



GÖTEBORGS UNIVERSITET
HANDELSHÖGSKOLAN

Bachelor thesis in Financial Economics

A performance comparison between concentrated
mutual funds and conventional mutual funds in
Scandinavian countries

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2015-01-15

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Abstract

Our thesis focuses on the Scandinavian fund market, where we compare concentrated funds with conventional funds during the time period 2009-2014. Funds have been divided into two separate categories: small/mid-cap funds and large-cap funds. The data consist of 17 conventional funds and 14 concentrated funds. We compared the two categories of funds by using active management theories and different performance measurables, in order to find out if active management skills matter for fund performance. Our results show that total return is higher for concentrated than for conventional funds. Small-mid/cap funds show the best performance for both categories of funds.

Key words: active management, active share, tracking error, performance measurables, concentrated funds, conventional funds, small-mid/cap funds, large-cap funds

Acknowledgements

We would like to thank Senior Lecturer Charles Naudeu for his supervision on this thesis. It has been very helpful to get his feedback throughout the thesis work. We also want to thank Professor Måns Söderbom for his help and expertise in the econometric area. Many special thanks to Andreas Nilsson at Morningstar, who gave us valuable and much appreciated support when retrieving the data from Morningstar Direct.

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1. Introduction

1.1 Introduction and purpose

In our study we want to compare the difference in performance of concentrated funds and conventional funds, where the main difference between the two is that the latter holds more stocks than a concentrated fund. We will set the criteria for concentrated funds to hold 15-30 stocks and conventional funds to hold more than 50 stocks in the fund portfolio. In the different fund categories, we use two sub categories: small/mid-cap funds and large-cap funds. Furthermore, we want to find out if active share and tracking error differs between these categories of mutual funds. We want to focus our study on the Scandinavian fund market, where the investment area includes Sweden, Norway, Finland, Denmark and Iceland. The main focus though will be on the Swedish fund market, where the majority of the funds are based and used as investment area. There have not been very many studies made about concentrated funds in particular, either as separate or as compared with other group of funds. We will contribute with new results for the Scandinavian market, where there have been even less comparative studies made.

1.2 Definitions

To help the reader to get a more comprehensive picture of concepts used throughout the thesis, here follows a list of definitions that are used in the text:

Active management: Widely used concept in the fund industry, where tracking error is the most common measure. It can both be used to evaluate fund manager strategies, portfolio management and can also be seen as a performance measurable for investors looking at which funds to invest in.

Active share: Estimating active share, the portfolio holdings in a fund is compared to its benchmark index. For fund managers it is a concept that describes strategy management and indicates how active they are with their portfolio positions. For the investor it can be used as a performance measurable when deciding which funds to invest in.

Tracking error: Used to measure the difference in volatility between a portfolio return compared to its benchmark return (Cremers & Petajisto, 2009).

1.3 Background

In Sweden and Scandinavia, the concept of concentrated funds or focused funds has been used for some years. The majority of the major banks in Sweden and some other companies in the finance sector are offering funds, which concentrate on holding a limited amount of stocks in their portfolio. The discussions about whether to have a concentrated portfolio as an investor have been a hot topic for a long time. Warren Buffett, the owner and founder of Berkshire Hathaway, said that “We believe that a policy of portfolio concentration may well decrease risk if it raises, as it should, both the intensity with which an investor thinks about a business and the comfort level he must feel with its characteristics before buying into it” (Berkshire Hathaway, Chairman’s letter, 1993). A recent study about concentrated funds was made by Morningstar Inc. at Wall Street Journal’s request. The analyst firm looked at performance and volatility of stock funds with 40 or less holdings of stocks in the portfolio. Their result was that these groups of funds have not consistently outperformed or underperformed funds with more diverse holdings (Wall Street Journal, 2009).

For investors being able to evaluate if concentrated funds perform better than conventional funds, there are different commonly used measures. If investors instead want to find out how active the managers really are there are other measures to be used. The active management theory, active share, was introduced and discussed by K.J. Martijn Cremers and Antti Petajisto, both Yale University professors at that time. One of their conclusions from their paper was that the best performers were concentrated stock pickers. That fund category combines the attribute with high active share and high tracking error (Cremers & Petajisto, 2009).

1.4 Research questions

With our research question, our aim is to evaluate if there is a significant difference in performance between concentrated funds and conventional funds. We also want to involve the active management perspective, using tracking error and active share as estimates for how active the fund managers are. By using the theory and figures behind the active share theory by Cremers and Petajisto (2009), we try to get a deeper understanding of what differs concentrated stock pickers from diversified stock picks.

We will evaluate the active management perspective by comparing active share ratios and tracking errors for the different categories, and sub-categories. Performance measurable will be calculated and used in order to evaluate differences for conventional and concentrated funds and sub categories. We will use Sharpe ratio, information ratio, Jensen alpha and rate of return (NAV-return) as performance measurables.

1.5 Sector description

The following sections in our thesis are structured as follows. A theory section and a literature review which includes previous studies made on our subject, followed by data and methodology, which explains what data has been used and the methods to find the data. The main results from our study are presented with comments and discussion. The last section concludes with analysis and conclusions.

2 Theory

2.1 Introduction

In relevance for our study, it is important to mention some measurables that are widely used both in the previous literature and in the industry. The measurables have some impact on our results, where we both want to compare ratios such as Sharpe ratio, Jensen Alpha, tracking error and active share. Here follows a summary of the most important theories and previous studies that have been made concerning our thesis.

2.2 Theory

When measuring the expected excess return or risk premium between different funds, investors will price risky assets so that the risk premium will be commensurate with the risk of the expected excess return. Due to this, the best measure for risk is by using the standard deviation of excess returns, not total returns. This is called the reward-to-volatility ratio or Sharpe ratio as it is more commonly known as (Bodie, Kane & Marcus, 2011). Jensen alpha is a measure that is used to calculate the average deviation from the market return. It describes the extra risk and excess return that can be reached by the manager when trying to deviate from and beat the benchmark index (Fondbolagen, 2014).

Active management is a well-known and widely used theory within the industry and the literature of fund management. The traditional way to measure active management is by using tracking error. It measures the difference in volatility between a portfolio return compared to its benchmark return (Cremers & Petajisto, 2009). It was formerly called the tracking error volatility and was described as the time-series standard deviation of the difference between funds return and its benchmark return (Grinold & Kahn, 1999). An active manager aims to reach an expected return that beats the benchmark index, while having as low tracking error as possible (Cremers & Petajisto, 2009). The higher the tracking error, the higher the deviation from its benchmark index, hence the managers aim to minimize the risk of underperforming the index, by having as low tracking error as possible (Fondbolagen, 2014) (Cremers & Petajisto, 2009)).

One concept that is quite new in the active management theory is active share. When estimating active share the portfolios holdings in a fund is compared to its benchmark index. Between fund managers it is a concept that describes strategy management and indicates how

active they are with their portfolio positions, and for the investor it can be used as a performance measurable when deciding which funds to invest in.

A fund could be overweight in a stock compared to its index, having an active long position, or be underweight to its index, having an active short position (Cremers & Petajisto, 2009). Since mutual funds, which we compare in this study, never take actual short positions, their active share will always be between 0 and 100 %. Cremers and Petajisto (2009, p.3331) interpret active share as the “fraction of the portfolio that is different from the benchmark index”. Furthermore, they distinguish between four categories of active and passive management involving both equity and index funds, where they measure both the active share ratio and the tracking error within these categories. One category is stock selecting or diversified stock picks, which involves picking of individual stocks that a manager expects to outperform their peers. Factor timing, another category, is a strategy where the manager uses time-varying bets on systematic risk factors that could include entire industries or sectors of the economy. In other words it explains any systematic risk relative to the benchmark index. Stock selection usually results in high active share and low tracking error, as the investor can be very active despite its low tracking error. This is because individual stock picking within industries can imply large deviations from the index portfolio. Factor timing, on the other hand, involves a fund allocating a big portion of the investment within one industry. That could lead to large tracking error, but much lower active share. The third category, a concentrated stock picker, combines these two management styles, hence taking large positions in individual stocks and also positions in systematic factors, which gives a high active share and tracking error. In comparison the fourth category, a closet indexer, results in low on both ratios and shows no or little active management. The pure indexer, has as one could expect, almost zero tracking error and active share (Cremers & Petajisto, 2009). The groups that are not pure index funds are divided into groups, with respect to their dimension of active share. One group is the closet indexer (20-60% active share) and the other group is named “truly active” (>60 % active share) (Cremers & Petajisto, 2009) (Fondbolagen, 2014)).

Cremers and Petajisto argued the usefulness of these measures for two main reasons. Firstly, it provides information about a funds potential for beating its benchmark index. Secondly, together with tracking error active share gives a more comprehensive picture of active management, allowing distinguishing between stock selection and factor timing. They point out that tracking error incorporated the covariance matrix of returns and put more weight on correlated active bets, while active share on the other hand puts equal weight on active bets

regardless of diversification. Due to that, they choose tracking error as a proxy for factor bets and active share for stock selection (Cremers & Petajisto, 2009).

2.3 Previous studies, in the United States and Sweden

There have not been many studies where concentrated funds have been compared to conventional funds in the aspect of performance and active management. A study that compared conventional mutual funds, to diversified (passive) funds was made by Kacperzyk, Silalm and Zheng (2005). They based their investigation on data from industry concentrated funds in the United States from 1984 to 1999, where they analyzed investment skills by picking different stocks from different industries to find out how concentrated funds performed using different performance measures. The reason why managers chose to hold concentrated portfolios is that they have valuable information about specific industries. The conclusion in the paper is that managers who hold concentrated portfolios are more skilled than those who manage diversified portfolios. Furthermore, the authors find that concentrated funds which focus on a few industries with information access and are managed by experienced managers, achieve better results than passive managers holding diversified funds. Concentrated funds perform better even after fund expenses. There is a higher demand for concentrated funds than for diversified funds even though there are higher expenses in highly concentrated funds.

Huji and Derwall (2010) studied the relation between concentrated global equity funds and largely diversified portfolios in and outside of the United States by using tracking error. The authors argued that concentrated fund performance depends not only on tracking error but it also matters if the managers concentrate in different markets. Huji and Derwill came to the conclusion that concentrated funds with high tracking error performed better than diversified funds when concentrated funds were concentrated to many market sections simultaneously, not just in a few markets.

The Brandes Institute (2004) made an extensive research about concentrated portfolios. The research aimed at investing if the returns of high-volatility portfolios are as high as for less-volatile portfolios by using the concentration coefficient, CC. CC is defined as the concentration of the portfolios where lower CC means more concentrated portfolios. The authors found out that the large-cap stocks are more concentrated than small-cap stocks. Due to lack of data, because of unwillingness from the fund managers to share their data and information, there is no evidence that concentrated portfolios deliver higher returns. But the

authors think that there is a possibility that portfolio managers can deliver higher returns by increasing concentration in the funds.

Grubber (1996) wanted to find out why actively managed funds are one of the fastest growing funds in the United States, when their performance is lower on average than performance for index funds. The difference between mutual and actively managed funds is that the latter have professional management for security selection. With his empirical work, the author showed that actively managed mutual funds have predictable performance and intelligent investors act rationally by predicting future returns from funds past performances. The reason could be that the manager's ability is included at sell price of actively managed funds. However, Grubber found out that high fees are associated with low management.

Chen, Hong, Huang and Kubik (2004) wrote that mutual funds are one of the most growing industries in the United States and in particular for actively managed funds. The authors wanted to find out how size of stocks in the fund affected fund performance. Small funds can be managed with one manager while large funds need more managers. In the large funds there can therefore be competition and a lot of discussions between managers before decisions are made, and it can therefore take time for idea realization. At the same time, single managers in a small company can work without interference from the side. The authors also found out that small funds with few stocks have a higher likelihood to invest in local stocks relative to large funds. The authors came to the conclusion that large funds perform worse than small ones, i.e. size diminishes performance.

With data for mutual funds from year 1980 to 2008, Sun Z., Wang A. and Zheng L. (2009) find out that most active funds perform better than less active funds in the down markets, but not in the up market. Furthermore, most active funds exhibit superior stock selection skill. They also conclude that most active funds perform counter cyclically, i.e. returns are rising when economy weakens and diminishing when economy is rising.

The majority of the studies that have been made about concentrated or active funds' performance and managing origin from the United States and just a few studies involve Sweden and Scandinavia. Dahlquist, Engström and Söderlind (2000) studied Swedish fund performance during the period 1993 to 1997. Their first conclusion was that small equity funds perform better than large equity funds, secondly that funds with high fees performed worse than funds with low fees and thirdly that actively managed funds performed better than passive managed funds.

Engström (2004) four years later analyzed active portfolio management of 112 equity mutual funds during the period 1996 to 2001. The data is separated into two fund groups, Swedish large-cap and small-cap funds. High performance of large-cap funds is related to superior management and they perform better than small-cap funds. In the end, the author concluded that managers of both types of funds generate positive performance. However, Swedish large-cap funds establish fund effectiveness through advanced strategic decisions.

Another study about Swedish mutual funds was made by Bergstrand (2014) where he compared focused funds with low number of stocks with diversified funds. Bergstrand wanted to know whether there was a performance difference between those funds. He also wanted to find out if superior managers gave additional value for focused funds. The results showed that funds with the smallest number of holdings performed better than funds with highest number of stocks. Bergstrand thought that the reason could be skilled managers.

3 Data and methodology

3.1 Data

Our dataset is part monthly time series, part monthly time series compounded to one data point. The data was retrieved from Morningstar Direct from the time period January 2009 – January 2014. The following data was not included in the report: funds with other currencies (NOK, Euro etc.) than SEK were excluded. Funds that had no data for monthly alpha values, monthly return or other measures that were supposed to be used in our study were excluded. Also earlier merged funds were excluded. Funds in funds 130/30 were excluded as well. Funds that did not match the criteria neither for concentrated funds (15-30 stocks) nor for conventional funds (>50 stocks) over the time period were excluded.

3.2 Mutual funds selection

We used data that matched a list of criteria that we set when retrieving the data. We differed between concentrated funds and conventional funds in how many holdings of stocks the different funds had. Concentrated funds consist of funds holding 15-30 stocks and conventional funds hold more than 50 stocks.

3.3 Methodology

We used the active share to involve the active management perspective. It is an important part of active management and also in our thesis, as it predicts a fund's performance. The study of Cremers and Petajisto (2009), show that funds with the highest active share significantly outperform their benchmark, both before and after expenses. Furthermore, these funds exhibit strong performance persistence. Active share is also widely used by the investment research company, Morningstar Inc. In 2009 one of the most influential and distinguished newspaper in the finance industry, Wall Street Journal, requested Morningstar to perform an analysis of funds with 40 or less holdings of stocks, i.e. concentrated funds, where active share was one of the measurables that was reported for all funds (Wall Street Journal, 2009). In 2013 Morningstar did a study of all Swedish funds, where they calculated the active share ratio for each fund (Morningstar, 2013). In addition active share is used in Morningstar Direct, which is the research program that we have used to analyze the performance of our data.

Active share is the ratio between the holdings of mutual fund compared with the holdings of its benchmark index. Active share is calculated as follows:

$$\text{Active share} = \frac{1}{2} \sum_{i=1}^N [W_{fund,i} - W_{index,i}],$$

where $W_{fund,i}$ and $W_{index,i}$ are the portfolio weights of asset i in the fund and in the index, and the sum is taken over the universe of all assets. The sum of the fund portfolio weight differences is then divided by two, in order to have zero overlap for the fund with its benchmark index.

To get the active share, the respective mutual fund portfolios are decomposed into a 100% position in the benchmark index, plus a zero-net investment long-short portfolio that represents all the active bets the fund has taken. An interpretation of active share can then be made as follows: an active share of 100% in the portfolio means that the particular funds hold none of the stocks included in the index, an active share of 0%, means the fund holds the same stocks in equal weight as the benchmark index. For a mutual fund that never shorts a stock or buys on margin, the active share will always be between 0% and 100 % (Cremers & Petajisto, 2009).

We used the active share that was calculated in Morningstar Direct. The application also helped us choose the benchmark index we wanted to use for the calculation.

We used tracking error as another measurable for active management in the fund portfolios. It is an important aspect of active management and particularly in combination with the use of active share. According to Cremers and Petajisto (2009, p.3331), the combination of active share and tracking error together, “allows us to distinguish between stock selection and factor timing” (see theory discussion). We think that using tracking error and active share together will give us a deeper understanding of the active management theory.

Tracking error measures the difference in volatility between a portfolio return compared to its benchmark return. It is calculated as follows:

$$\text{Tracking error} = \text{Stdev} [R_{\text{fund}, t} - R_{\text{index}, t}]$$

where $R_{\text{fund}, t}$ is the return for the portfolio and $R_{\text{index}, t}$ is the return for the index, the difference is then multiplied by the Stdev, which gives the difference in volatility.

We used tracking error data that was provided from Morningstar Direct. The data was monthly times series compounded to one data point.

We used some of the measurables that indicates the performance for the different funds over monthly time series. The measurables used were Sharpe ratio, information ratio and Jensen alpha.

Sharpe ratio or reward-to-volatility ratio is calculated by dividing the risk premium with the standard deviation of excess return.

$$\text{Sharpe ratio} = \frac{E(r_p) - r_f}{\sigma_p} = \frac{\text{Risk return}}{\text{Standart deviation of excess return}}$$

where $E(r_p)$ is expected rate of return of the portfolio, r_f is risk free rate of return and σ_p is average standard deviation of the excess returns (Bodie, Kane, Marcus, p. 850).

We used Sharpe ratio data that was provided from Morningstar Direct. The data was retrieved from the past three years. We also calculated the formula that was given by Morningstar, to evaluate the results from the data base.

Jensen alpha is calculated by average return of the portfolio over and above predicted by the capital asset portfolio model, CAPM, given the portfolios beta and the average market return.

$$\text{Jensen alpha} = \alpha_p = r_p - [r_f + \beta (r_m - r_f)]$$

where r_p is rate of return of the portfolio, r_f is risk free rate, r_m is market rate of return and β is the beta value of a portfolio (Bodie, Kane & Marcus, p. 850).

We used Jensen alpha data that was provided from Morningstar Direct. We used the formula that was used by Morningstar, and calculated the average alpha for a five year period.

Information ratio is calculated by dividing Jensen alpha by nonsystematic risk of the portfolio.

$$\text{Information ratio} = \frac{\alpha_p}{\sigma(e_p)} = \frac{\text{alpha of the portfolio}}{\text{tracking error}}$$

where α_p is Jensen alpha and $\sigma(e_p)$ is the tracking error (Bodie, Kane & Marcus, p. 850).

We used information ratio data that was provided from Morningstar Direct. The data was monthly times series compounded to one data point.

We used rate of return data that was provided from Morningstar Direct. In Morningstar the rate of returns for all funds were calculated as the change in monthly net assets value (NAV) divided by the starting NAV. Net asset value is the fund's total asset (after management fee) divided by total number of shares or units. Normally the fund's assets and unit share prices are revalued each trading day (Morningstar, 2014) (Fondbolagen, n.d).

When setting a specific benchmark index, we used Morningstar Sweden Index GR for active share and tracking error. We decided to use this benchmark, after discussion with a representative at Morningstar (A Nilsson, 2014, pers.comm., November). We also used SIX Portfolio Return Index (SIXPRX), in performing Jensen alpha calculations. SIXPRX is constructed in a way that it reflects the market return of stocks on the Stockholm Exchange (Nasdaq OMXS). There are certain limitations for the benchmark, where no security can overweight 10% of the index. Securities that have a weight of 5% or more cannot overweight more than 40% of the index together (Fondbolagen, n.d). Furthermore, we also used Carnegie small/mid-cap Sweden, MSCI Sweden small/mid-cap and OMXS Benchmark Cap. For risk

free rate, we used the USTREAS T-bill Auction Ave 3 month. All benchmark data and risk free data was retrieved from Morningstar Direct.

We also grouped our funds for conventional and concentrated funds into another sub-category. Morningstar's global investment fund sectors (GIFS) were used to categorize the funds to small/mid-cap or large-cap funds. GIFS are international categories that has been developed and tested by Standard and Poor's. The GIFS structure includes many global asset classes, i.e. equity, fixed-income and money markets (Morningstar, n.d.). For all stocks on the Swedish, Norwegian and Finnish stock market, the Nordic list is used. The Nordic list is divided into three parts, large cap, mid cap and small cap. For large cap stocks, the market value of the company must exceed 1 billion euro, companies on mid cap must have a market value between 150 million euro and 1 billion euro, small cap stocks includes companies with a market value less than 150 million euro (Nasdaq OMX, 2012). We compared small/mid cap and large cap funds in our work, where small- and mid-cap funds were merged to one category.

4 Results and discussion

The results and discussions are written in the following order. First are the results for the concentrated mutual funds, conventional mutual funds and a comparison between those funds by using active share and tracking error. Secondly, a performance evaluation is followed for conventional and concentrated funds by using risk adjusted fund performance measures such as rate of return, Sharpe ratio, information ratio and Jensen alpha.

4.1 Active management

4.1.1 Concentrated funds

Table 1 (see also appendix figure A1) shows the results for active share and tracking error for concentrated funds during 2009-2013. Strand Småbolagsfond has the highest active share.

Cicero Focus and Handelsbanken AstraZeneca also represent funds with high active share.

Carnegie had a very high active share in the beginning of our time period, but their ratio have decreased nearly every year, with an active share close to 50 % in 2013. This could be because of a tendency to follow its benchmark index, and not differentiate too much from it.

Tracking error follows accordingly with active share; lower active share results in lower tracking error, higher active share results in higher tracking error.

Table 1. Concentrated funds – active share (AS) and tracking error (TE), 2009-2013.

	2009		2010		2011		2012		2013	
	AS (%)	TE	AS (%)	TE	AS (%)	TE	AS (%)	TE	AS (%)	TE
Sweden Large-Cap Equity										
Carnegie Sverige Select	84,81	6,36	66,59	3,25	55,69	4,65	55,94	6,57	50,86	5,66
Cicero Focus	80,68	4,06	82,05	6,01	79,21	9,14	73,40	10,15	68,25	7,86
DNB Sverige Koncis A	67,84	3,01	63,47	3,39	43,85	3,94	47,75	5,69	53,90	8,40
Enter Sverige	53,55	2,96	54,25	3,78	53,66	2,66	52,70	2,76	54,94	6,49
Enter Sverige Pro	53,91	2,72	53,91	3,88	53,55	2,22	52,91	2,97	54,69	6,46
Handelsbanken AstraZeneca Allemans	83,97	7,95	73,84	7,67	72,46	8,22	75,18	9,41	74,88	13,59
Lannebo Sverige	57,10	3,44	59,81	5,78	56,17	6,71	50,23	5,19	55,12	8,67
Länsförsäkringar Sverige Aktiv	42,42	2,53	33,35	3,13	34,83	3,93	42,97	2,83	37,40	5,69
SEB Swedish Focus	73,88	4,04	57,71	6,24	57,83	5,91	61,47	4,05	58,06	11,97
Sweden Small/Mid-cap Equity										
Handelsbanken Sverige Selektiv (A1) SEK	75,23	6,04	74,49	6,81	71,66	7,71	73,43	5,33	73,26	7,87
Spiltan Aktiefond Dalarna	71,80	5,88	72,36	7,91	78,83	6,09	77,07	6,19	78,69	11,39
Spiltan Aktiefond Stabil	78,56	4,79	77,62	5,04	75,97	8,20	72,73	5,95	70,42	13,96
Spiltan Aktiefond Sverige	66,05	5,79	64,53	6,55	66,10	6,62	66,63	4,75	67,08	12,14
Strand Småbolagsfond	97,17	7,19	98,45	7,99	98,74	6,30	98,42	10,93	99,19	19,54

4.1.2 Conventional funds

Table 2 (see also appendix figure A2) shows results for active share and tracking error. For most of the conventional funds active share seems to be much lower. For all funds from the large-cap equity and global equity category, the active share is much lower compared to the funds with small/mid-cap equities in their portfolio. As Cremer and Petajisto (2009) wrote in their paper that funds with an active share between 20-60 % belong to the “closet indexer” category. These funds claim to be actively managed, but instead follow their benchmark index very closely. Small/mid-cap funds show a significantly higher active share, where all funds have an active share higher than 80%. Tracking error follows in the same way as with concentrated funds, where a higher active share results in a higher tracking error.

Table 2. Conventional funds – active share (AS) and tracking error (TE), 2009-2013.

	2009		2010		2011		2012		2013	
	AS (%)	TE	AS (%)	TE	AS (%)	TE	AS (%)	TE	AS (%)	TE
Sweden/Global Equity										
Ethos Aktiefond	30,65	1,73	28,90	2,67	24,80	2,86	25,07	3,04	28,50	4,77
Sweden Large-Cap Equity										
Folksam LO Sverige	20,21	1,29	17,01	2,23	15,37	4,18	17,51	2,55	16,93	3,88
Folksam LO Västfonden	24,47	1,43	22,48	2,79	21,27	3,85	22,82	2,65	21,54	3,69
Folksams Aktiefond Sverige	19,98	1,24	17,08	2,29	15,44	4,30	17,23	2,53	16,63	3,90
Folksams Tjänstemanna Sverige	19,70	1,29	16,55	2,17	15,37	4,16	17,39	2,47	16,89	3,91
Handelsbanken Bostadsrätterna	19,90	1,58	16,87	1,91	20,25	3,80	23,42	2,59	23,46	4,72
Handelsbanken Sverigefond	20,24	1,56	16,81	1,91	20,36	3,81	23,41	2,57	23,61	4,73
Nordea Inst Aktie Sverige	18,34	1,08	16,47	1,83	17,36	3,55	21,97	2,58	20,89	6,06
SEB Sverigefond	22,75	2,09	17,81	2,17	17,33	3,23	24,77	2,60	35,52	4,39
Swedbank Robur Sverigefond	23,35	1,16	23,86	2,79	23,60	4,45	19,28	3,08	21,19	4,39
Öhman Sverigefond	15,53	1,09	14,10	0,81	13,20	1,26	15,41	1,69	15,07	2,88
Sweden Small/Mid-Cap Equity										
AMF Aktiefond Småbolag	82,88	5,47	84,95	6,21	82,70	7,08	86,73	9,66	86,04	13,82
Handelsbanken Svenska Småbolag	84,41	5,30	83,82	6,87	85,07	8,84	87,32	10,57	86,61	14,14
Länsförsäkringar Småbolag Sverige	86,48	6,13	89,69	10,54	91,17	8,12	91,87	12,09	88,34	16,44
SEB Sverigefond Småbolag	80,51	6,90	80,87	5,56	85,00	7,06	88,90	10,26	87,27	12,90
Skandia Småbolag Sverige	83,52	6,14	85,40	7,96	87,13	7,36	87,98	10,40	88,24	13,35
Swedbank Robur Småbolagsfond Sverige	84,58	6,56	86,30	8,71	85,49	8,14	89,64	10,03	89,22	13,53

4.1.3 Concentrated vs. conventional funds

In table 3 average active share and tracking errors for concentrated funds are shown. Concentrated funds seem to have a higher active share for our time period compared to conventional funds (table 4). The average active share for concentrated funds is also much higher, where Länsförsäkringar Sverige Aktiv is the only fund with an active share below 50 %. From both table 3 and 4 we see that the results differ by 60% between large-cap and small/mid-cap equity funds in the conventional fund category. Furthermore, seen from the results, nearly all small/mid-cap funds in both categories have an active share of 70% or more.

Table 3. Concentrated funds – average active share and tracking error.

	Average AS/TE 2009-2013		
Sweden Large-Cap Equity	%		
Carnegie Sverige Select	62,78		5,30
Cicero Focus	76,72		7,44
DNB Sverige Koncis A	55,36		4,88
Enter Sverige	53,82		3,73
Enter Sverige Pro	53,80		3,65
Handelsbanken AstraZeneca Allemans	76,06		9,37
Lannebo Sverige	55,68		5,96
Länsförsäkringar Sverige Aktiv	38,20		3,62
SEB Swedish Focus	61,79		6,44
Sweden Small/Mid-cap Equity			
Handelsbanken Sverige Selektiv (A1) SEK	73,62		6,75
Spiltan Aktiefond Dalarna	75,75		7,49
Spiltan Aktiefond Stabil	75,06		7,59
Spiltan Aktiefond Sverige	66,08		7,17
Strand Småbolagsfond	98,39		10,39

Table 4. Conventional funds – average active share and tracking error.

	Average AS/TE 2009-2013		
Sweden/Global Equity	%		
Ethos Aktiefond	27,58		3,01
Sweden Large-Cap Equity			
Folksam LO Sverige	17,41		2,82
Folksam LO Västfonden	22,52		2,88
Folksams Aktiefond Sverige	17,27		2,85
Folksams Tjänstemanna Sverige	17,18		2,80
Handelsbanken Bostadsrätterna	20,78		2,92
Handelsbanken Sverigefond	20,89		2,92
Nordea Inst Aktie Sverige	19,01		3,02
SEB Sverigefond	23,64		2,90
Swedbank Robur Sverigefond	22,26		3,17
Öhman Sverigefond	14,66		1,55
Sweden Small/Mid-Cap Equity			
AMF Aktiefond Småbolag	84,66		8,45
Handelsbanken Svenska Småbolag	85,45		9,14
Länsförsäkringar Småbolag Sverige	89,51		10,66
SEB Sverigefond Småbolag	84,51		8,54
Skandia Småbolag Sverige	86,46		9,04
Swedbank Robur Småbolagsfond Sverige	87,05		9,39

The results in the previous section lead to figure 1. Petajisto (2013) showed in a two-dimensional picture how different active shares and tracking error could be divided into different categories of funds (see appendix, figure A3). Figure 1 shows some examples of different funds in each category. In the upper right hand corner we have the concentrated stock pickers with high active share and high tracking error, which include Strand Småbolagsfond and Länsförsäkringar Småbolag Sverige with active shares of 98.39% and 89.51% and tracking errors of 10.39 and 10.66. In the lower right hand side, funds with high active share but a low tracking error resides. SEB Swedish Focus exhibits these criteria with a

relatively high tracking error of 6.44 and a low active share of 61.79%. Länsförsäkringar Sverige Aktiv and SEB Sverigefond both exhibit a low active share and low tracking error. Länsförsäkringar could be considered as a closet indexing fund where SEB Sverigefond is very close to be a pure index fund, while they clearly state that their fund is actively managed (see theory discussion).

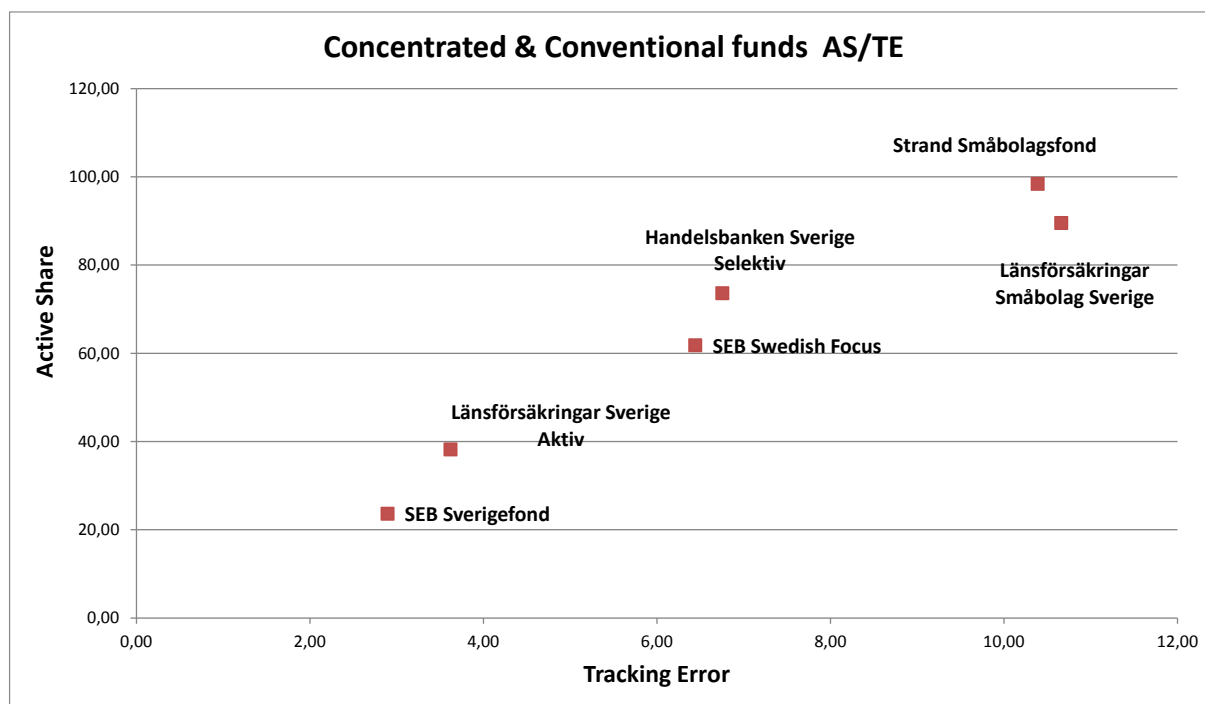


Figure 1. Different types of active share and tracking error.

As the results show, in accordance to the results from a study about Swedish Funds and their active share, evaluated by Morningstar (2013), the small/mid-cap funds exhibit a higher active share compared to large-cap funds. This could be due to that Morningstar used a large-cap benchmark as SIX PRX is considered to be (see theory section). We also used a large-cap benchmark, called Morningstar Sweden Index GR.

4.2 Performance evaluation – risk adjusted fund performance measures

4.2.1 Rate of return

Figure 2 shows monthly rate of return for four different types of funds, conventional and concentrated small/mid- and large-cap funds. Conventional small/mid-cap funds gave the best total returns. Both concentrated small/mid-cap and concentrated large-cap funds show quite similar returns. Small cup-funds exhibit highest monthly rate of returns.

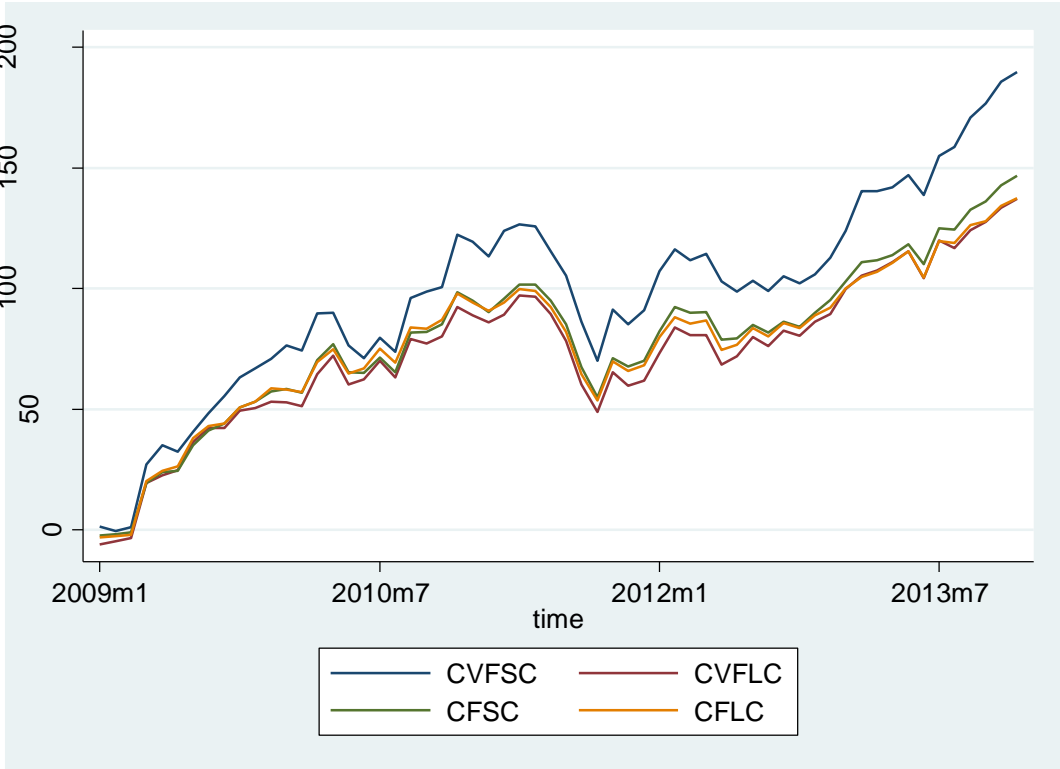


Figure 2. Monthly rate of return for conventional small/mid-cap funds (CVFSC), conventional large-cap funds (CVFLC), concentrated small/mid-cap funds (CFSC) and concentrated large-cap funds (CFLC) 2009 to 2013. Percent are on vertical axis and year on horizontal axis.

Figure 3 presents the difference in monthly rate of returns between conventional and concentrated large-cap funds. Here it is evident that concentrated funds give slightly better returns than conventional funds. However, in the end of the period both funds perform similar in same rate of return (see also table 5).

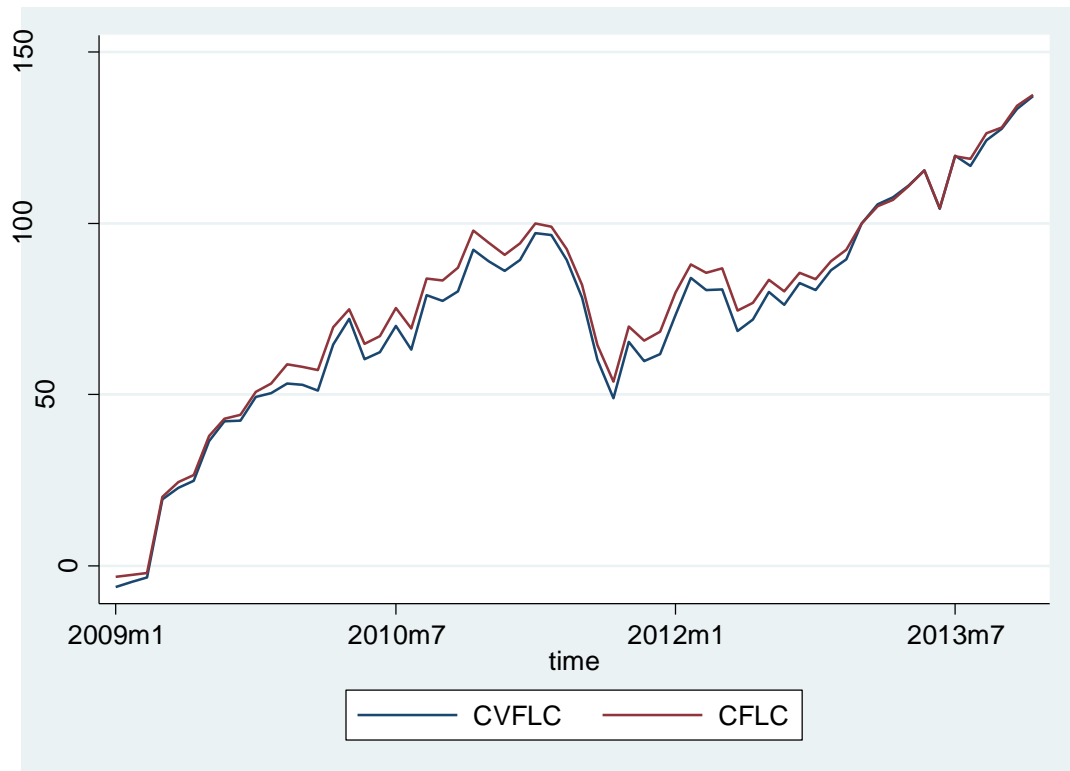


Figure 3. Monthly rate of returns for conventional large-cap funds (CVLC) and concentrated large-cap funds (CFLC) for five-year period (2009-2013). Percent are on vertical axis and year on horizontal axis.

Figure 4 shows the difference in monthly rate of returns between conventional and concentrated funds. Conventional funds gives slightly better returns than concentrated funds in monthly terms, but for total returns the difference is quite big, with 11% difference between the two categories of funds (table 5).

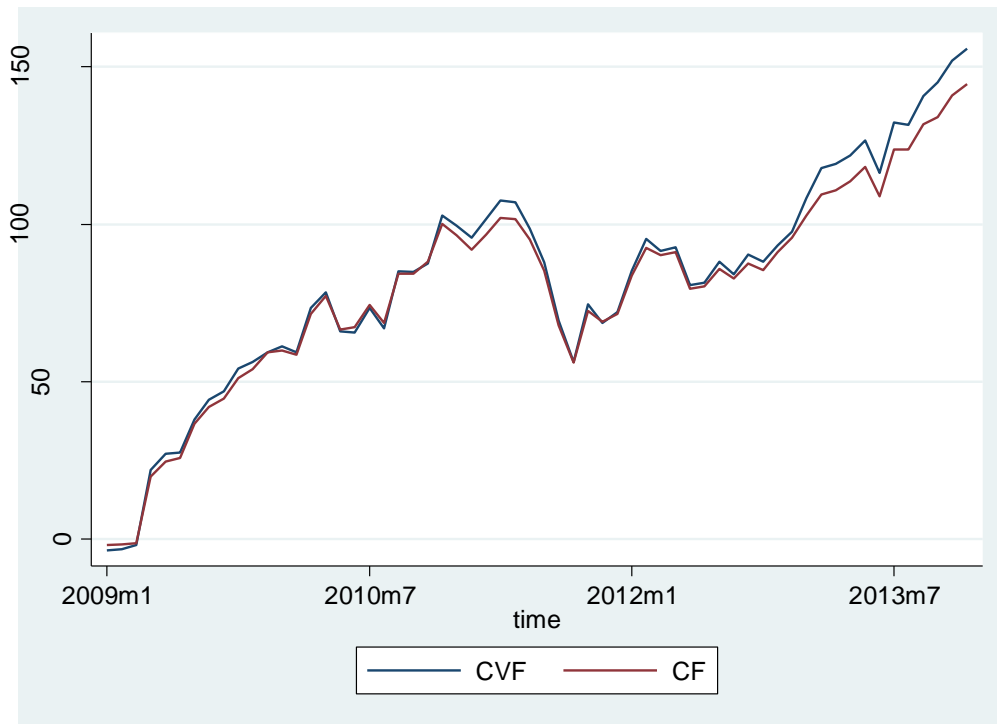


Figure 4. Rate of returns for conventional (CVF) and concentrated funds (CF) for five-year period (2009-2013). Percent are on vertical axis and year on horizontal axis.

Table 5 gives the same result as in figures 2-4 and shows the total rate of returns for conventional small- and large-cap funds and concentrated small- and large-cap funds. Most of the small/mid-cap funds show a higher total rate of return than large-cap funds and their average is higher than for large cap funds. However, in total, conventional funds have a higher total rate of return than concentrated funds.

Table 5. Total rate of returns for conventional and concentrated small/mid- and large-cap funds (2009-2013). Small/mid-cap funds are colored gray.

<u>Conventional funds</u>	Total return (%)	Total return (%)	<u>Concentrated funds</u>
Handelsbanken Svenska Småbolag	212,76	204,47	Strand Småbolagsfond
AMF Aktiefond Småbolag	210,93	172,80	Carnegie Sverige Select
Swedbank Robur Småbolagsfond Sverige	191,89	160,90	Spiltan Aktiefond Sverige
Skandia Småbolag Sverige	186,55	151,24	Cicero Focus
Länsförsäkringar Småbolag Sverige	172,18	146,80	Enter Sverige Pro
SEB Sverigefond Småbolag	164,66	146,00	Handelsbanken Sverige Selektiv (A1) SEK
Folksam LO Västfonden	144,13	143,15	Lannebo Sverige
Folksam Tjänstemanna Sverige	142,01	140,68	Spiltan Aktiefond Stabil
Folksam LO Sverige	140,49	134,49	Spiltan Aktiefond Dalarna
Handelsbanken Bostadsrätterna	138,93	133,47	SEB Swedish Focus
Folksam Aktiefond Sverige	138,92	133,31	Enter Sverige
Handelsbanken Sverigefond	138,74	125,28	Handelsbanken AstraZeneca Allemans
Swedbank Robur Sverigefond	134,28	122,36	Länsförsäkringar Sverige Aktiv
Nordea Inst Aktie Sverige	134,09	109,25	DNB Sverige Koncis A
Ethos Aktiefond	133,39		
SEB Sverigefond	132,32		
Öhman Sverigefond	130,80		
Average return	155,71	144,59	Average return
Average return small/mid-cap	189,83	157,31	Average return small/mid-cap
Average return large-cap	137,10	136,84	Average return large-cap

Small/mid-cap funds give the best rate of returns (figure 2, table 5). In some of the time periods concentrated large-cap funds performed a little bit better than conventional large-cap funds (figure 3). In total returns though, conventional large-cap funds show a little higher rate of return than concentrated large-cap funds (table 5). The difference between all funds is very small but in total returns conventional funds show to be quite higher (figure 4 & table 5).

4.2.2 Sharpe ratio

Table 6 shows Sharpe ratio for concentrated and conventional funds. Funds are separated into large-cap and small/mid-cap funds. Small/mid-cap funds have higher Sharpe ratio than large-cap funds and the Sharpe ratio is slightly lower for conventional funds compared to concentrated funds. The difference in Sharpe ratio between concentrated and conventional fund can also be seen in their average values. A higher Sharpe ratio for concentrated funds shows better skills of a fund-manager when taking a certain risk.

A statistical analysis gave a high p-value and thereby showed that there is no significant difference in Sharpe ratio between conventional and concentrated funds. Therefore, the null hypothesis that there is no difference in Sharpe ratio between concentrated and conventional funds cannot be rejected (Appendix Table A1).

Table 6. Sharpe ratio for conventional and concentrated small/mid- and large-cap funds (2009-2013). Small/mid-cap funds are colored gray.

Conventional funds	Sharpe ratio	Sharpe ratio	Concentrated funds
AMF Aktiefond Småbolag	0,96	1,05	Strand Småbolagsfond
Handelsbanken Svenska Småbolag	0,96	1,01	Carnegie Sverige Select
Swedbank Robur Småbolagsfond Sverige	0,95	0,96	Spiltan Aktiefond Stabil
Skandia Småbolag Sverige	0,94	0,95	Handelsbanken AstraZeneca Allemans
Länsförsäkringar Småbolag Sverige	0,88	0,89	Spiltan Aktiefond Sverige
SEB Sverigefond Småbolag	0,86	0,87	Handelsbanken Sverige Selektiv (A1) SEK
Folksam LO Västfonden	0,81	0,87	Cicero Focus
Öhman Sverigefond	0,81	0,83	Enter Sverige Pro
Handelsbanken Sverigefond	0,81	0,82	Spiltan Aktiefond Dalarna
Nordea Inst Aktie Sverige	0,81	0,80	Enter Sverige
Handelsbanken Bostadsrätterna	0,81	0,80	Lannebo Sverige
Folksams Tjänstemanna Sverige	0,80	0,77	Länsförsäkringar Sverige Aktiv
Folksam LO Sverige	0,80	0,74	SEB Swedish Focus
SEB Sverigefond	0,79	0,71	DNB Sverige Koncis A
Ethos Aktiefond	0,79		
Folksams Aktiefond Sverige	0,79		
Swedbank Robur Sverigefond	0,78		
Average	0,84	0,86	Average

4.2.3 Information ratio

Table 7 shows information ratio for concentrated and conventional funds. Funds are separated into large-cap and small/mid-cap funds. High information ratio indicates stronger fund manager skills, which generates a higher exceed return for the fund over its benchmark index. Small/mid-cap funds have higher information ratio than large-cap funds. Information ratio is slightly lower for concentrated funds compared to conventional funds and there are even many negative information ratio values for both kinds of funds. There is no difference in the average information ratio between the two different kinds of funds.

The results from a two-side analysis showed that there is no significant difference between conventional and concentrated funds in information ratio. With a high p-value we could not reject the null hypothesis that there is a significant difference in information ratio between conventional and concentrated funds (Appendix Table A1).

Table 7. Information ratio for conventional and concentrated small/mid- and large-cap funds (2009-2013). Small/mid-cap funds are colored gray.

Conventional funds	Information ratio	Information ratio	Concentrated funds
AMF Aktiefond Småbolag	0,61	0,44	Strand Småbolagsfond
Handelsbanken Svenska Småbolag	0,59	0,40	Carnegie Sverige Select
Swedbank Robur Småbolagsfond Sverige	0,41	0,15	Spiltan Aktiefond Sverige
Skandia Småbolag Sverige	0,37	-0,05	Handelsbanken Sverige Selektiv (A1) SEK
Länsförsäkringar Småbolag Sverige	0,19	-0,07	Enter Sverige Pro
SEB Sverigefond Småbolag	0,16	-0,10	Lannebo Sverige
Folksam LO Västfonden	-0,18	-0,11	Spiltan Aktiefond Stabil
Folksams Tjänstemanna Sverige	-0,25	-0,18	Cicero Focus
Folksam LO Sverige	-0,30	-0,19	Spiltan Aktiefond Dalarna
Handelsbanken Bostadsrätterna	-0,34	-0,22	SEB Swedish Focus
Handelsbanken Sverigefond	-0,35	-0,26	Handelsbanken AstraZeneca Allemans
Folksams Aktiefond Sverige	-0,35	-0,39	Enter Sverige
Nordea Inst Aktie Sverige	-0,45	-0,73	Länsförsäkringar Sverige Aktiv
Swedbank Robur Sverigefond	-0,45	-0,78	DNB Sverige Koncis A
Ethos Aktiefond	-0,51		
SEB Sverigefond	-0,58		
Öhman Sverigefond	-1,11		
Average	-0,15	-0,15	Average

4.2.4 Jensen alpha

Table 8 shows monthly average Jensen alpha for conventional and concentrated small/mid-cap and large-cap funds during the period 2009-2013. The table clearly shows higher Jensen alpha for concentrated funds than for conventional funds for all five years. Concentrated funds have thereby outperformed the benchmark index. A negative value of Jensen alpha for conventional funds shows that conventional funds underperformed the benchmark index for the period. The negative Jensen alpha values indicate poor fund management for conventional funds.

Table 8. Average Jensen Alpha for conventional and concentrated small/mid- and large-cap funds (2009-2013). Small/mid-cap funds are colored gray.

Conventional funds	Jensen alpha	Jensen alpha	Concentrated funds
Swedbank Småbolag	0,63	1,24	Strand Småbolagsfond
AMF Småbolag	0,60	0,82	Carnegie Sverige Select
Handelsbanken Svenska Småbolag	0,57	0,63	Handelsbanken AstraZeneca Allemans
Skandia Småbolag	0,15	0,58	Spiltan Aktiefond Stabil
SEB Småbolag	0,15	0,54	Cicero Focus
Nordea Inst Aktiefond	-0,13	0,28	Handelsbanken Sverige Selektiv
Öhman Sverigefond	-0,19	0,22	Spiltan Aktiefond Sverige
Folksam Aktiefond Sverige	-0,20	-0,15	Spiltan Aktiefond Dalarna
Handelsbanken Sverigefond	-0,22	-0,25	Länsförsäkringar Sverige Aktiv
Handelsbanken Bostadsrätterna	-0,23	-0,27	Enter Sverige Pro
Folksam LO Västfonden	-0,24	-0,38	Lannebo Sverige
SEB Sverigefond	-0,26	-0,42	Enter Sverige
Folksam Tjänstemanna	-0,26	-0,52	SEB Swedish Focus
Ethos Aktiefond	-0,26	-0,66	DNB Sverige Koncis A
Folksam LO Sverige	-0,27		
Swedbank Robur Sverigefond	-0,40		
Länsförsäkringar Småbolag	-1,24		
Average	-0,11	0,12	Average

Sharpe ratio, information ratio and Jensen alpha show similar results for both conventional and concentrated funds. Values for small/mid-cap funds are higher than for large-cap funds (table 5, 6 & 7). The average Jensen alpha value for concentrated funds is higher than for conventional funds even though the returns for conventional funds are higher than for concentrated funds (table 4).

5 Analysis and conclusion

Our aim with this thesis work was to evaluate if there was any difference between concentrated and conventional funds. By using different performance measurables and concepts from the active management theory to evaluate fund manager strategies and how active the fund managers are, our purpose was to see if the different categories of funds differed from each other. We wanted to include active share and tracking error, to get a deeper understanding for the active management theory.

When comparing concentrated funds with conventional funds as well as comparing the sub-groups within the categories, we found that small/mid-cap funds had the highest active share values. This could be due to the benchmark we used, which include large-cap stocks. The result of this is higher active share for funds that deviates much from its index, as active share is the fraction of the portfolio that differ from its benchmark.

We also found that a high active share means a high tracking error, and these values follow each other accordingly. As the two-dimensional figure (see appendix figure A3) by Cremers and Petajisto (2009) shows, this indicates funds with concentrated stock picks. Many of the funds in the conventional funds category that were evaluated, showed a low active share and low tracking error. These funds belong to the category of closet indexing, which are funds that claim to be actively managed, but instead follow their benchmark very closely. We also found that some funds would be categorized as factor bets. These funds follow a strategy where the manager uses time-varying bets on systematic risk factors that include entire industries or sectors of the economy. No funds showed a high active share and low tracking error, which would indicate a fund with diversified stock picks, which gave us no incentive to examine that concept further. Our findings show that many of the actively managed funds in Sweden are categorized as closet indexer or almost pure index funds, while they claim that they are actively managed. Furthermore, the small/mid-cap funds show both the highest active share and tracking error, which seems to be reasonable for tracking error as small/mid-cap funds take larger risks as they invest in smaller companies compared to large-cap funds. The active share is overall much higher for concentrated funds than for conventional funds. By this we can see that fund managers for concentrated funds seem to be more active in their portfolio management, and that most of the conventional fund managers take very small active positions, and instead follow their benchmark much more closely.

The rate of return (NAV) is again higher for small/mid-cap oriented funds for both concentrated and conventional funds. There is not a big difference between large-cap funds in the different categories. However, there is a difference between conventional and concentrated funds where conventional funds show average total return of 11% higher for the five year period. The higher return is mostly because of more small/mid-cap funds in the conventional funds category. The small/mid-cap funds show an average total return of 189%, which is 34% higher than the average return for the whole conventional funds category. This indicates the same results as Dahlqvist, Engström and Söderling (2000) who found that small equity funds (small-cap) perform better than large equity funds (large-cap). The funds from the small/mid-cap category show overall better results than large-cap funds in our study.

Sharpe ratio is higher for small/mid-cap funds. There does not seem to be a big difference when comparing the two categories to each other, where the conventional funds and concentrated funds again show very similar results. As with the rate of return this could be because of the bigger portion of small/mid-cap funds in the conventional funds category which raises the average Sharpe ratio in that category. Small/mid-cap funds show the highest Sharpe ratio in both categories of funds.

Information ratio shows the most similar results for both categories. There is no difference at all between the different funds.

When looking at the Jensen alpha, there seem to be higher values for concentrated funds. This could be because the funds respective benchmark could have a higher benchmark return, which makes the value of the excess alphas to be lower for those funds that use that benchmark. It can also be because of more skilled fund managers for the concentrated funds. The results are in accordance with the study of Kacperzyk, Silalm and Zheng (2005) who also came to the conclusion that managers who hold concentrated portfolios are more skilled. One way to measure how skilled the managers are would be by using Jensen alpha.

Our conclusion is that there seem to be differences for some parts of the results between the different fund categories. Active share and tracking error do show different results for concentrated and conventional funds. We would say that because of this it could be of importance to include those ratios when examining active management between different funds. The small/mid-cap funds in both categories could make the results for the conventional funds to be better than they really are, when we look at the performance measurables. However, this study is about comparing conventional with concentrated funds, where

small/mid-cap funds are included in both groups. The results show that there are some but small differences between concentrated and conventional funds, but that the major difference appears when we compare small/mid-cap funds with large-cap funds within the two categories. There we see that small/mid-cap funds overall show the best results and highest values for all comparable measurables.

6 Future research

Our result shows that many of the conventional funds have a lower active share. These funds are considered as actively managed, but with their low active share and tracking error are categorized as closet-indexing funds. It would be interesting to see if these funds in Sweden charge a high management fee, as they do not take to many active bets, and could almost be considered as a pure index funds, and if this has been a case for a longer time period. This could really put the light on the Swedish fund market, if there is discrepancy in the pricing of actively managed funds.

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8 Appendix

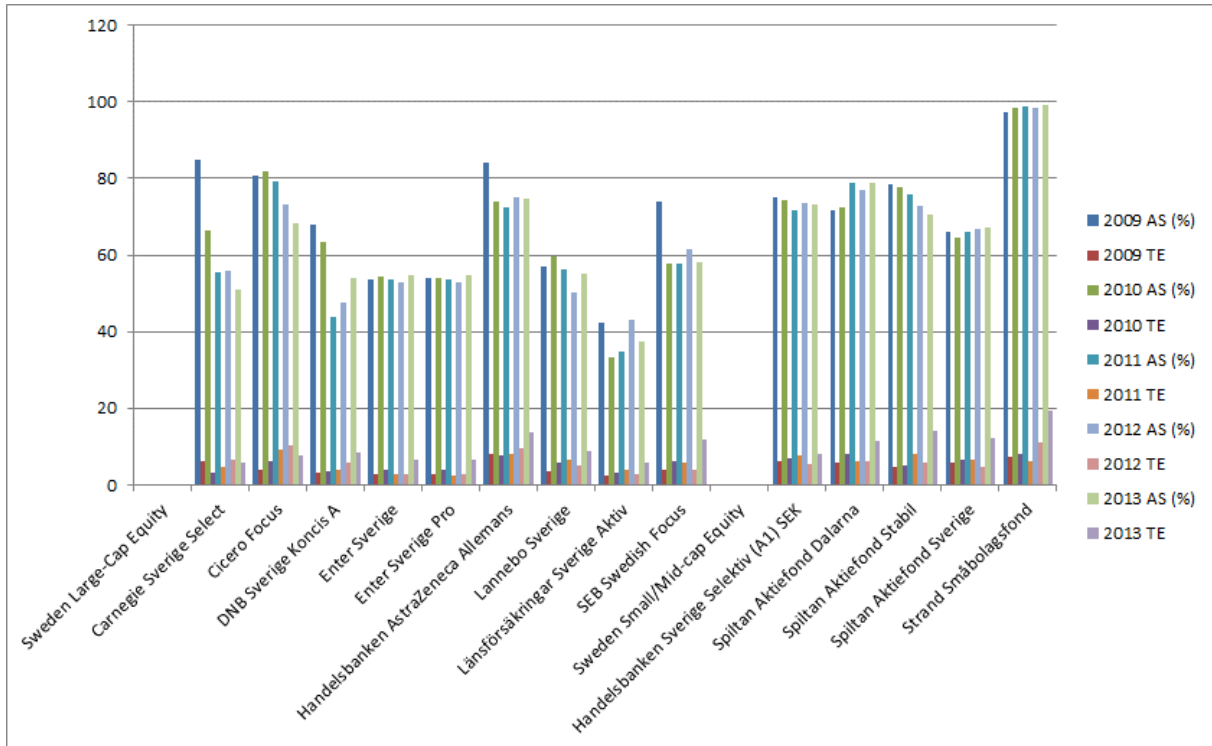


Figure A1. Concentrated funds – Active share and tracking error 2009-2013.

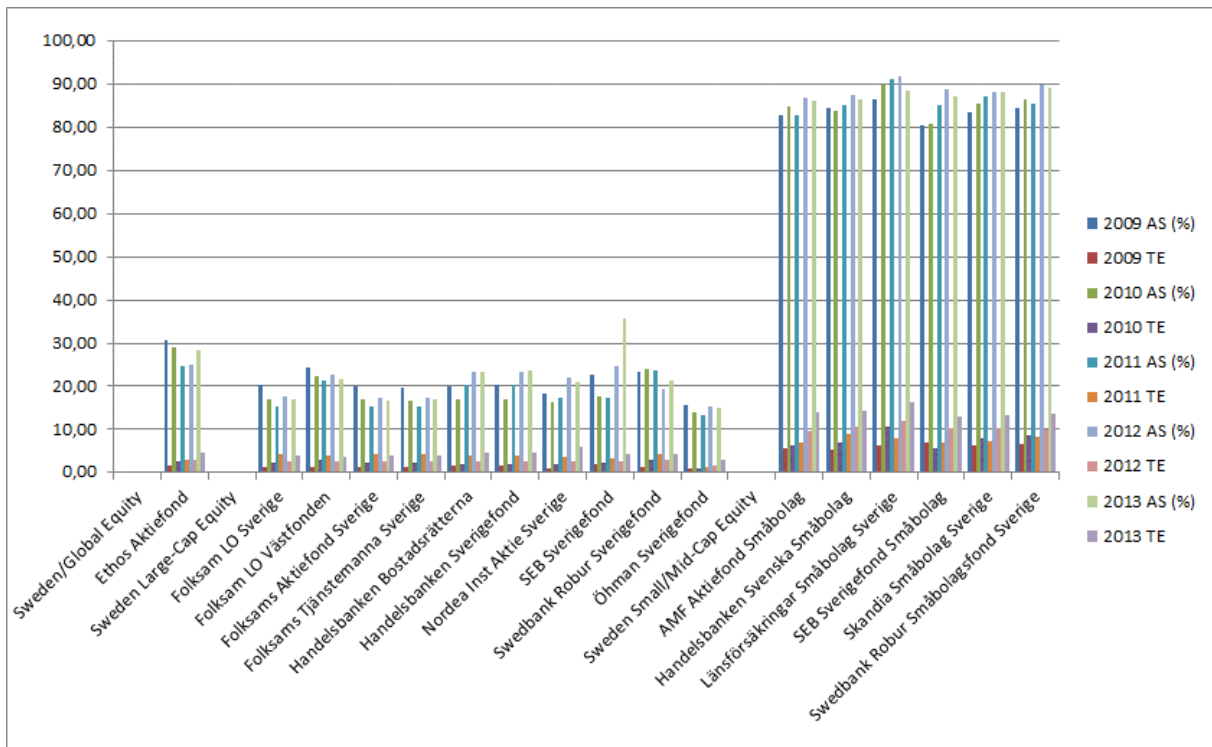


Figure A2. Conventional funds – Active share and tracking error 2009-2013.

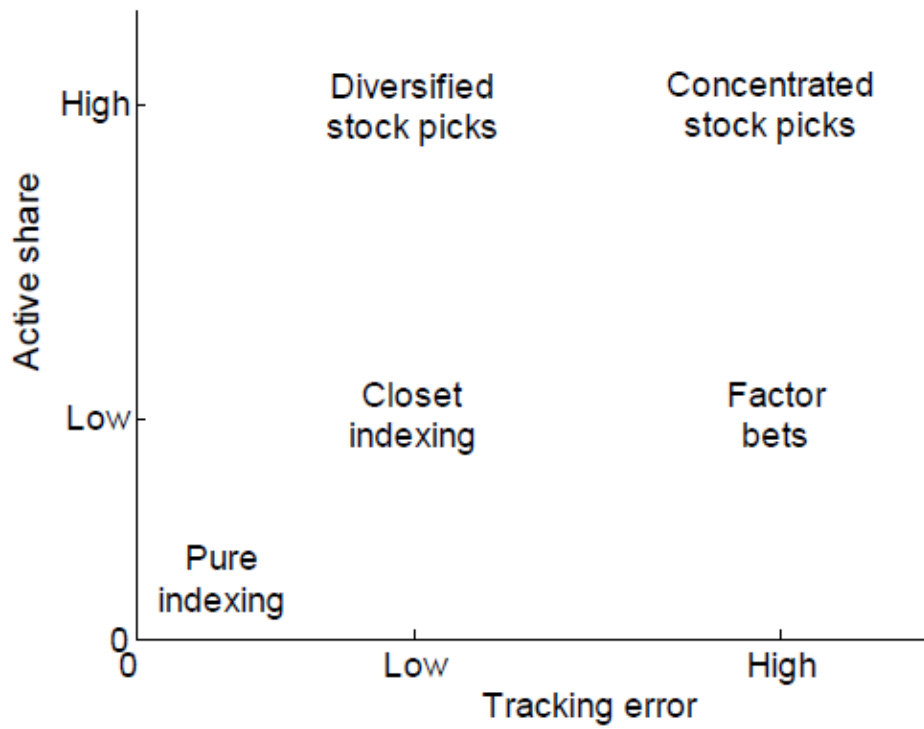


Figure A3. Two dimensional figure – different type of active share and tracking error.

