of ethical restrictions and compensating behavior.

The 5-10-40 rule gives rise to some compensations, as described by fund manager 3:
"[...]Kappahl was such a company that [as compared with H&M] was similar. A retail company. [...] in H&M we already own as much as we are allowed."

Another similar example is when a fund manager is forced to invest in a company similar to the one he originally intended due to the regulation. Fund manager 4 answers, when we ask about their under-weight in the financial sector:
"It is because we have been under-weighted in the commercial banks even though we didn't want to when prices are as low as they are now. So we had to weigh up the sector. Then we had to go into (Svenska Handelsbanken) because we had too much weight in the other banks. (...) [the 5-10-40 rule] doesn't allow us to have more in SEB or Swedbank."
The 5-10-40 gave rise to mainly intra-sectoral compensating behavior, which is natural since the 5-10-40 rule concerns individual positions.

The mismatch of actual investment objects available and the ones included in the comparative index has been identified as a main restricting factor. We asked the interview objects why they did not benchmark to an ethical index to mitigate this mismatch. Some fund managers said that could be a good solution but did not know that such an index existed. Fund manager 3 explained that it would be problematic to use many different benchmarks for different products. He explains,
"[...] if the ethical part of the fund would have been more prominent, so that more companies would have been excluded, then it would have been necessary. [As of now] only a few numbers of companies are excluded, so it doesn't make that big of a difference."
Fund manager 5 also expresses that it is not relevant to use an ethical index since only a few companies are excluded. Fund manager 1 believes that the investors would prefer an ordinary index,
"[...] it is not justifying [that they do not use an ethical index] for me as a manager. But, my customers, they are interested in how this sort of funds' performance turns out compared to a traditional fund."

SIX offers an ethical index together with the Global Ethical Standard, GES, called SIXETHICALSE (www.six.se). We observe that the funds with more ethical restrictions would have appreciated an ethical benchmark index more than the funds with less restriction. This leans support to our conclusion that the combination of index focus and exclusions from the index is unfortunate for the fund manager.

4.2.4 Summary

In this section we have illustrated how the combination of the restrictions of only being able to invest in Swedish equity, of the ethical restrictions, and of the 5-10-40 rule create a compensating behavior that takes focus from intrinsic value. The most important results are

- The 5-10-40 rule prevented investments on intrinsic value in a number of ways. Funds were not able to take as large bets as they wanted in heavy weighting companies. This problem becomes more important with a narrower index. Situations where companies, all perceived to have intrinsic value, had to be valued relative each other occurred. The ones with the 'least over-value relative stock price' were invested less in.

- The funds can be divided into two groups with regards to ethical restrictions; the ones with a few excluded companies and the ones who exclude larger companies or sectors. The ones with the more far-going exclusions showed more compensating behavior. The 1st generation of ethical thinking was what we observed impacted intrinsic value considerations.
- The 5-10-40 rule led to primarily intra-sectoral compensating behavior.

4.3 Expertise within the Fund Broker

In this section, we investigate what consequences factors related to information and knowledge of companies and sectors has on the use of intrinsic valuation factors in the investment decision.

- Fund 1 is a large fund broker, one of the biggest in Swedish fund brokering seen to the capital they manage. They are part of a large financial institution with other areas of operation than fund management. The fund broker has a wholesome analyst team that act as support for all fund managers. The analyst team has picked out model-portfolios for the fund-managers to rely on. They claim to have expertise within all sectors, and this is described as one of the funds comparative edges by the fund manager. Another edge, as described by the manager, is their developed contact net with stockbrokers. The stockbrokers provide them with opportunities to interview and interact with the management of their investment companies. This is a benefit that they use frequently, and the fund manager usually has at least two meetings with management of different companies every day. For the bigger companies on the SSE, they try to meet management at least quarterly. At times when a company's profitability is questioned, such as when a company signals lower profits than budgeted or adverse news related to their key markets are released, the opportunity to talk to the management directly is frequently used.
- Fund 2 is managed by one of the Nordic regions largest fund brokers. The Swedish fund brokering is just a small part of their operations. This makes the Swedish market investment team relatively small. They have expertise within certain sectors and sub-sectors, and they have an explicit strategy of more sector bets than individual stock bets. In smaller and mid-sized companies, especially when they own a large equity stake in them, they usually have access but in large cap companies they usually meet with the Investor Relations department. They visit the companies' production facilities at times to get a good sense of their business.

- Fund 3 is part of a big Swedish financial institution. The fund broker part is only a small part of the institution. The section dedicated to Swedish fund managing is small. The fund manager also describes his own fund as small, and they do not have any dedicated analysts as a result of this. Instead, the employees each have a field of expertise, usually one or several sectors, and they act as analysts as well as another professional role such as fund managers or assistant fund managers. The fund manager tells us that cooperation between employees becomes very important and that other fund managers (at the same fund broker), with different areas of expertise, often are consulted in investment decisions.
- Fund 4 is managed by a smaller fund broker. The fund managing team consists of one manager, two analysts (normally, but one is on maternity leave at the moment) and two traders. The manager has some sectoral responsibilities, as has one of the traders who are mainly responsible for risk-and technical-analysis. They have a close collaboration with an external ethical department.
- Fund 5 is a small fund that is managed by a small fund broker. The fund manager has a developed contact net with Swedish CEO's thanks to previous employments.
- Fund 6 is managed by a small fund broker with a small fund investment team.
- Fund 7 is managed by a big Swedish financial institution. The fund manager has a large analytical team to his disposal, and the fund claim competence within all sectors. The manager has frequent contact with investment object management, and a developed contact net within stockbrokers.

A small fund broker that lacks the general analytical resources that a large fund broker has in-house will have more focused areas of expertise. In all our interviews with the smaller fund brokers, while not directly asked, it has been brought up that the funds feel that they "understand" or "know" certain industries better than others. The funds with larger resources rather expressed that they had competence within all sectors and companies. Note that some of the fund brokers referred to as small here might be part of big institutions, but have a smaller section dedicated to Swedish fund managing.

We saw a connection between the areas of expertise and the trade activity and bet placement. Fund manager 3 had a background as an analyst within the financial sector. In the empirical data as well as in the interview, we understood that this was one of the sectors where they made the most short-term trading to capture market movements. As an example, the fund was zero-weighted in one of the big Swedish commercial banks in one period, and over-weighted in other periods. Even within the same period, we were told that the fund went from zero to over-weight and then back to zero. At the same time, fund 3's organisation did not have a clear expert within the Consumer Staples sector. We observed that the fund seldom repositioned within Consumer Staples, and was under-weighted in the sector during the whole studied period. When asked of their opinion of different companies within the sector, he described Hakon Invest and AarhusKarlshamn as "good companies" that could possibly compensate for Swedish Match's absence. However, the fund manager said (about AarhusKarlshamn specifically):

"It is a company that could fit quite well (into our portfolio). But I have to say, I haven't looked at them that much, I mean, I know what they do and all, but... Absolutely a company worth looking closer into. It's something on our to-do list."

We draw the conclusion that fund 3's size and limited expertise within Consumer Staples has prevented them from taking positions in the sector and that the fund manager's experience from the financial sector has led to more active trading and betting.

Fund 2 has divided all possible investment objects into a matrix, where columns and rows define different sectors and geographical segments. In some "cells", they manage their investments actively and they have persons responsible for specific cells. We interviewed two analysts, of which one was specialized in ethic questions. They told us:

"We focus our research and bets on sectors and regions (cells) where we feel that we have a competence edge. One such sector is Health Care."

In the empirical data (see figure 4.7), we see that fund 2 has been constantly over-weighted in Health Care. In Company 1, the fund is over-weighted with as much as 2 times the index-weight one period. This is the biggest bet the fund has made seen to deviation from index weights.

	2008						**2007**					
	Q3		***Q2***		***Q1***		***Q4***		***Q3***		***Q2***	
	Weight	***SIX PRX***	***Weight***	***SIX PRX***	***Weight***	***SIX PRX***	***Weight***	***SIX PRX***	***Weight***	***SIX PRX***	***Weight***	***SIX PRX***
Company 1	7.5	3.4	4.8	2.5	3.6	1.9	4.0	2.1	3.9	2.3	4.3	2.8
Company 2	2.7	0.6	2.7	0.7	1.8	0.5	1.9	0.5	2.1	0.6	2.1	0.5
Sum	**10.2**	**6.3**	**7.5**	**5.3**	**5.4**	**4.3**	**5.9**	**4.6**	**6.1**	**4.7**	**6.4**	**5.2**

Figure 4.7, The portfolio weights (in %) and the SIX PRX (in %) in the Health Care sector for fund 2

Fund 4 has only 2 analysts, and willingly admits that they focus on only the most traded stocks: *“We have two analysts so there are quite a few companies to analyze. [...]We focus on, maybe, half the universe [of stocks] and the rest we don’t look at. There are a lot of IT-companies and such that we don’t follow closely.”*

Fund 1 on the other hand claim to have detailed knowledge of all mid- and large-cap corporations as well as some of the smaller ones. This led to a strategy of "stock-picking", as described by the fund manager:
‘‘(Our) philosophy is to be invested in a lot of small companies. We are a big company and can make the best analysis of everyone, of all companies. We have a good relation to all companies (in terms of access) (...) our goal is to be neutral in all sectors, but pick the best individual stocks"

When funds have better access to information, it is easier to let intrinsic valuation factors play an important part. When a fund manager lacks information of certain companies, or sectors, he simply will be adverse to invest in them as compared to companies he knows better. It follows naturally that an investment team that consist of only a few employees won’t have time to monitor all of the hundreds of stock at SSE.

Several studies have shown empirical evidence of home-bias (see for example Coval & Moskowitz, 2001). Coval & Moskowitz (2001) describe that mutual fund managers trade locally on an informational advantage, they have superior information about local stocks. James & Karceski (2006) describe that institutional investors are generally assumed to be better informed than smaller investors. The lower search costs should lead to different and presumably more sophisticated investment selection criteria, the institutional investor can select the equities with better knowledge (James & Karcerski, 2006).

We believe that the fund with better access to information should be able to make better decisions. However this thesis does not examine the performance of the funds. But parallels can be drawn to the home bias; the funds with less information are more eager to invest in companies they know better.

4.3.1 Time-horizons

The level of in-house expertise affected the time horizons of the investments, i.e. some investments were based on long-term, sustainable value within the company and some on expected short-term market movements. Investment that were based on expectations of short-term market movements often differed from an investment based on intrinsic value, the fund manager then believed that the market price would change regardless of the intrinsic value. Fund manager 4 describes the in-house expertise within the telecom sector,

"[Regarding Ericsson] If we can't evaluate the company thoroughly, we don't take any risks. We want companies that we have an edge in [WHAT DO YOU MEAN BY EDGE?] That we know the company well. We see that our predictions fall out well [...] Millicom is such a company. We have been in positions when it's been good and out of position when it turns bad. Two years ago, they were target for a merger. We had a lot of stocks then. It came to a critical moment. Then we made the call that the merger wouldn't fall through, so we sold it and at that time we had a lot of contact with management. [from the contact with management] we drew the conclusion that the risk was too big and that the deal wouldn't go through. And there wasn't any deal. So the stock price plummeted and we repurchased it. Then we joined for another ride. We have done that a few times"

The fund manager then bought and sold the equity based on expected market movements, because he had better knowledge of that company.

Fund manager 3 had better knowledge within the financial sector because he had been an analyst within that sector before he became a fund manager:

"In (one bank) we have been active back and forward, during the third quarter we have had both over-weight and zero. We have been pretty active. Tried to earn some money on the large movements that has been."

To the contrary of specific knowledge within certain sectors or companies, we have the fund manager that has good knowledge in every sector and every company. The fund manager explained that the price of a share was not solely based on intrinsic value, but one have to consider soft factors in the decision making. He even had experienced that sometimes he knew more than the market, but this was rather to his disadvantages because then the marked did not react as he had expected.

Regarding to this he expressed a need to understand the market's opinion:
"You can't just listen to one analyst; you have to see several to capture how the market thinks. In a lot of situations we have more information than the analyst we are listening to because we have just met the company's management. Still, we are interested in the 'simple' version of how the company is interpreted, because it is a part of how the market reasons."
Even if the fund manager had an idea of the long-term value of the share he argued that it was important to understand the short-term movements of the stock market and that the intrinsic value was not always reflected in the price.

The results we have seen are that the in-house expertise affected the time-horizons of the fund manager. Especially, when the fund manager had more knowledge, within a company or a sector, bets were made on short-term movements. Betting on the markets movements is related solely to the investors' expectations. The funds that bet on these movements often know more about the company and have a different opinion about the intrinsic value but can still earn money on these movements. We have also seen that the manager with most knowledge wanted to understand the market opinion and was aware that the intrinsic value was not reflected in the market price but timing had to be considered.

The funds that invested on short-term movements often knew more thanks to non-public information they had attained. Hellman (2000) found that non-public information plays an essential role in the decision making. It was used to form a fundamental opinion about the company. Hellman (2000) also presents that Holland & Doran (in Hellman, 2000, p. 124) report that private information from the direct company contact was central to fund management decisions. In our study we saw this in the funds where the fund broker had in-house expertise.

Hellman (2000) also found that the institutional investors' fundamental opinions were influenced by observations of market opinions regarding particular companies/equities. We saw this in the fund that at times had more knowledge than the market and wished to understand the market pricing so he could invest on the prevailing market price.

4.3.2 Compensating Behavior

The compensating behavior was a result of several restricting factors. All funds were under-weighted within the Consumer Staples sector. This was due to the small numbers of share within the sector, many fund managers lacked expertise within the sector and many companies had low liquidity, see section 4.4. Fund 2 took larger positions in AstraZeneca instead that is a company they like and has *"good defensive qualities"*. The health care sector was explained to be a sector they had good in-house expertise within. Therefore, they compensated for the lack of expertise in the Consumer Staples, a defensive sector, with more holdings in Health Care, a defensive sector they had great in-house expertise in.

4.3.3 Summary

In this section we have illustrated how the access to knowledge influences the behavior of the manager. The most important results are:

- When an investment team has deeper knowledge about a sector they will trade more intensively and take bigger bets in that sector.
- The fund will try to take advantage of short-term market movements.
- If a team has little knowledge about a sector, they will usually over-look it or invest in a sector they have in-house expertise in. This could mean that attention is paid to a sector where there is less intrinsic value than others less known about.

4.4 The Liquidity of the Investment Object

In this section we will discuss how qualities of the investment objects can affect the investment decision and cause the fund manager to deviate from intrinsic value. Funds are big players on the stock market and their relative size can cause price movements as they purchase or sell equity. The average daily traded volumes of the shares - the liquidity of the share - become important in the investment decision.

Fund manager 1 explains that liquidity becomes especially important when market conditions are extra-ordinary, or during a severe bear market when trade volumes are more unpredictable and spotty. Fund manager 5 agrees:

“[...] you have to consider – we have only talked about fundamental factors so far – there are a lot of other things that comes into play when it comes to fund management and we see that, not the least right now when the market rather is ruled by liquidity than by fundamentals, the market we have right now. Then we have to consider soft variables.”

Fund manager 7 describes another scenario when liquidity becomes important, and that is when a sector is booming, such as the oil prospecting and producing sector during the first three quarters of 2008. Stock prices were increasing at a high rate, so that even usually liquid assets now become impossible to acquire at acceptable prices. This forced a fund that wanted sector exposure into the most liquid company, LundinPetrolium, even though it wasn't the company with the best outlook.

Several companies from the Consumer Staples sector are considered too illiquid by the fund managers due to their small size. Fund manager 4 mentions Hakon Invest and CloettaFazer as specifically problematic. The equity analyst from fund 2 also mentions CloettaFazer and AarhusKarlshamn:
"Some of these companies, Cloetta for example, are difficult to invest in due to liquidity issues. AarhusKarlshamn is also illiquid. In a way, [this fund] is the base for other funds, a lot of other commissions, so it drives up volumes when we make changes and then it may take weeks to get out of an illiquid position."

Fund manager 1 tells us that illiquid shares usually are best avoided all-together. Even if you can enter and make a short- or mid-term profit, you usually cannot exit at will. You can therefore lose your gain as you are stuck with the position as intrinsic value deteriorates, or as you realise it at a discount. An example of this is the Tradedoubler position the fund has been stuck in for several quarters.

Fund 3 talks about another consequence of the liquidity of shares, the consequence for the time horizon of the investment:
“[…] other [shares] are less liquid and then you can’t change your fundamental opinion. It’s practically impossible. You have to hold on to them. You have to make sure that you don’t have to change your mind.”

Our observations suggest that the liquidity issue is even more important under the current market conditions. We also observed how the Consumer Staples sector is problematic for the fund managers. Not only is the largest company excluded by all funds due to ethical considerations, but many of the remaining companies have been to illiquid to trade. Finally, we saw that the smallest companies usually are avoided all-together. We expected to see different degrees of the problems encountered by low liquidity based on the size of the funds. This was not as prominent as we had expected. We believe that many times the small companies that are problematic remains so even for the smallest funds and that the medium-sized companies are liquid enough even for the largest ones.

An aspect that we did not consider prior to our empirical research was that a fund sometimes is used as a model-portfolio for other funds managed by the same broker. This is the case with fund 2, which makes them more adverse to invest in illiquid companies than others. We believe that this is the reason that they mentioned the highest number of problematic companies, even though they are not the biggest fund. The fund solves the problem by getting their exposure to small companies through their in-house small-cap fund.

We investigated what happens when the funds experience large net-flows in and out of the funds. Figure 4.8 illustrates the aggregated flows to/from Swedish equity funds. We expected that activity in more liquid shares would increase Q307, Q108 and Q308 due to the large outflows, but we found no direct evidence for this in the data. Neither did the managers talk about any special precautions in times of large flows. Two of the funds said that their customers were loyal so they therefore didn't experience large flows. One of the studied funds was a not retail and so experienced larger flows when institutional commissions were gained or lost, but we still found no effects in the data. Managers explained that the fund rather waited a few days to take or leave positions (so as to invest evenly over the portfolio) than take positions in liquid shares immediately. Hellman (2000) found that low liquidity was often a restriction when an institutional investor wanted to buy or sell equities. They often bought shares gradually over time to solve this problem (Hellman, 2000).

	2008			**2007**	
Period	*Q3*	*Q2*	*Q1*	*Q4*	*Q3*
MSEK	-11 144	2 218	-27 157	10 240	-16 161

Figure 4.8 – Aggregated Net-flows to/from Swedish Equity Funds during the studied period (www.fondbolagen.se)

We also looked at the ratio of liquid assets (money, short-term interest bearing securities) to market value in the funds and we saw that this increased during our studied period. In many cases it had doubled when comparing levels as of 2008-06-30 to 2007-06-30, and in one extreme example it had increased from 0,2 % to over 4 %. This was categorically explained as a way to reduce exposure to market risk by not being exposed to stock market movements rather than a precaution against flows.

4.4.1 Compensating Behavior

Some companies were avoided due to low liquidity, mostly small caps. In some funds the small-cap companies were restricted due to the ethical aspects. In one fund they compensated for the low liquidity in small-cap companies by investing in a small-cap fund instead.

Another aspect of liquidity was when stock prices rose sharply and the low liquidity of the equity made it difficult for the fund to buy equity. This was seen in the oil-boom. The fund managers then bought equity in the largest oil company even though the manager preferred several other oil companies.

4.4.2 Summary

In this section we have illustrated how the qualities in the investment object has affected the importance of intrinsic value in the investment decision. The most important results are

- Illiquid stocks are often avoided. Even if a fund makes a short- or mid-term profit, it can just as easily be erased as conditions deteriorate and the fund is stuck in its position.
- During extraordinary market conditions, such as the prevailing market, liquidity becomes more important.
- During a sectoral boom, fund managers find it difficult to buy a specific stock that has the most intrinsic value since the demand of stocks at a price-level exceed the supply. The fund is forced to purchase the most liquid company instead.
- Illiquid shares demand long-term commitment to the stock.

5. Discussion of the Empirical Results

In section 5.1 we will summarize our most important conclusions and discuss how strong the results are. In section 5.2 we will discuss why we did and why we did not observe certain results. In section 5.3 we will discuss the validity of our work.

5.1 Summary of the most important results

We set out to investigate three questions in our study: what restricting factors exist that limit the impact of intrinsic value in the fund managers' investment decision, what specific restrictions the ethical profile conveys and finally to investigate the relative importance of intrinsic value in the investment decision. We have identified a number of factors that directly limits the fund manager's ability to invest based on intrinsic value.

The single factor that impacted the importance of intrinsic value the most was the index that the fund was benchmarked to. The conflicts with investments on intrinsic value due to the index-focus became most obvious in heavy index weighting companies. Even if the manager does not see intrinsic value in a share he might hold a substantial amount to avoid large index deviations. When the manager was uncertain about a share he remained close to the index weight. This is supported by our FI-data and the interviews as well as previous research, and we feel that we have strong support for the conclusion.

The managers were restricted to invest only in Swedish equity. The SSE characteristics include several individually heavy companies and few direct substitutes to companies. We conclude that this was a contributing factor to the level of compensating behavior seen. Another problem inherited from the SSE is that there exist many illiquid shares. The liquidity of individual equities has caused the investor to neglect intrinsic value, since illiquid companies with intrinsic value have been avoided. All fund managers described that they had the liquidity of companies in mind and most fund managers often avoided less liquid companies, or waited until they were really sure and then made a bet on that share. All interview subjects mentioned this as a problem, and we saw in the empirical data that funds indeed held some illiquid positions that they had expressed a desire to get out of. We also saw that they did not hold companies they had described as 'good companies' but too illiquid. We considered this a strong result supported by both FI-data and interviews.

We observed that the internal competence and knowledge of individual shares and sectors affected how managers invested. If the fund manager had less knowledge within a sector or about a company they either did not invest in the company or were close to the index weight. This depended on whether it was a big bet to not hold any shares in the company in relation to the benchmark index. If the fund manager knew more about a company he did large bets and invested to a greater extent on short-term movements on the stock exchange. The short-term investing on market movements was not based on intrinsic value, but rather the expected short-term price movements of the equities. We found solid support for this in the interviews, but it was difficult to observe the consequences in our FI-data set. Since we only had quarterly data we could not readily identify the short-term trading in equities. It was also difficult to single out the cause of the observations of less active trading, fewer positions and closer index focus as a result of the internal competence. This reduces the empirical support for this conclusion.

The 5-10-40 rule has caused the fund manager to make relative judgments instead of decisions based on intrinsic value when restricted. The fund manager had to decide which companies he believed in the most of a set of companies with high intrinsic value and then reduce the weight in the other companies. The rule restricted the funds from taking as large bets as they wanted. We have solid support for this in our interview material. We observed in our FI-data that funds almost always lay close to 40 % of their largest positions.

The ethical profiling was subject to one of our guiding questions and was thoroughly examined. We categorized different levels of ethical commitment and found that what impacted the impact of intrinsic value in the investment decision the most was the negative screening. First because it made companies that held intrinsic value off-limit and second because far-going negative screens led to high levels of compensating behavior. We did not conclude whether positive screening led to deviations from intrinsic value based decisions. We did not observe that dialogues with the investment objects affected the importance of intrinsic value. These results have solid support in the interviews and in the FI-data, and we consider it a strong conclusion. However, we do acknowledge that the effects of negative screening are the easiest to observe, and our data-set might be too small to identify the causes of other types of ethical commitments. We also realize the sensitivity of some of these aspects, which can have restricted the interview subject's willingness to share adverse consequences of their ethical commitment.

We have also observed what we have chosen to call compensating behavior, which is investment decisions based on the fund manager's desire to compensate the index deviations that occur due to restrictions. We observed compensating behavior in all funds, and this is supported by both the interviews and the FI-data. We consider this our most important observation and we have solid support for it. The diagram below exemplifies the different types of compensating behavior we saw.

	Inter-Sector	**Intra-Sector**
General exposure coverage	* Taking larger positions in Health Care to replicate the defensive qualities of the Consumer Staples Sector.	* Taking large positions in Oriflame to remain weighted at par in the Consumer Staples sector. * Choosing one commercial bank instead of another (unavailable due to the 5-10-40 rule)
Specific exposure coverage	*Covering exposure to rising oil-price development by taking positions in companies that supply oil-prospectors and producers with equipment.	* Taking a larger positive bet in a flourishing retail industry by investing in Kappahl when an investment in H&M has been capped. * Investing in LundinPetrolium to be exposed to rising oil-prices when other oil-producers' stocks are unavailable at reasonable prices.

Figure 5.1 Different types of compensation, empirical observations

Our final question was to its character more difficult to answer. Two funds explicitly state in their prospects that the basis for their decisions is intrinsic value. We conclude that intrinsic value considerations play a part in the investment decision, but that it is second to the importance of the benchmark index in the funds we have studied. The basis for decisions is the index and deviations are made on basis of intrinsic value.

5.2 Discussion of results

When we started our thesis work we made an A priori matrix of the different limiting dimensions. To discuss our results we have made an A posteriori matrix that we will use as a basis to analyze the results we have seen.

	Product types	***Stock markets***	***Ethical consider-ations***	***Diversi-fication***	***Net flows from the fund***	***Index-thinking***	***Incentive systems & performance monitoring***	***Liquidity***
Fund 1	x	x	x	x		x	x	x
Fund 2	x	x	x	x		x	x	x
Fund 3	x	x				x	x	x
Fund 4		x		x		x	x	x
Fund 5*	x	x					x	
Fund 6		x		x		x	x	x
Fund 7		x				x	x	x

*Fund 5 did not agreed upon meeting for interviews so all restricting factors has not been identified

Figure 5.2, The limiting dimensions from the Frame of References, A posteriori

Some changes have been made from the A priori version. Some of the more interesting result is that the combination of the characteristics of the SSE and the index-thinking created compensating behavior in the fund manager. We can see in the matrix that all funds were restricted to only invest in the SSE. All funds that we have interviewed described an index-thinking. But only two of the four funds that were restricted in the number of holdings, due to either formal restrictions or many excluded companies, were benchmarked to a narrower index. The two funds that did not have a narrower index but had the most restrictions were also the ones that showed the most compensating behavior. We have concluded that the performance benchmarking to index has caused the fund managers to pick portfolios that are close to the index portfolio.

Previous studies have suggested a herding behavior among investors (Hellman, 2000; Voronkova & Bohl, 2005; Blake *et al*, 2002; Lakonishok *et al*, 1992). Only two of our interview objects mentioned that they keep track of their competitors. Instead index comparison stood out as the single most important external influence on the investment decision. We believe that the lack of herding tendencies in our study objects has to do with our disaggregated perspective. While we see that managers stay close to the index and not to competitors, we understand that on an aggregated level this could be interpreted as herding as funds will cluster around the index. The fact that the fund manager might assume that competitors reason the same way and stay close to index makes it

difficult to differentiate the index-clustering from traditional herding-clustering. Hellman (2000, p. 140) also concludes that,
"it appears that the herding literature lacks empirical support at the disaggregated level".

Another explanation to portfolios close to the index is that the manager must have a portfolio-level thinking, which includes diversification. We have tried to have the need for diversification in mind in our essay. We have thought of the connection between index-thinking and diversification. The need to diversify motivates fund managers to spread investments over sectors and to do this in accordance with the index could be a good way. We have chosen to discuss index-thinking and not diversification-thinking. While the consequences of such concepts could be similar, the managers never talked about diversification but rather the indices. We think that we have explained the focus on indices and not diversification both with our data, previous research and suggested explanations for the phenomena.

We believed that the flows of the funds would affect the fund manager to a larger extent; we reasoned that large flows would force the investor to trade in the most liquid shares. But all of the interviewees claimed that the flows of the fund did not affect them. Most funds had trading departments that assured that the flows were invested according to a normal portfolio. Two fund managers mentioned that they had sticky investors and did not see large flows. This has also been described in previous research; ethical funds experience less flow than traditional funds (Renneboog *et al*, 2005). Our limited data on fund-specific flows and trade-by-trade data has meant that we have had difficulties to critically evaluate what the managers said.

In our choice of funds, we excluded all but one fund from every fund broker. This was made so that we would get a variety of observations. In retrospect, we believe that it would have been interesting to have chosen two funds from the same broker in some cases. This would have enabled us to hold some (fund broker specific) factors constant, and perhaps let us isolate some restricting factors and clearly see their consequences. We have had difficulties with the current format to hold certain factors constant so as to isolate the effects of other factors. The index-thinking could also have been examined further by studying an ethical index-fund that is benchmarked to a non-ethical index.

Finally we think that the risk aversion of the fund manager can be a factor that influences how much the manager will deviate from the index, but this has not been closer evaluated in the study.

5.3 Validity

We have performed a qualitative study. Our intention has been to understand the investment decision making of Swedish equity fund managers with ethical restrictions. Merriam (1998, p. 53) describes that there might exist biases in qualitative research. We have tried to increase the validity of the interviews by recording them and both being present. We have used quotations. We also asked the interview subjects if the quotations were correct to avoid interpretations in the empirical results that can create biases. We have also combined the qualitative study with quantitative data to increase the validity (see Merriam, 1998; Hellman, 2000; Andersen, red, 1994). The data could be used to verify some answers of the interview subjects. In the results we have specified when the quantitative data increased the validity of the qualitative data. We have used the SIX PRX as a comparison for all funds, even though two funds used different benchmark indices. We have had this in mind when we have analyzed the deviations from index but have not been able to compare the holdings to their benchmark index. The quantitative data is from the quarterly rapports and do not reflect every transaction and decision of the fund managers, it is a momentary picture of what has happened in three months. If Ericsson weighs 6 % in Q1 and 6.2 % in Q2 it does not show if the fund manager had 9 % in between the reporting. The quarterly reports might have been modified to look better before the reporting. Guba & Lincoln (in Merriam, 1998, p. 53) describes that the best way to prevent bias in the results is to be aware of the influence. We have tried to be specific in the description of the methodology and what data has been used to verify the results from the interviews.

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Appendix A

Included funds
Aktie-Ansvar Sverige
Banco Etisk Sverige Special
Carlson Sverigefonden (previously TCOs Etiska Fond)
Cicero SRI Sverige
Folksam Aktiefond Sverige
Nordea Etiskt Urval
Swedbank Robur Ethica Sverige MEGA

Excluded funds
Not an equity fund
KPA Etisk Blandfond 1
KPA Etisk Blandfond 2
KPA Etisk Räntefond
Swedbank Robur Ethica Ränta
Swedbank Robur Sv. Kyrkans Värdepapper
Swedbank Robyer Sv. Kyrkans Mixfond MEGA
Swedbank Robyer Sv. Kyrkans Räntefond
Swedbank Robyer Sv. Kyrkans Räntefond MEGA
Not a Swedish equity fund
Banco Etisk Europa
Banco Etisk Global
Danske Fonder SRI Europé
Danske Fonder SRI Global
KPA Etisk Aktiefond
SEB Etisk Globalfond
Swedbank Robur Ethica Global MEGA
Öhman Etisk Index Europa
Öhman Etisk Index Japan
Öhman Etisk Index Pacific
Öhman Etisk Index USA
Specialized funds
Banco Hjälpfond
Banco Human Pension
Banco Humanfond
Banco Ideel Miljö
Banco Kultur
Banco Samarit
Banco Samarit Pension
Banco Svensk Miljö
Eldsjäl Gåvofond
SEB Stiftelsefond Sverige
SHB Radiohjälp
Skandia Cancerfond
Skandia Världsnaturfonden
Swedbank Robur Sv. Kyrkans Aktie MEGA
An index fund
Danske Fonder SRI Sverige
Handelbanken Sverige Index Etisk
Öhman Etisk Index Sverige
Only one fund per fund broker
Banco Etisk Sverige
Banco Etisk Sverige Pension
Robur Ethica Miljö Sverige
Swedbank Robur Ethica Miljö Sverige
Swedbank Robur Ethica Stiftelse
Swedbank Robur Ethica Sverige-Global
The fund was deleted
Enter Select SRI
SEB Swedish Ethical Beta Fund
Fund was not noted on Swedish market
SEB Etisk Sverigefond Lux Utd