Stockholm School of Economics
Master Thesis in Finance

Why New Funds Are Issued

- An Analysis of the Swedish Market

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Abstract

This paper studies a fund family's decision to launch a new fund and aims to identify key determinants. Using the methodology employed by Khorana and Servaes (1999) on the U.S. market we study the Swedish market during the years 1999-2007. The logistic regression shows that the capital inflow into a family, the size of the family and the return and size of the investment objective into which the fund is launched are all key components in a family's decision to issue a new fund. The results indicate that the reputation of a family in terms of investor inflow can be transferred to new funds and that families are driven by a desire to achieve economies of scale. Furthermore, fund families seem inclined to launch funds in objectives which are large and performing well, suggesting that the popularity and market potential of the objective are important determinants. The excess return of the families is not a significant factor of fund launches for the whole sample, however, when excluding the four largest fund families the variable becomes a significant factor. This indicates that these four fund families compete on different terms than the other players on the fund market.

Key words: Funds starts, new funds, fund families, fund flows, economies of scale

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1. Introduction

The Swedish fund market has grown rapidly over previous years with the number of funds and assets under management increasing dramatically. The first Swedish funds emerged in the beginning of the 1950s and were inspired by the growing popularity of the fund industry in the U.S. At the start of 2009, there were over 4000 funds offered on the Swedish market, a market in excess of SEK 1200 billion, compared to 17 funds with an estimated total size of SEK 1 billion in 1979 (Swedish Investment Fund Association[1] (2009)). This rapid expansion in the number of funds and the size of the market has been driven by several factors. As discussed in the 30-year report by the Swedish Investment Fund Association (2009), the so called *Skattefonder*[2] and *Allemansfonder*[3] of the 1970s and 1980s sparked the general public's interest in funds through their favorable tax-terms and the fact that few other options existed for investors who sought to avoid the effects of inflation and spread their risks. De-regulation of the financial markets has also played a key role in the expansion by, for example, easing the restrictions on international capital flows. At first, equity and fixed income funds were the only options open to investors. However, the diversity of funds has increased through the introduction of other investment types such as mixed funds and hedge funds. The fund market has truly become an area of interest for a large share of Sweden's population as 98% of people aged 18-74 have some sort of fund investment, which is up from 50% in the mid 1990s (Swedish Investment Fund Association (2009)). In addition to the previously discussed forces which have driven

[1] *Fondbolagens Förening*
[2] "Tax funds" were funds through which one could deduct a certain amount of the investment from one's income tax.
[3] Translated verbatim "every man's fund" meaning that they were open for everyone to invest in. These funds also offered beneficial terms for investors such as tax-free realized returns.

the expansion of the fund market, the new PPM[4] pension system, which enables individuals to invest a portion of their pension savings in funds, also plays a key role.

Despite the importance of the fund industry, there is little previous research focused on the industrial organization of the Swedish fund market and specifically why new funds are launched. Fund families[5] launch new funds in a similar fashion to that of "normal" companies, introducing new products with the ultimate goal of increasing revenues and profits. However, when it comes to funds, the process is slightly different than in many other industries because it is hard to judge the quality of a fund and subsequently how well the fund will perform. An investor has to use indirect measures to determine the potential performance such as the reputation of the fund family, the perceived skill of the manager and the historical return of the investment style. Even if many of these indirect determinants point towards a positive fund performance, this still does not mean that the fund will actually perform well. Many other factors that the fund family and manager cannot control will ultimately affect performance. This inherent, opaque nature of funds makes an analysis of the decision to launch a new fund interesting. We aim to study this area of finance and ultimately identify key determinants of fund families' decisions to launch new funds.

The aim and purpose of this paper is relevant for all four major participants in the fund industry: fund managers, investors, regulatory services and academics. Mapping the reasons why funds are issued will facilitate these participants' understanding of the fund market and how it operates. As many people have a stake in the fund market,

[4] PPM, or Premium Pension Authority administers the Premium Pension System which is a part of the Swedish National Pension System where each individual can place capital, i.e. their pension, in funds of their own choice (PPM (2009)).

[5] Fund family refers to a group of funds which are controlled by a common company. For example, all of SEB's funds are included in the SEB fund family and similarly all of Öhman's funds are included in the Öhman fund family.

furthering the understanding of it should be of interest to most participants, not just professionals. Knowledge of these issues can also be beneficial to research in other areas of finance by observing how the fund market differs (or does not differ) relative to other industries. The findings of this paper could also highlight differences between the U.S. market and the Swedish market as we continuously compare our findings to those of Khorana and Servaes (1999) who study the fund launches on the U.S. market.

1.1 Our Findings

Through the framework provided by Khorana and Servaes (1999) we study Swedish based fund families[6] during the years 1999-2007. Using a logistic regression we analyze the determinants behind fund starts and compare our results to those of Khorana and Servaes (1999). In addition to the methodology of the authors, we also choose to report two kinds of regressions, one with the return variables constructed using equally-weighted portfolios and one with the return variables constructed using value-weighted portfolios with the intention of identifying whether larger funds have a more substantial effect on family decisions rather than smaller ones.

The results of the equally-weighted and value-weighted regressions are, however, quite similar and show that the inflow to the fund family, the return and size of the investment objective[7], and the size of the fund family are all important and significant determinants of fund starts. These results indicate that a fund family's decision to launch a new fund is determined by three main factors. First of all, fund families seek

[6] We only include Swedish based fund families and their funds offered on the Swedish market, i.e. excluding other Nordic and international fund families.
[7] Objective refers to the type of fund in our sample: equity, fixed income or mixed. For example, the return of the equity objective is calculated by equally-or value-weighting all of the individual equity funds and subsequently computing the average.

to increase their fee income by founding the decision to launch new funds on the size and past performance of the objective in question indicating that popularity of the investment objective and market potential are important factors. It also seems to be the case that the reputation of the family is an important determinant of fund launches since there is a positive relationship between the capital inflow of a fund family and the likelihood of a new fund launch. Finally, fund families seek to achieve economies of scale and thus the size of the fund family is also a key determinant of fund starts. Furthermore, the importance of size and reputation of the fund family is exemplified by the fact that the four largest banks[8] on the Swedish market issue over 40% of the funds in our sample and control 69% of the assets in 2007. Large banks are evidently favored by investors on the Swedish market and their position facilitates them in issuing new funds.

The main findings of this paper are largely in line with those of Khorana and Servaes (1999) on the U.S market. However, one key difference is that the historical excess return of a family plays a significant role in a family's decision to start new funds on the U.S. market which we do not find on the Swedish market. Previous studies have found similar differences between the Swedish and U.S. markets when it comes to investor behavior (Otten and Schweitzer (2002), Sirri and Tufano (1998), Engström and Westerberg (2004), and Donner and Oxenstierna (2007)). Specifically, in the U.S. high performing funds tend to receive abnormally large inflows and thus previous return is a key driver of fund flows. The evidence on the Swedish market is not as clear and it seems that Swedish investors tend to invest in what they know to a larger extent. Unsurprisingly this also affects fund families since we find that the decision to

[8] We will throughout the paper refer to the four large banks which are SEB, Swedbank (Robur), Nordea and Handelsbanken.

launch a new fund in Sweden is not related to the previous performance of the fund family in question. Swedish investors seem to value other fund attributes rather than previous performance and thus high historical excess return does not translate into a higher probability of a family launching a new fund. One possible explanation for this is that the four large banks, which issue 40% of the funds in our sample, under-perform which renders the excess family return variable insignificant. Even though we do not find statistically significant under-performance in the equity and mixed objectives, the data still indicates a certain under-performance on an aggregate level.

The remainder of this paper is laid out in the following manner. First we will discuss the previous research on fund launches and research on underlying theories related to fund launches. Then, we will move on to our data with a discussion regarding the descriptive statistics and the regression models which we use. Finally, we discuss our findings and conclude with some general comments.

2. Previous Research

2.1 Fund Launches

Research on fund launches has been U.S. focused and is largely based on a paper by Khorana and Servaes (1999), where the authors investigate the determinants of mutual fund starts at a family level. The authors find that the probability of starting a new fund is related to the size of the fund family in question, the size and return of the objective into which the fund is launched and the number of funds previously issued by that family. The findings lead the authors to conclude that economies of scale are an important factor of new fund launches. The results also show that the performance

of the family is a significant determinant, possibly demonstrating that these fund families have a better reputation which facilitates the issuance of new funds. These findings also indicate that a decision to open a new fund has to do with the families' ability to generate additional fee income since both size and performance of the objective are significant determinants. This notion is further substantiated through the fact that fund families that earn decreasing marginal returns on new investments are more inclined to launch new funds.

2.2 Underlying Theories and Research

2.2.1 Fund Flows

The topic of fund flows has been extensively researched, both with regards to the U.S. market and other markets such as Sweden. The findings of two papers, Ippolito (1992) and Sirri and Tufano (1998), indicate that high performers on the U.S. market receive abnormally large inflows while poor performers do not experience extensive redemptions and this creates a convex flow-performance relationship. Del Guercio and Tkac (2008) also find similar results when they examine Morningstar ratings. The authors discover that five-star funds receive disproportionately large inflows. Nanda, Vikram, Wang and Zheng (2004) and Ivkovic (2003) find that a high performing fund attracts additional flows to other funds within the same family. It has been debated whether or not this flow-performance relationship exists in other markets. Engström and Westerberg (2004) find evidence supporting a flow-performance relationship on the Swedish market when studying PPM funds and investors, however, the authors also ascertain that other variables such as the indirect and direct costs of funds are more important determinants of fund flows than historical performance. Donner and Oxenstierna (2007) find similar results when studying funds registered on the

Swedish market, however, they do not find a flow-performance relationship for equity funds which constitute the largest proportion of the fund population. A recent paper by Thörnqvist (2009), on the other hand, finds a positive flow-performance relationship on the Swedish market for equity funds when taking into account the effects of fund mergers. Research on the Finnish market by Knuutila, Puttonen and Smythe (2006) finds no clear flow-performance relationship which they attribute the observation that Finnish investors have a tendency to bias their investments toward bank-managed funds despite the fact that bank-managed funds under-perform their non-bank counterparts. Engström and Westerberg (2004) find that Swedish investors seem to invest in what they know which could benefit bank-funds. It is also unclear whether previous research has found under-performance of bank-run funds on the Swedish market.

Fund flows are relevant to fund launches because fund families are likely to seek additional capital and thus families will be sensitive to how investors invest. If investors seek high performing funds, it should be easier for high performing fund families to launch new funds, while if investors seek to invest in what they know, it should be easier for large fund families, such as banks, to launch new funds. We will further explore this topic in the hypothesis section and in the results section.

2.2.2 Economies of Scale and Scope

Basic economic theory discusses how large companies can take advantage of economies of scale and scope, i.e. producing larger quantities of products decreases the marginal cost of each product and sharing fixed costs across several products will increase the efficiency of the company. It is also conceivable that larger fund families

enjoy certain benefits such as shared marketing and back-office costs. Large fund families are also likely to have already incurred certain fixed costs associated with launching new funds and should subsequently have an incentive to launch more funds. Even though the theory of economies of scale is well-rooted, it is more unclear whether or not large fund families do in fact display economies of scale. Several papers including Goldberg, Hanweck, Keenan and Young (1991), Perold and Salomon (1991) and Rhoades (1993) find little evidence of economies of scale for large funds. In fact, Perold and Salomon (1991) indicate that there might even be diseconomies of scale associated with larger funds since their trades will affect the market more and thus incur higher market impact costs. This has also been reaffirmed by more recent studies such as Chen, Hong, Huang and Kubik (2004) who find that returns are negatively related to fund size. The authors do, however, find evidence supporting the notion that large fund *families* indeed do benefit from scale economies. One can question how large a family has to be since Chen, Hong, Huang and Kubik (2004) analyze the U.S. market.

2.2.3 The Swedish Market versus the U.S. Market

The European markets lag behind their American counterpart in several respects such as total asset size, average fund size and the importance of the market as discussed by Otten and Schweitzer (2002). The authors find that the European markets tend to be dominated by a few, large fund groups. This most certainly includes the Swedish market as the four largest banks controlled 67% of the market in 2008 (Swedish Investment Fund Association (2009)). Our data also supports this view as the four large banks control 69% of the total net assets in 2007 and 56% of asset inflow since the end of 1998 until the end of 2007. There has been an on-going debate whether

bank-managed funds under-perform non-bank funds. Frye (2001) finds no evidence indicating that bank-run funds under-perform on the U.S. market, however, the study does find that bank-funds rely more on previous relationships and their reputation than their non-bank competitors when it comes to attracting investments, i.e. fund flows. Knuutila, Puttonen and Smythe (2006) find that Finnish bank-funds do under-perform, however, this does not discourage investors from investing in these funds. In addition to the observation that the Swedish fund industry is more concentrated, investors on the Swedish market tend to invest in what they know to a larger extent (Engström and Westerberg (2004)) and thus focus less on historical performance as opposed to the investors on the U.S. market, as discussed in section 2.2.1 regarding fund flows.

3. Hypotheses

As previously discussed, the aim of this paper is to find out why new funds are started. It is reasonable to assume that certain elements are common to most fund launches and we will attempt to identify them. There is obviously no prior data available on the fund which is to be created and thus the discussion of fund starts will solely center on the fund family and the objective in question. Many of the hypotheses concerning fund starts are drawn from Khorana and Servaes (1999) and at the end of this section we discuss how we would expect our findings on the Swedish fund market to differ from those on the U.S. market. It is also worth noting that we use the terms size and total net assets (TNA) interchangeably. Because our logistic regression model includes variables on the overall family level as well as within a specific objective, we will have separate hypotheses for these variables. For example, family inflow and family inflow within an objective form two separate hypotheses.

3.1 Market Potential

The most important component of funds' fee income is the value of the assets under management as funds often charge a certain percentage for their services. Thus, we expect funds to be launched in objectives which, through investors, are likely to provide families with additional capital inflow. We expect the relationship between the probability of opening a new fund and the inflow to the objective to be positive. Thus, our first hypothesis is: *the inflow of an objective is positively related to the probability of a fund family launching a new fund in that specific objective*. The objective inflow can be seen as a proxy for the market potential and growth possibilities as discussed by Khorana and Servaes (1999). The objective inflow illustrates how popular a certain objective is and as fund families seek additional capital in order to increase their fee income, we believe that this relationship should be positive. Similar to that of objective inflow, the size of the objective indicates how large the market is and fund families possibly believe that it is easier to attract capital in objectives which are large or increasing rapidly in size. Thus, our second hypothesis is: *the size (TNA) of an objective is positively related to the probability of a fund family launching a new fund in that specific objective*.

Khorana and Servaes (1999) also hypothesize that the performance of the underlying objective is positively related to the probability of launching a new fund. We also believe that this relationship holds on the Swedish market since investors are probably more inclined to invest in high-performing objectives and thus fund families are more likely to issue funds within these objectives. The return of an objective could be linked to the popularity of that investment objective, similar to that of the objective inflow. Cooper, Gulen and Rau (2005), for example, find that fund flows increase

when a fund switches its name in order to be associated with a currently more positive investment style even if the holdings do not reflect this change, indicating that funds are sensitive to what is perceived as "in-fashion" and we believe that high returns could lead an objective to become "in-fashion". Thus our third hypothesis is: *the return of an objective is positively related to the probability of a fund family launching a new fund in that specific objective*.

3.2 Reputation

Khorana and Servaes (1999) hypothesize that the flow of investment into a family is positively related to the probability of a fund being issued since a fund family with a high capital inflow most likely enjoys a good reputation and it is thus easier for the family to launch new funds. We believe that this idea of "reputation" is valid on the Swedish market and thus our fourth hypothesis is: *the inflow of a family is positively related to the probability of a family launching a new fund*. In line with this discussion and similar to the previous hypothesis, we also believe that the inflow of a family in a specific objective is a relevant factor when launching new funds and our fifth hypothesis is then: *the inflow of a family in an objective is positively related to the probability of a family launching a new fund in the specific objective.*

High performance could create good reputation and ultimately attract additional investments as discussed by Ippolito (1992), Sirri and Tufano (1998) and Del Guercio and Tkac (2008) who find that high-performing funds attract abnormally large inflows. Nanda, Vikram Wang and Zheng (2004) and Ivkovic (2003) also find that a high-performing fund attracts additional flows to other funds within the same family. Khorana and Servaes (1999) hypothesize that fund family performance, both in

general and in a specific objective, is positively related to the probability of launching a new fund. However, it is unsure whether this occurs in other markets since Kuuntila, Puttonen and Smythe (2006) find no evidence of a positive flow-performance relationship on the Finnish market. Engström and Westerberg (2004) find that performance is a determinant of flow, however, variables other than performance are more important factors in fund flows on the Swedish market while Donner and Oxenstierna (2007) do find a flow-performance relationship on the Swedish market, but not in equity funds. Even if there is no clear-cut evidence from the Swedish market, we still believe that high-performing fund families could have an advantage when issuing new funds on the Swedish market as they have a better reputation. If a relationship between past performance and the probability of launching a new fund does exist, it is likely to be positive. This leads us to our sixth and seventh hypotheses: *the performance (excess return) of a fund family is positively related to the probability of the fund family launching a new fund* and *the performance (excess return) of a fund family in a certain objective is positively related to the probability of a fund family launching a new fund in that specific objective*.

3.3 Economies of Scale and Scope

Khorana and Servaes (1999) hypothesize that there is a positive relationship between the size of a fund family and the probability of issuing a new fund because there might be benefits associated with operating many funds through economies of scale and scope. As discussed in the theory section, the existence of economies of scale in the fund and securities industry is not certain. Several papers (Goldberg, Hanweck, Keenan and Young (1991), Rhoades (1993), Perold and Salomon (1991) and Chen, Hong, Huang and Kubik (2004)) find little evidence for economies of scale for large

funds in the financial industry. Chen, Hong, Huang and Kubik (2004) do, however, find that large fund families exhibit economies of scale and we follow the reasoning of Khorana and Servaes (1999) in our eight hypothesis: *the size (TNA) of a family is positively related to the probability of launching a new fund*. The same argument regarding economies of scale can be made for the size of a family within a certain objective which leads us to the ninth hypothesis: *the size (TNA) of a family in a certain objective is positively related to the probability of launching a new fund in the specific objective*.

Khorana and Servaes (1999) also hypothesize that the number of previous fund openings of a family is positively related to the probability of issuing a new fund since certain fixed costs have already been incurred and thus it is easier to launch another fund. This argument seems reasonable with regards to the Swedish market and our tenth hypothesis is: *the number of previous fund openings of a fund family in a certain objective is positively related to the probability of launching a new fund in the specific objective*.

Even if we hypothesize that the size of a family in a certain objective is positively related to the probability of launching new funds due to economies of scale, this is not entirely obvious. Khorana and Servaes (1999) indicate that fund families may be reluctant to open new funds in objectives where they already have existing funds since these new funds could "cannibalize" the existing funds. To explore this, we test if the relationship between percentage of total assets invested in a specific objective and the probability of issuing a new fund is positive. A positive relationship would suggest that funds seek to achieve economies of scale while a negative relationship would indicate that families seek to avoid cannibalizing their existing funds.

However, we believe that the desire to achieve economies of scale is a more important driver of fund family decisions and thus our eleventh hypothesis is: *the percent of a family size (TNA) in a certain objective is positively related to the probability of a fund family launching a new fund in the specific objective*.

3.4 Discussion: The Swedish Market versus the U.S. Market

We would also like to compare the Swedish and U.S. markets and discuss the implications of possible differences between the markets. The European fund markets tend to be more concentrated than the U.S. counterpart (Otten and Schweitzer (2002)) and as discussed in the theory section and as the descriptive statistics in the next section show, the Swedish market is more or less controlled by the four large banks. This indicates that Swedish investors may choose funds because of other characteristics than historical return. If we do not find historical performance to be a significant determinant of fund launches, it would show that high historical performance does not automatically translate into spill-over effects for new funds on the Swedish market as opposed to the findings of Khorana and Servaes (1999) in the U.S. As discussed in the theory section, Engström and Westerberg (2004)[9] find that performance is of less importance when it comes to fund flows in Sweden, while the U.S. rooted findings of Ippolito (1992) and Sirri and Tufano (1998) do indeed find that high performance attracts abnormally large inflows. If Swedish investors are not as focused on historical returns, there is a possibility that high prior performance of fund families does not translate into a higher probability of fund launches. The reputation of a fund family on the Swedish market, which we have previously

[9] Also note that Knuutila, Puttonen and Smythe (2006) find that historical performance is not a significant determinant of fund flows on the Finnish market.

discussed as important, is not determined by prior performance to the same extent as it might be on the U.S. market.

Table 1. Summary of Hypotheses

Number	Hypothesis	Reasoning
1	The objective inflow is positively related to the probability of a fund launch	The objective inflow represents market popularity and growth potential
2	The objective size is positively related to the probability of a fund launch	The objective size illustrates popularity of the objective and market potential
3	The objective return is positively related to the probability of a fund launch	High performing objectives attract more investors
4	The family inflow is positively related to the probability of a fund launch	Inflow represents the reputation of the family which "spills-over" to new funds
5	The family inflow in an objective is positively related to the probability of a fund launch	Same as the hypothesis above (number 4)
6	The family excess return is positively related to the probability of a fund launch	High return families have a better reputation which "spills-over" to new funds
7	The family excess return within an objective is positively related to the probability of a fund launch	Same as the hypothesis above (number 6)
8	The family size is positively related to the probability of a fund launch	Families are driven by the desire to achieve economies of scale
9	The family size within an objective is positively related to the probability of a fund launch	Same as the hypothesis above (number 8)
10	The number of previous fund openings within an objective is positively related to the probability of a fund launch	Fixed costs associated with fund launches have already been incurred
11	The percent of family assets invested within an objective is positively related to the probability of a fund launch	Families driven by the desire to achieve economies of scale

4. Data and Methodology

Using data collected by *Finansinpektionen*[10] on holdings of funds offered on the Swedish market during the time period 1999-2007 we are able to identify new funds issued between 2000 and 2007. For example, if a fund has holdings in 2001 but does not in 2000, we identify the fund in question as "new" if appropriate. The start dates

[10] Swedish Financial Supervisory Authority

of new funds are taken from Morningstar and have been cross-checked with the date of the first available returns. We also use the dataset from *Finansinspektionen* as the universe for our tests. Thus, funds' family affiliation, objective and so on are based on this data. Due to data availability and in order to make the dataset manageable, since we need family returns which require the returns of *all* of the family's funds, we choose to exclude all non-Swedish based fund families. Our dataset includes 684 funds, of which 324 are "new funds" issued during 2000-2007, managed by 58 fund families. In the case where two fund families offer the same fund, i.e. one serves as an agent, the fund in question is attributed to the family of origin. Return data is acquired from Morningstar and the TNA data is from MoneyMate. For certain funds[11] either return data and/or TNA data is missing despite the fact that the fund exists. However, this problem is not specific to any special type of fund or fund family and thus we do not deem it to be an issue.

We are unable to acquire data for funds that no longer exist. There are 163 funds that are liquidated or merged into other funds during our time period. This could bias the results of our analysis because total performance for the period is likely to be overstated if we assume that families choose to liquidate or merge a fund that is performing poorly (Jayaraman, Narayanan, Khorana and Nelling (2002)). It is also possible that the total inflow into an objective is understated because the inflows of the non-existing funds are left out. We use monthly return data and quarterly TNA data, however, the variables in the logistic regressions are formed on a yearly basis. We use exchange rates acquired from Thomson Datastream to translate returns denoted in foreign currencies to SEK.

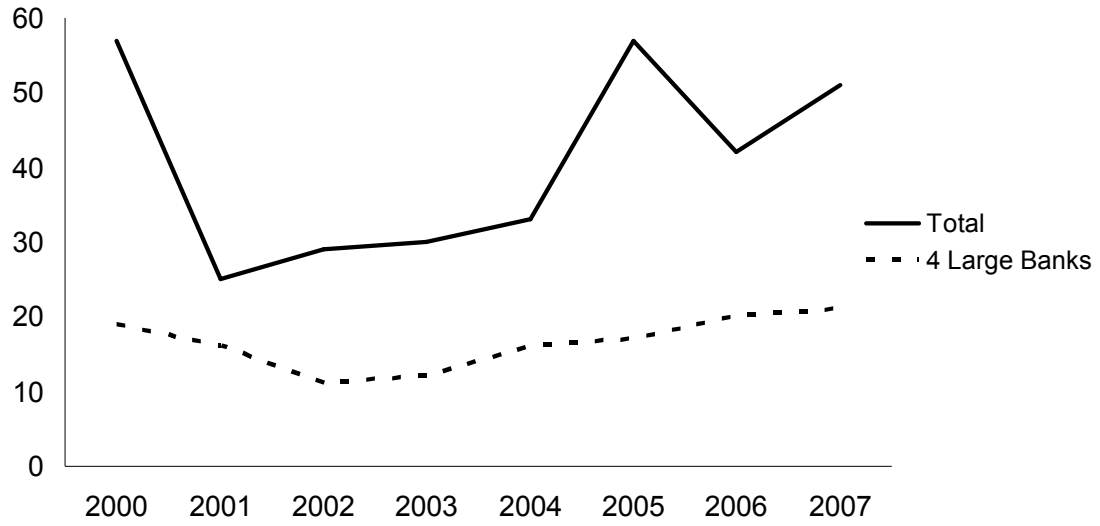
[11] The proportion of funds with missing data is less than 5%.

4.1 Descriptive Statistics

4.1.1 General Statistics

As discussed in the introduction, the Swedish fund market has grown rapidly over the past 30 years. Even if our dataset does not include all of the funds offered on the Swedish market, it still displays a similar story of growth. As Table A.1.1 in the Appendix shows, out of 684 funds offered on the Swedish market by companies registered in Sweden about half, 324, were issued during the time period 2000-2007.

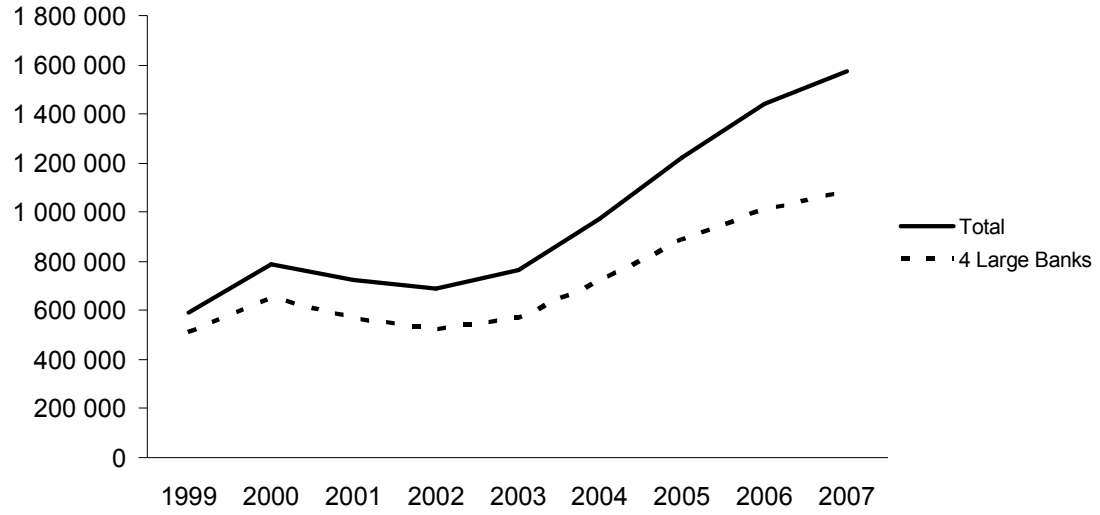
Figure 1. Total Number of New Funds Issued per Year



The total assets under management increase by over 220% from the end of 1998 to the end of 2007 (Table A.1.3). The number of equity funds increases the most and it is within this objective that the four largest banks represent the smallest number of new openings, "only" 36%. However, in total the four largest banks issue over 40% of the new funds in our data set (Table A.1.1 and Figure 1). It is also obvious that the four largest banks command a strong market position with 50% of the funds (Table

A.1.2) and 69% of the total net assets in 2007[12] (Table A.1.3 and Figure 2). Since 1999, 56% of all fund inflows have gone to one of the four large banks which is not surprising given their position on the market (Table A.1.8). The descriptive statistics confirm what is discussed in the hypothesis section, namely that the Swedish market is controlled by a few, large institutions.

Figure 2. Average Yearly TNA (SEK Millions)

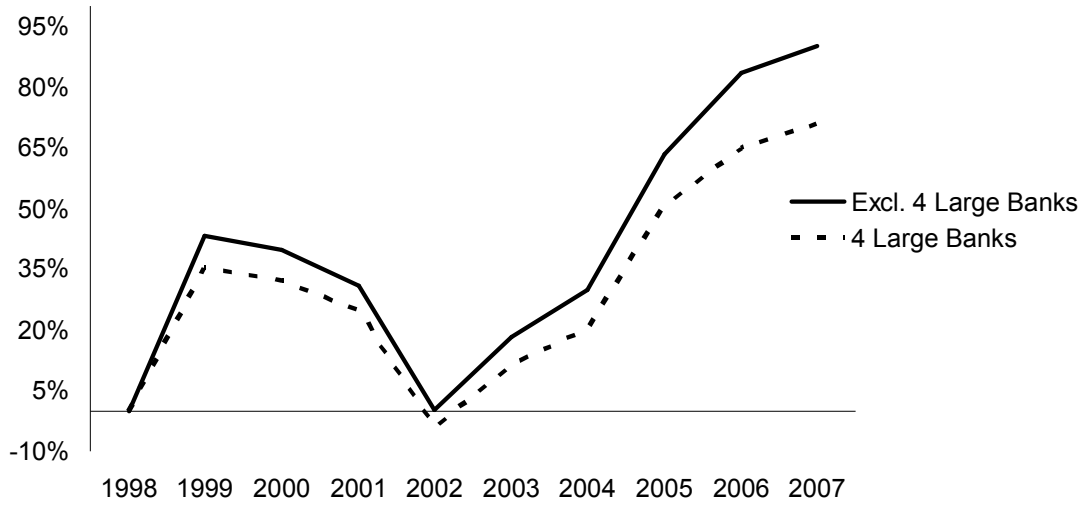


Even though the return statistics are not on a risk-adjusted basis, they indicate that the four large banks do not perform as well as other funds with the bank-managed funds displaying a lower quarterly average return in the fixed income, equity and mixed objectives by 0.1%, 0.15% and 0.25% respectively (Table A.1.5). Figure 3, below, illustrates the difference between the accumulated return of the four large banks' funds and the other funds. One should, however, refrain from drawing any major conclusions from this figure since during the latter years the proportion of fixed income and mixed funds managed by the four large banks increases slightly while the

[12] At the end of 1998, the four largest banks controlled 87% of the total net assets and 59% of the funds.

proportion of equity funds decreases compared to the group of non-bank funds which could adversely affect the results.

Figure 3. Accumulated Return with 1998 as the Base Year



As discussed earlier, the differences in the equally-weighted regression and the value-weighted regression are quite small and this most likely has to do with the fact that the average weight of a fund within a family is 6.7% (Table A.1.7) which seems quite low and thus we would not expect big differences between equally-weighted and value-weighted return portfolios. As the four large banks operate the majority of funds, it is not surprising that the average weight of a fund belonging to one of the four largest banks is 1.6% (Table A.1.7), compared to the total average of 6.7%.

4.1.2 Alpha Calculations

We also calculate the alphas[13] of the funds in our dataset in order to examine the performance of new funds versus that of existing funds and in order to analyze the performance of the four large banks' funds. We use monthly return data obtained

[13] Alpha refers to the return in excess of the risk-free rate and other appropriate benchmarks.

from Morningstar and *Riksbanken*, the central bank of Sweden. The risk-free rate, the one month Swedish treasury bill[14], is deducted from the returns and thus we use excess returns in the following regressions. This method of calculating alphas and the variables used are inspired by the methodology of Narayanan, Jayaraman, Khorana and Nelling (2002) where the authors investigate fund mergers and liquidations and the regressions are ultimately based on the ideas of Sharpe (1964).

We use the following model specification for the equity funds:

$$R_{it} = \alpha_{it} + \beta_{1,i} MSCI_t + \varepsilon_{it}$$

Where R is the excess monthly return and *MSCI* is the excess return of the MSCI world index.

We use the following regression for fixed income funds:

$$R_{it} = \alpha_{it} + \beta_{1,i} GlobBond_t + \beta_{2,i} OMRXBond_t + \beta_{3,i} OMRXTreasury_t + \varepsilon_{it}$$

Where R is the excess return of the fund, *GlobBond* is the excess return of the JP Morgan Global Bond Index, *OMRXBond* is the excess return of the index of the Swedish National Debt Office's and the mortgage institution's bond borrowings and *OMRXTreasury* is the excess return of the index of treasury bills issued by the Swedish National Debt Office. The variables are inspired by those used in Blake, Elton and Gruber (1993).

For mixed funds, we use a weighted index consisting of 50% of the equity index and 50% of the fixed income benchmarks in the following fashion where R represents excess return:

[14] Treasury bill refers to the Swedish *stadsskuldsväxel*.

$$R_{it} = \alpha_{it} + \beta_{1,i}(0.5 * Equity + 0.5 * FixedIncome)_t + \varepsilon_{it}$$

The results are presented in tables A.1.9—A.1.12. During the first two years of issue, new funds do not significantly under-perform or over-perform on an aggregate level compared to the existing funds on the market (Table A.1.9). It is, however, interesting that the new fixed income funds tend to over-perform the existing funds. It should be noted that the alphas for newly issued funds are calculated for a two-year period following their launch while the alphas for the existing funds are calculated using the whole period 2000-2007. Since the issuance of new funds is relatively spread out over different years, we do not deem the methodology of calculating the alphas to be a problem.

Table A.1.10 shows that four large bank's funds, on an aggregate level, do not significantly under-perform their non-bank counterparts during 1999-2007, however, if one excludes 1999, a year marked by high returns with the OMX Stockholm PI (SAX All Share) rising over 60%, and analyzes 2000-2007 (Table A.1.11) then it is apparent that bank-funds do significantly under-perform on an aggregate level. One could argue that since the equity alphas tend to be larger than the alphas of the other objectives' funds in our data sample and the four large banks have a slightly smaller proportion of equity funds and slightly larger proportion of fixed income funds than the average, it could bias the results. However, in the fixed income objective the four large banks' funds significantly under-perform on a stand-alone basis. Even though the four large banks' equity funds do not statistically under-perform, a visual inspection shows that the average alpha of the four large banks' equity funds is less than half (0.07% versus 0.19% on a monthly basis during 2000-2007) than that of the

non-bank equity funds. The difference between the mixed funds is not as large, the four large banks' fund display a 0.03 percentage points lower average alpha compared to the non-bank funds. For reference purposes, we also include Table A.1.12 which displays alphas calculated for all of the years for which we have return data (1999-2009) and the results are similar with the four large bank-funds under-performing on an aggregate level and the four large banks' fixed income funds also under-performing. Even though we do not find statistically significant under-performance in all three objectives on a stand-alone basis, the data discussed above still indicates that the four large banks' funds under-perform the other funds.

4.2 Methodology

Using the methodology previously discussed, we identify 324 new fund launches during our time period. These are then divided into three objectives based on the data from *Finansinspektionen* and Morningstar: equity, mixed and fixed income. The equity objective includes hedge funds and the fixed income objective includes bond and money-market funds. The tests on mutual fund starts are done at a family level and we, thus, include several family-based variables alongside with general variables. The methodology of the testing process is very similar to that of Khorana and Servaes (1999). However, we have chosen to perform one equally-weighted regression and one value-weighted regression, which only applies to the return variables. Khorana and Servaes (1999) use equally weighted portfolios and we think it is interesting to see if any differences emerge. It is conceivable that the performance of larger funds in a family will affect decisions more than the performance of smaller funds.

During the course of each year 2000-2007, a fund family can choose to launch a new fund or not. We run a logistic regression with a dichotomous dependent variable, which takes the value 1 if family *i* launched a new fund in year *t* and objective *j* and 0 otherwise. We then estimate the following logistic regression:

$$Opening_{ij,t} = \alpha_0 + \beta_1 ObjectiveInflow_{j,t-1} + \beta_2 FamilyInflow_{i,t-1} + \beta_3 ObjectiveFamilyInflow_{ij,t-1} + \beta_4 ObjectiveTNA_{j,t-1} + \beta_5 FamilyTNA_{i,t-1} + \beta_6 ObjectiveFamilyTNA_{ij,t-1} + \beta_7 Objective\,\mathrm{Re}turn_{j,t-1} + \beta_8 Family Excess\,\mathrm{Re}turn_{i,t-1} + \beta_9 ObjectiveFamilyExcess\,\mathrm{Re}turn_{ij,t-1} + \beta_{10} PercentTNA_{ij,t-1} + \beta_{11} NumberOpenings_{ij,t-1}$$

We cluster the observations by family and thus assume independence across families but not within. This alleviates problems associated with non-robust standard errors. We also include yearly dummies in order to correct for fixed effects. As the regression shows, all of the variables are taken from the year before the decision to issue a new fund and are on a yearly basis.

The flow measures are "net" of the fund's return and are calculated in the following manner:

$$Inflow_{i,t} = TNA_{i,t} - TNA_{i,t-1} * (1 + R_{i,t})$$

Here, TNA stands for total net assets which refers to the size of the fund. *ObjectiveInflow* is the flow (net of return) into the objective in question. *FamilyInflow* is the inflow into the family and *ObjectiveFamilyInflow* is the inflow into the family in question in a given objective. For example, the equity objective inflow of a family is calculated by adding the inflow of all of a family's equity funds. As previously mentioned, the TNA data is quarterly and thus the inflow of each quarter has been summed in order to get the yearly inflow. Around 40 % of the TNA observations have been approximated during 1999-2002. This is due to the fact that we only have access to the TNA of the fund's Swedish holdings for this time period, however, we need the

"total" TNA and approximate this by assuming that the first available ratio of Swedish TNA to total TNA also holds for the previous quarters.

ObjectiveTNA is the total size of the objective, i.e. we have combined the TNA of all of the individual funds in each objective. *FamilyTNA* is the size of a family and is calculated by adding all of the TNAs of the family's individual funds. *ObjectiveFamilyTNA* is the size of a family in a specific objective. As the TNA is reported on a quarterly basis, we have taken the average TNA of the four quarters in order to get yearly TNA.

ObjectiveReturn is the return of an objective and has, as previously mentioned, been calculated both using equal weights and value weights. The *FamilyExcessReturn* is the return of the family in excess of the average return of all of the families. Again the average return of all families is calculated both by using equal weights and value weights. The *ObjectiveFamilyExcessReturn* is the family return in excess of the return of the objective in question. As before, this is calculated in two ways, once with equal weights and once with value weights.

PercentTNA is the proportion of a family's total net assets invested in a specific objective. *NumberOpenings* is the number of funds which the fund family in question launched in a specific objective during the previous year.

As will be further discussed in the results section, we also perform several robustness tests including dividing the time period into two periods, separating the observations by objective and running OLS regressions.

4.2.1 Excluded Variables

Khorana and Servaes (1999) also include other hypotheses which we could not include due to data availability and time issues but are worth noting briefly. Khorana and Servaes (1999) argue that capital gains overhang[15] could be positively related with the decision to start a new fund since investors might shy away from funds with large capital gains overhang. Khorana and Servaes (1999) also hypothesize that staggered fee structures give fund families an incentive to launch new funds as the marginal income generated from new investments decreases. Furthermore Khorana and Servaes (1999) also discuss the "follow the leader strategy"[16] but we could not perform this test because the major fund families issue new funds in each objective every year.

[15] Capital gains overhang is proportion of a fund's value which has not been realized and upon being realized would be taxed accordingly.
[16] Smaller funds follow the lead of bigger funds and, for example, launch new funds in objectives where large families have previously launched funds.

5. Results

Table 2. Summarized Results of the Main Logistic Regression of Fund Launches

	Value-weighted		*Equally-weighted*	
Variable	**Coefficient**	**P-value**	**Coefficient**	**P-value**
ObjectiveInflow	0.002	0.645	0.002	0.558
FamilyInflow	0.033	***0.013***	0.033	***0.014***
ObjectiveFamilyInflow	-0.013	0.726	-0.013	0.610
ObjectiveTNA	0.002	***0.018***	0.002	***0.005***
FamilyTNA	0.011	***0.000***	0.011	***0.000***
ObjectiveFamilyTNA	0.016	***0.016***	0.016	***0.019***
ObjectiveReturn	0.022	***0.027***	0.019	**0.062**
FamilyExcessReturn	0.028	0.179	0.0001	0.996
ObjectiveFamilyExcessReturn	-0.011	0.568	0.022	0.403
PercentTNA	1.089	**0.087**	0.984	0.129
NumberOpenings	0.031	0.772	0.024	0.827
Intercept	-3.247	***0.000***	-3.271	***0.000***
Pseudo R²	0.2459		0.2419	
Regression p-value	0.000		0.000	
N	573		573	

Significant coefficients: 5% - bold and italic, 10% - bold

As previously mentioned we run two regressions, one with equally-weighted return portfolios and the other with value-weighted return portfolios. Table 2 shows that the results of the two regressions are quite similar. All of the variables which are significant at the 10% level in the value-weighted regression are significant at the same level in the equally-weighted regression. Two differences are, though, that the *PercentTNA* variable is significant in the value-weighted regression at the 10% level but not in the equally-weighted, p-value of 0.087 versus 0.129, and the sign of the objective family excess return is negative in the value weighted and positive in the equally weighted (although neither is significant). Since the differences are relatively small, we will focus our discussion on the value-weighted regression because we believe that the economic intuition behind the value-weighted regression is clearer

than the equally-weighted regression. Namely, that larger funds and the performance of those funds are more likely to influence fund family decisions than smaller funds. We would also like to note that the yearly dummy variables for 2006 and 2007 are significant at the 5% level (Table A.2.1), indicating something else occurs during these years which our model cannot properly explain. Even if the *pseudo* R^2 cannot be interpreted as a "regular" R^2, one can compare our value of 0.25 to the *pseudo* R^2 of Khorana and Servaes (1999) of 0.14.

5.1 Market Potential

Because logistic regressions model probabilities, we will focus on the sign of the variable in question and whether it is significant or not rather than an economic interpretation.

Our first hypothesis: *the inflow of an objective is positively related to the probability of a fund family launching a new fund in that specific objective*; is rejected. While it is unclear why the objective inflow is not a significant variable, there are still clear signs that fund families are driven by the market potential and ultimately by the prospect of acquiring additional capital. Both the *ObjectiveTNA* and the *ObjectiveReturn* are significant. Thus the second and third hypotheses are not rejected: *the size (TNA) of an objective is positively related to the probability of a fund family launching a new fund in that specific objective* and *the return of an objective is positively related to the probability of a fund family launching a new fund in that specific objective*. The objective size gives an indication of how large the potential market for a new fund is while the return of that objective indicates the objective's popularity among investors. One would expect investors to be more inclined to invest in a fund which is launched

into an objective that is performing well and one would also expect larger objectives to attract more investments. While earlier studies (Engström and Westerberg (2004) and Donner and Oxenstierna (2007)) on the Swedish flow-performance relationship have focused on fund-specific return and found mixed[17] results, it is possible that the performance of an objective rather than the performance of a specific fund is an important factor in investors' decisions to invest. If investors are more inclined to invest in objectives that perform well, it follows logically that fund families are more likely to launch new funds in these objectives. It should be noted that the *FamilyExcessReturn* and the *ObjectiveFamilyExcessReturn* are not significant (which will be discussed in the next section), indicating that it is the overall performance of an objective which is a key determinant of fund starts rather than the performance of a specific fund family. Khorana and Servaes (1999) also find the *ObjectiveReturn* and *ObjectiveTNA* variables to be significant.

5.2 Reputation

Regarding the inflow measures, the only significant variable is *FamilyInflow*. Thus, we do not reject the fourth hypothesis: *the inflow of a family is positively related to the probability of a family launching a new fund*; while we do reject the fifth hypothesis *the inflow of a family within an objective is positively related to the probability of a family launching a new fund in the specific objective*. This indicates that a family with large inflows enjoys an advantage which can be transferred to new funds and this advantage originates from the total inflow of the family rather than the inflow within a certain objective. *FamilyInflow* is likely to reflect the reputation of the

[17] Mixed results in the sense that other variables than historical return are more important to flow (Engström and Westerberg (2004)) and the absence of a significantly positive flow-performance relationship for equity funds (Donner and Oxenstierna (2007)).

family and the overall public confidence which the family commands and these factors are evidently important to new fund launches.

In our hypotheses, we expect that the reputation of a family is linked to its historical return, suggesting that the *FamilyExcessReturn* variable should also be a significant determinant, which it is not. We reject the sixth and seventh hypotheses: *the performance (excess return) of a fund family is positively related to the probability of the fund family launching a new fund* and *the performance (excess return) of a fund family in a certain objective is positively related to the probability of a fund family launching a new fund in that specific objective*. Since the hypotheses regarding excess return are rejected, it supports our discussion on the potential differences between the U.S. and the Swedish markets as Khorana and Servaes (1999) find a significant *FamilyExcessReturn* variable. As research has shown, there is a positive relationship between performance and flow (Ippolito (1992) and Sirri and Tufano (1998)) on the U.S. market while the evidence is not clear-cut on other markets (Engström and Westerberg (2004), Knuutila, Puttonen and Smythe (2006), Donner and Oxenstierna (2007) and Thörnqvist (2009)). It seems that Swedish investors are less dependent on historical fund performance when allocating capital to funds. Thus, it is reasonable to claim that fund families are less affected by their historical performance when they decide to launch a new fund; reputation and the facilitating effect it has on issuing new funds seems nested in flow rather than excess return. Inflow could be considered a concrete measure of public confidence while family performance is "only" a factor in the investors' confidence in a family and their decision to invest.

Knuutila, Puttonen and Smythe (2006) find evidence indicating that bank-run funds under-perform compared to their non-bank counterparts on the Finnish market and

our data also suggests that the four large bank funds under-perform. Our descriptive data shows that the four largest banks receive 56% of the Swedish fund inflow 1999-2007 while we also find evidence suggesting that the four large banks under-perform their counterparts during 2000-2007. Despite this indicated under-performance, these fund families still control the market and issue by far the most new funds. Since the four large banks launch 40% of the new funds in our sample, it is not surprising that family excess return is not a significant determinant of fund launches.

As discussed above, the inflow of a family's funds in a specific objective is not significant, showing that it is a family's overall inflow rather than the family's inflow in a specific objective that is important. This suggests that families can transfer a positive reputation in one objective to a new fund launched in a different objective. Thus, it seems to be the "overall" investor confidence in a certain family which facilitates fund families in launching new funds and is thus a determinant of fund launches. None of Khorana and Servaes (1999) inflow variables are significant and they do not deem inflow an important determinant of fund starts on the U.S market.

5.3 Economies of Scale and Scope

The *FamilyTNA* and *ObjectiveFamilyTNA* variables are significant and positive. We do not reject the eight and ninth hypotheses: *the size (TNA) of a family is positively related to the probability of launching a new fund* and *the size (TNA) of a family in a certain objective is positively related to the probability of launching a new fund in the specific objective*. This indicates that economies of scale and scope play a major role when the decision to issue new funds is taken. It is possible then, that shared marketing costs, back-office costs and such do provide fund families with benefits.

However, it is also possible that *FamilyTNA* and *ObjectiveFamilyTNA* are, again, proxies for the confidence which investors have for a given fund family and thus larger families would find it easier to launch new funds. It is also likely that larger fund families have more developed distribution channels. As previously discussed, the Swedish fund market is more or less controlled by a few, large institutions indicating that investors invest in fund families with which they have a long-standing relationship thus making it easier for these fund families to launch new funds. Khorana and Servaes (1999) find that the families' size is significant which is in line with our findings. Khorana and Servaes (1999) also conclude that economies of scale are a major determinant of fund starts. Here, it seems that the desire to achieve economies of scale is commonly shared by the U.S. and Swedish markets.

We do, however, find that the number of previous openings within the objective is not a significant determinant of fund starts and we reject the tenth hypothesis: *the number of previous fund openings of a fund family in a certain objective is positively related to the probability of launching a new fund in the specific objective*. Thus it seems that previously incurred fixed costs associated with fund launches do not determine new fund launches. One could also argue that the number of previous openings is in general a proxy for size within the objective, which has already been addressed to a certain degree by the *ObjectiveFamilyTNA* variable.

We find that the *PercentTNA* variable, i.e. the proportion of total assets of a fund family which are invested in a certain objective, is positively significant at the 10% level. Thus, we do not reject the eleventh hypotheses: *the percent of a family size (TNA) in a certain objective is positively related to the probability of a fund family launching a new fund within the specific objective*. It is likely that issuing new funds

within an objective where a family already has funds will divert some of the flow from the old to the new funds and thus "cannibalize" the existing funds, however, it seems that the benefits from economies of scale compensate for this loss. The objectives are also defined rather broadly compared to those of Khorana and Servaes (1999) which could bias the results. Khorana and Servaes (1999) do not find a significant percent TNA variable. Furthermore, the four large banks issue 40% of the new funds and simultaneously manage several funds within the same objective which could influence the results.

Table 3. Results of Hypotheses

Number	Hypothesis	Reject?	Implication
1	The objective inflow is positively related to the probability of a fund launch	**YES**	It is possible that other variables better proxy the objective popularity and growth potential
2	The objective size is positively related to the probability of a fund launch	**NO**	The size of the market is important for families
3	The objective return is positively related to the probability of a fund launch	**NO**	The return of an objective affects its popularity
4	The family inflow is positively related to the probability of a fund launch	**NO**	The reputation of family is proxied by inflow and the reputation "spills-over" to new funds
5	The family inflow in an objective is positively related to the probability of a fund launch	**YES**	The overall family reputation is determined by the total family inflow, not the inflow in a specific objective
6	The family excess return is positively related to the probability of a fund launch	**YES**	The positive reputation associated with high historical returns does not facilititate in opening new funds
7	Family excess return in an objective is positively related to the probability of a fund launch	**YES**	The positive reputation associated with high historical returns does not facilititate opening new funds
8	The family size is positively related to the probability of a fund launch	**NO**	Families seek the benefits of economies of scale
9	The family size in an objective is positively related to the probability of a fund launch	**NO**	Families seek the benefits of economies of scale
10	The number of previous fund openings within an objective is positively related to the probability of a fund launch	**YES**	Previously incurred fixed costs are not a determinant of new fund launches
11	The percent of family assets invested in an objective is positively related to the probability of a fund launch	**NO**	Families seek the benefits of economies of scale

5.4 Discussion: The Swedish Market versus the U.S. Market

In general, our findings are in line with previous studies which have highlighted differences between the U.S. and Swedish markets. As previously discussed, the Swedish fund market is controlled by a few, large banks while the U.S. fund industry is more diverse. Swedish investors seem to feel more comfortable investing in what they know which facilitates larger players in opening new funds. The four large banks dominate the Swedish market in terms of assets under management, inflow since 1999 and number of newly issued funds. Our data indicates that funds managed by the four large banks do not perform as well as other funds and we find that the excess return of a fund family is not a significant determinant of fund launches. It seems that the capital inflow to Swedish funds is less dependent on its historical return than the U.S. counterparts which enables the four large banks to continue their control of the market. There are, however, also similarities between the U.S. and Swedish markets. Economies of scale seem to be a major determinant of new fund issues in both markets suggesting that the benefits of economies of scale are real and tangible for fund families. The return and size of the objective are also key determinants in both markets, suggesting that fund families are keen to open funds in objectives which have performed well and are popular among the investors both in the U.S. and in Sweden.

5.5 Robustness of the Findings

In order to test the robustness of our findings we follow the methodology of Khorana and Servaes (1999) and divide the dataset in different ways. We start by dividing the data into two time periods, 2000-2003 and 2004-2007 (Table A.2.2). As we already have fewer new fund issues than Khorana and Servaes (1999), 324 versus 1163,

dividing the time period naturally reduces the explanatory power of the variables especially because logistic regression is a regression of large numbers (Gujarati (2003)). *ObjectiveTNA* and *FamilyTNA* are positive and significant at the 5% level during both periods. *ObjectiveReturn* is significant (0.008) during 2000-2003 but not during 2004-2007. *FamilyInflow* is significant (0.006) during 2004-2007 but not during 2000-2003. *ObjectiveFamilyTNA* is only significant (0.081) during 2000-2003 and *ObjectiveInflow* is only significant (0.078) during 2004-2007. We do not see this as a source of concern since the differences probably have to do with the diminished number of observations in each time period. There are several sign changes between the two periods, however, none of the changes are significant.

We also divide the dataset into objectives and run logistic regressions on equity, mixed and fixed income observations. As Table A.2.3, shows not one variable is significant in all of three asset-based regressions. *FamilyInflow* is the only variable to be significant in two regressions, equity and mixed. When looking at the signs of the variables, it is clear that equity and mixed funds follow the same pattern while the coefficients of variables concerning fixed income funds display different signs to a large degree. It is not surprising that the decision to start either an equity or mixed fund is based on similar factors since many mixed funds invest a large fraction of their assets into equity. However, we refrain from drawing any major conclusions since few of these sign changes are actually accompanied by significant variables. Furthermore, the fact that many variables are not significant across all three regressions should not be a source of concern since splitting the dataset inevitably decreases the number of observations to a level where inference could be tricky. We also run the original logistic model as an OLS and find similar results which is expected (Table A.2.9).

Even though we originally have 58 fund families, only 44 are actually included in the regression because many fund families which do not exist prior to their first fund launch have insufficient data. Obviously, this could bias the results and in order to test this we run a regression where observations with no data are replaced by zeros. For example, if a fund family did not exist prior to a fund launch it would receive a 0 for TNA and 0 for return instead of, as in the main regression, a missing value. The results are presented in Table A.2.6 and the only difference versus the main regression is that the inflow of the objective now becomes a significant variable and thus our main findings still stand. It is not clear how one should go about correcting for fund families which do not exist prior to a fund launch since a zero return is a viable observation but in reality the return is not zero, it is actually non-existent. However, the results do not seem to be affected by this and thus we do not deem it to be a problem. We also run a regression where we replicate the observation if the fund family has issued more than one fund in the specific objective during one year. The results do not change and thus our original findings still apply (Table A.2.4). We also run a regression where the variables denoted in SEK are transformed. We divide the net flow variables with TNA to make them relative measures and log the TNA variables to eliminate any effects that may occur when using currency denoted variables. Table A.2.10 shows the results from this regression. The only difference to the main regression is that *ObjectiveFamilyTNA* becomes insignificant and *FamilyInflow* is now significant at the 10% level (0.052 instead of 0.013). Thus, it seems that our original findings still hold and are not biased due to the use of currency denoted variables.

5.6 Further Analysis

As discussed in the methodology section, if a fund family issues a fund in a given objective during a specific year it will receive a 1 and otherwise 0 as a dependent variable. However, if a fund family launches several funds in a year, it will only be documented as launching one fund. In order to investigate if this is a potential problem we run an OLS regression with a dependent variable constituted by the number of funds which a fund family has opened in a given objective during a specific year. In order to correct for the fact that larger fund families inevitably launch more funds, we include a variable representing the number of existing funds for that fund family.

As Table A.2.5 shows, some of the variables lose their significance. Originally, all of the size variables are significant, following this OLS regression, only the *ObjectiveFamilyTNA* remains so. Instead, all of the inflow measures become significant at the 10% level. These findings are interesting since they indicate that it is the increase in size, or inflow, of an objective and family which determines the likelihood of a fund family launching a new fund rather than the total size of the objective and family. The size of a family in an objective is still significant indicating that economies of scale is still a determinant, however, the economies of scale seem to be more concentrated to funds in the same objective. Intuitively, this makes sense since the more similar funds are, the more costs can be shared. The return of the objective is still significant and thus it seems that fund families are very aware of the historical performance and popularity of an objective. It also suggests that investors are more inclined to invest in funds which are in high performing objectives. Since the *ObjectiveInflow* variable now is significant fund families may also look at how

much more capital investors have invested in an objective in addition to the performance of the objective. In general though, the same conclusions can be drawn. Fund families are driven by economies of scale, the performance of the objective which illustrates how popular the objective is with investors and finally the reputation of the family in terms of its inflow.

We also run a regression including only the four large banks and one regression excluding the four large banks (tables A.2.7-A.2.8). The *FamilyExcessReturn* variable is significant when excluding the four large banks and this could indicate that the four large banks under-perform their counterparts or, at least, the findings show that these fund families compete on different terms and do not rely on their historical performance when launching new funds. These findings also suggest that, when excluding the four large banks, high-performing funds can "transfer" their reputation to new funds and certain spill-over effects do then occur. A possible explanation for the differing importance of performance, inspired by Gruber (1996), is that the four large banks focus on catering to unsophisticated investors to a higher degree while other fund families receive a larger proportion of sophisticated investors. This would ultimately render performance less important to the four large banks than to other players on the fund market. The size and performance of the objective are still important factors for both groups. However, the results show that the family inflow is an important determinant for the four large banks while it is the objective family inflow for the other fund families. This suggests, unsurprisingly, that the four large banks can transfer their reputation and investor confidence between funds in different objectives, while smaller fund families are more dependent on their reputation in a specific objective.

6. Conclusions

The main intention of this paper is to investigate why fund families launch new funds on the Swedish market. Through the methodology used by Khorana and Servaes (1999) we have been able to identify several key determinants of fund launches. First of all, fund families are affected by the potential of the market. Families are more likely to issue funds in objectives which perform well and are large in terms of size. In the main regression, high excess return of a fund family does not increase the likelihood of the family issuing a fund and thus there seems to be few spill-over effects of high performance. However, this observation could be attributed to the four large banks and in the regression excluding these banks it is evident that performance is a determinant of fund launches. The probability of the four large banks launching a new fund is not affected by their historical return while the opposite is true for the other fund families. The relationship between the performance of fund families and the likelihood of new funds being issued is also a key difference between our findings and those of Khorana and Servaes (1999). U.S. investors seem more affected by historical return when investing in funds and thus fund families in the U.S. are more reliant on their performance and its spill-over effects when launching new funds. The inflow of the family in question is also an important determinant of fund launches. High inflow probably indicates that investors trust a certain fund provider and this trust can then be transferred to new funds. It is worth noting that Khorana and Servaes (1999) do not find inflow important on the U.S. market and thus we find another difference between the Swedish and the U.S. market. The "spill-over" effects of a good reputation seem nested in the family inflow on the Swedish market while they seem to be related to the previous performance of the fund family in the U.S. Finally, regarding economies of scale, our findings are in line with those of Khorana and

Servaes (1999), and fund families seem driven to launch new funds by a desire to reap the benefits of economies of scale.

The Swedish fund market is controlled by four large banks in terms of assets under management, number of funds and number of new issues during our sample time period. These banks seem to compete on different terms than other market participants. Smaller organizations, which do not possess the "brick and mortar" presence of the four big banks, have to rely more on their performance and its spill-over effects when they launch new funds.

7. Suggested Further Research

In this paper, we focus on the origination of new funds and it would be interesting to study the other side of funds' life cycle, namely the decision to liquidate or merge funds. Studies have been performed on the U.S. market (Jayaraman, Narayanan, Khorana and Nelling (2002) and Zhao (2005)) with which one could compare the Swedish market.

As we find that economies of scale play a major role in new fund launches it would be interesting to see whether the benefits are transferred to the end investor or retained by the fund companies. Furthermore, one could study how large the benefits of economies of scale are and if they are significant in economic terms.

Our findings suggest that funds managed by the four large banks under-perform but nevertheless, the four large banks dominate the market. One could study this in a deeper manner using more sophisticated models and investigate why this is the case.

It would also be interesting to analyze whether sophisticated investors steer clear of bank-managed funds while non-sophisticated investors do not avoid them.

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Appendix

A.1 Descriptive Statistics and Alpha Regressions

Table A.1.1 – New Funds by Year and Objective

	Fixed Income		**Equity**		**Mixed**		**Total**	
	All	*4 large banks*	*All*	*4 large banks*	*All*	*4 large banks*	*All*	*4 large banks*
2000	4	2	51	16	2	1	57	19
2001	6	4	17	10	2	2	25	16
2002	4	2	20	8	5	1	29	11
2003	5	1	19	5	6	6	30	12
2004	3	2	21	6	9	8	33	16
2005	3	0	34	11	20	6	57	17
2006	5	3	30	14	7	3	42	20
2007	4	1	41	14	6	6	51	21
%Total		*44.1%*		*36.1%*		*57.9%*		*40.7%*

Table A.1.2 – Total Number of Funds

	Fixed Income		**Equity**		**Mixed**		**Total**	
	All	*4 large banks*	*All*	*4 large banks*	*All*	*4 large banks*	*All*	*4 large banks*
1998	78	51	209	121	26	13	313	185
2007	132	80	476	222	76	41	684	343

Table A.1.3 – Assets by Objective (SEK million)

	Fixed Income		**Equity**		**Mixed**		**Total**	
	All	*4 large banks*	*All*	*4 large banks*	*All*	*4 large banks*	*All*	*4 large banks*
1998	108 174	96 606	292 934	254 675	65 332	54 898	466 440	406 180
2007	358 218	288 866	954 447	629 573	215 794	129 440	1 528 460	1 047 879
%Total '98		89.3%		86.9%		84.0%		87.1%
%Total '07		80.6%		66.0%		60.0%		68.6%

Table A.1.4 – Quarterly Returns 1999-2007 (All Funds)

	All
Average	1.91%
Min	-60.54%
Max	185.71%
Number	684

Table A.1.5 – Quarterly Returns 1999-2007 by Objective

	Fixed Income	Equity	Mixed
Non-Bank	0.87%	2.39%	1.52%
4 Large Banks	0.77%	2.24%	1.27%

Table A.1.6 – Quarterly Returns 1999-2007 (Family-based)

	Value-Weighted		Equally-Weighted	
	All	*4 large banks*	*All*	*4 large banks*
Average	2.46%	1.28%	2.42%	1.78%
Min	-38.78%	-15.00%	-26.61%	-14.33%
Max	80.45%	23.82%	55.39%	24.90%

Table A.1.7 – Average Weight for a Fund within a Family

	All	4 large banks
Average	0.0671	0.0155
Min	5.3E-06	2.4E-05
Max	1	0.2044

Table A.1.8 – Added Assets (Flow in SEK millions) since 1999

	Fixed Income	Equity	Mixed	Total
All Funds	182 067	180 180	77 481	439 728
4 Large Banks	148 791	70 896	27 693	247 380
% Total	81.7%	39.3%	35.7%	56.3%

Table A.1.9 – Average Alphas of New and Existing Funds 2000-2009

	Fixed Income	Equity	Mixed	Total
New	-0.01%	0.15%	-0.09%	0.09%
Existing	-0.07%	0.18%	-0.09%	0.10%
p-value	***0.02***	0.69	0.93	0.85

Table A.1.10 – Average Bank Fund versus Non-bank Fund Alphas 1999-2007

	Fixed Income	Equity	Mixed	Total
Bank	-0.07%	0.24%	-0.07%	0.13%
Non Bank	-0.02%	0.31%	-0.02%	0.22%
p-value	***0.00***	*0.45*	*0.26*	*0.13*

Table A.1.11 – Average Bank Fund versus Non-bank Fund Alphas 2000-2007

	Fixed Income	Equity	Mixed	Total
Bank	-0.07%	0.07%	-0.12%	0.01%
Non Bank	-0.02%	0.19%	-0.09%	0.13%
p-value	***0.00***	*0.17*	*0.40*	***0.05***

Table A.1.12 – Average Bank Fund versus Non-bank Fund Alphas 1999-2009

	Fixed Income	Equity	Mixed	Total
Bank	-0.08%	0.20%	-0.02%	0.11%
Non Bank	-0.04%	0.25%	0.03%	0.18%
p-value	***0.02***	*0.36*	*0.36*	***0.04***

A.2 Main Regressions

Table A.2.1 – Results of the Main Logistic Regression (Equally- and Value Weighted)

	Value-weighted			*Equally-weighted*		
Variable	**Coefficient**	**z-value**	**P-value**	**Coefficient**	**z-value**	**P-value**
ObjectiveInflow	0.002	0.46	0.645	0.002	0.59	0.558
FamilyInflow	0.033	2.49	***0.013***	0.033	2.46	***0.014***
ObjectiveFamilyInflow	-0.013	-0.35	0.726	-0.013	-0.51	0.610
ObjectiveTNA	0.002	2.37	***0.018***	0.002	2.83	***0.005***
FamilyTNA	0.011	6.31	***0.000***	0.011	5.58	***0.000***
ObjectiveFamilyTNA	0.016	2.42	***0.016***	0.016	2.35	***0.019***
ObjectiveReturn	0.022	2.21	***0.027***	0.019	1.86	**0.062**
FamilyExcessReturn	0.028	1.34	0.179	0.0001	0.01	0.996
ObjectiveFamilyExcessReturn	-0.011	-0.57	0.568	0.022	0.84	0.403
PercentTNA	1.089	1.71	**0.087**	0.984	1.52	0.129
NumberOpenings	0.031	0.29	0.772	0.024	0.22	0.827
Dummy1	-1.048	-1.12	0.265	-1.202	-1.23	0.220
Dummy2	0.243	0.41	0.685	0.087	0.14	0.892
Dummy3	0.498	0.60	0.549	0.245	0.30	0.766
Dummy4	-0.368	-0.67	0.504	-0.373	-0.61	0.542
Dummy5	-0.328	-0.54	0.586	-0.494	-0.80	0.426
Dummy6	-1.389	-2.59	***0.010***	-1.365	-2.16	***0.031***
Dummy7	-1.428	-1.98	***0.048***	-1.507	-1.93	**0.054**
Intercept	-3.247	-5.30	***0.000***	-3.271	-4.73	***0.000***
Pseudo R²	0.2459			0.2419		
Regression p-value	0.000			0.000		
N	573			573		

Significant coefficients: 5% - bold and italic, 10% - bold

Table A.2.2 – Main Logistic Regression Divided into two Time Periods, 2000-2003 and 2004-2007

	2000-2003			*2004-2007*		
Variable	**Coefficient**	**z-value**	**P-value**	**Coefficient**	**z-value**	**P-value**
ObjectiveInflow	-0.008	-0.99	0.322	0.012	1.76	**0.078**
FamilyInflow	-0.001	-0.05	0.958	0.050	2.74	***0.006***
ObjectiveFamilyInflow	-0.072	-0.69	0.492	-0.018	-0.72	0.474
ObjectiveTNA	0.004	2.10	***0.036***	0.002	2.06	***0.039***
FamilyTNA	0.011	3.17	***0.002***	0.010	4.87	***0.000***
ObjectiveFamilyTNA	0.043	1.74	**0.081**	0.012	1.56	0.118
ObjectiveReturn	0.021	2.66	***0.008***	0.004	0.14	0.888
FamilyExcessReturn	-0.0001	-0.01	0.996	0.045	1.06	0.289
ObjectiveFamilyExcessReturn	-0.003	-0.13	0.895	0.002	0.05	0.963
PercentTNA	0.963	0.78	0.436	1.017	1.11	0.267
NumberOpenings	-0.180	-0.88	0.378	0.132	0.87	0.386
Intercept	-3.128	-6.60	***0.000***	-3.979	-8.02	***0.000***
Pseudo R²	251			327		
Regression p-value	0.000			0.000		
N	0.2898			0.2512		

Significant coefficients: 5% - bold and italic, 10% - bold

Table A.2.3 – Main Logistic Regression Divided into Objectives (Equity, Mixed and Fixed Income)

	Equity			*Mixed*			*Fixed Income*		
Variable	**Coefficient**	**z-value**	**P-value**	**Coefficient**	**z-value**	**P-value**	**Coefficient**	**z-value**	**P-value**
ObjectiveInflow	-0.002	-0.24	0.808	-0.014	-0.42	0.671	-0.228	-1.77	**0.077**
FamilyInflow	0.192	1.77	**0.078**	0.046	2.27	***0.023***	0.021	0.57	0.569
ObjectiveFamilyInflow	-0.064	-0.61	0.542	-0.380	-1.87	**0.062**	0.131	2.13	***0.033***
ObjectiveTNA	-0.002	-1.26	0.207	-0.007	-0.66	0.509	-0.013	-1.48	0.138
FamilyTNA	-0.012	-0.33	0.740	0.016	5.57	***0.000***	0.025	1.49	0.135
ObjectiveFamilyTNA	0.066	1.11	0.268	0.043	2.28	***0.023***	-0.058	-0.97	0.333
ObjectiveReturn	0.021	2.26	***0.024***	0.003	0.17	0.863	-0.438	-1.42	0.155
FamilyExcessReturn	0.062	2.11	***0.035***	0.017	0.26	0.795	-0.044	-0.68	0.494
ObjectiveFamilyExcessReturn	-0.041	-1.52	0.128	-0.027	-0.32	0.751	-0.026	-0.17	0.868
PercentTNA	1.438	1.41	0.159	1.787	1.10	0.273	0.828	0.36	0.722
NumberOpenings	0.165	0.83	0.406	-0.673	-2.26	***0.024***	-0.640	-1.17	0.243
Intercept	-1.379	-1.19	0.223	-3.205	-1.22	0.222	2.626	0.68	0.497
Pseudo R²	0.2873			0.3613			0.1857		
Regression p-value	0.000			0.000			0.000		
N	262			145			172		

Significant coefficients: 5% - bold and italic, 10% - bold

Table A.2.4 – Main Logistic Regression using Replicates[18] when Several Funds have been Launched by one Family in the same Year and Objective

Variable	Coefficient	z-value	P-value
ObjectiveInflow	0.004	0.68	0.498
FamilyInflow	0.040	2.82	***0.005***
ObjectiveFamilyInflow	-0.064	-1.10	0.271
ObjectiveTNA	0.001	1.09	0.275
FamilyTNA	0.012	6.23	***0.000***
ObjectiveFamilyTNA	0.024	2.73	***0.006***
ObjectiveReturn	0.040	3.53	***0.000***
FamilyExcessReturn	0.023	1.15	0.249
ObjectiveFamilyExcessReturn	-0.007	-0.36	0.718
PercentTNA	1.428	2.03	***0.042***
NumberOpenings	0.034	0.32	0.747
Intercept	-3.198	-4.88	***0.000***
Pseudo R²	0.3287		
Regression p-value	0.000		
N	698		

Significant coefficients: 5% - bold and italic, 10% - bold

[18] In our original regression, the decision to launch a fund within an objective in a specific year is only taken into account once, even if the fund family in question launched several funds during the specific year in a specific objective. In this regression the variables associated with the decision to launch a fund have been repeated (replicated) once for each fund launched within a specific objective and year.

Table A.2.5 – Main Regression using the OLS Approach with a Dependent Variable Counting the Number of Issued Funds during a Year[19]

Variable	Coefficient	t-value	P-value
ObjectiveInflow	0.002	1.69	**0.098**
FamilyInflow	0.008	2.92	***0.005***
ObjectiveFamilyInflow	-0.013	-1.69	**0.098**
ObjectiveTNA	0.0004	1.18	0.244
FamilyTNA	-0.002	-1.07	0.292
ObjectiveFamilyTNA	0.012	2.22	***0.032***
ObjectiveReturn	0.011	3.21	***0.003***
FamilyExcessReturn	0.005	1.06	0.294
ObjectiveFamilyExcessReturn	-0.001	-0.20	0.844
PercentTNA	0.139	0.73	0.470
NumberOpenings	0.034	0.65	0.517
NumberExisting	0.012	3.02	***0.004***
Intercept	-0.173	-1.46	0.152
R^2	0.3014		
Regression p-value	0.000		
N	578		

Significant coefficients: 5% - bold and italic, 10% - bold

[19] In this regression the dependent variable counts the number of funds issued within a specific objective and year instead of merely indicating a new fund launch or not. In other words, the dependent variable is no longer binary, instead it counts the number of funds issued.

Table A.2.6 – Main Regression Including Zeroes Representing No Data[20]

Variable	Coefficient	z-value	P-value
ObjectiveInflow	0.010	2.64	***0.008***
FamilyInflow	0.043	2.79	***0.005***
ObjectiveFamilyInflow	-0.017	-0.60	0.549
ObjectiveTNA	0.004	6.05	***0.000***
FamilyTNA	0.012	6.44	***0.000***
ObjectiveFamilyTNA	0.011	1.99	***0.046***
ObjectiveReturn	0.014	1.67	**0.095**
FamilyExcessReturn	0.004	0.33	0.742
ObjectiveFamilyExcessReturn	0.014	1.30	0.192
PercentTNA	0.626	2.12	***0.034***
NumberOpenings	-0.003	-0.02	0.981
Intercept	-3.844	-9.41	***0.000***
Pseudo R²	0.2497		
Regression p-value	0.0000		
N	1392		

Significant coefficients: 5% - bold and italic, 10% - bold

[20] If a fund family did not previously exist before a new fund launch, we inserted zeroes for the fund family specific variables.

Table A.2.7 – Main Logistic Regression for the Four Large Banks

Variable	Coefficient	z-value	P-value
ObjectiveInflow	0.018	2.20	***0.028***
FamilyInflow	0.038	2.59	***0.010***
ObjectiveFamilyInflow	-0.054	-1.12	0.263
ObjectiveTNA	0.013	3.10	***0.002***
FamilyTNA	0.001	0.28	0.777
ObjectiveFamilyTNA	0.024	1.52	0.128
ObjectiveReturn	0.021	3.59	***0.000***
FamilyExcessReturn	-0.118	-0.88	0.378
ObjectiveFamilyExcessReturn	-0.131	-1.57	0.116
PercentTNA	-8.855	-2.08	***0.038***
NumberOpenings	-0.295	-1.20	0.230
Intercept	-1.623	-1.34	0.181
Pseudo R²	0.2821		
Regression p-value	.		
N	96		

Significant coefficients: 5% - bold and italic, 10% - bold

Table A.2.8 – Main Logistic Regression for All Fund Families Excluding the Four Large Banks

Variable	Coefficient	z-value	P-value
ObjectiveInflow	0.004	-0.41	0.682
FamilyInflow	-0.076	-0.90	0.367
ObjectiveFamilyInflow	0.305	2.27	***0.023***
ObjectiveTNA	0.002	2.24	***0.025***
FamilyTNA	0.044	1.46	0.144
ObjectiveFamilyTNA	-0.030	-0.66	0.511
ObjectiveReturn	0.031	2.37	***0.018***
FamilyExcessReturn	0.044	1.72	**0.085**
ObjectiveFamilyExcessReturn	-0.025	-1.05	0.294
PercentTNA	1.656	2.48	***0.013***
NumberOpenings	0.142	0.82	0.412
Intercept	-3.895	-5.29	***0.000***
Pseudo R²	0.1944		
Regression p-value	0.0000		
N	482		

Significant coefficients: 5% - bold and italic, 10% - bold

Table A.2.9 – Main Regression Using the OLS Method

Variable	Coefficient	t-value	P-value
ObjectiveInflow	0.0005	0.75	0.455
FamilyInflow	0.007	2.56	***0.014***
ObjectiveFamilyInflow	-0.003	-0.86	0.394
ObjectiveTNA	0.0002	1.76	**0.085**
FamilyTNA	0.002	8.53	***0.000***
ObjectiveFamilyTNA	0.002	3.33	***0.002***
ObjectiveReturn	0.003	3.12	***0.003***
FamilyExcessReturn	0.004	1.57	0.124
ObjectiveFamilyExcessReturn	-0.0005	-0.19	0.847
PercentTNA	0.136	1.69	**0.098**
NumberOpenings	0.010	0.59	0.557
Intercept	-0.002	-0.03	0.974
R^2	0.2588		
Regression p-value	0.0000		
N	578		

Significant coefficients: 5% - bold and italic, 10% - bold

Table A.2.10 – Main Logistic Regression Using Relative Net Flow Variables and Logged TNA Variables[21]

Variable	Coefficient	z-value	P-value
ObjectiveInflow	0.598	0.41	0.682
FamilyInflow	0.721	1.95	**0.052**
ObjectiveFamilyInflow	-0.306	-0.57	0.568
ObjectiveTNA	0.561	2.51	***0.012***
FamilyTNA	0.698	2.05	***0.040***
ObjectiveFamilyTNA	-0.073	-0.27	0.788
ObjectiveReturn	0.022	2.45	***0.014***
FamilyExcessReturn	0.026	1.12	0.261
ObjectiveFamilyExcessReturn	-0.001	-0.04	0.965
PercentTNA	2.189	2.05	***0.041***
NumberOpenings	0.096	0.84	0.399
Intercept	-6.934	-4.70	***0.000***
Pseudo R²	0.2360		
Regression p-value	0.0000		
N	578		

Significant coefficients: 5% - bold and italic, 10% - bold

[21] The net flow variables are now relative measures (divided by TNA) and the TNA variables are logged to eliminate any effects caused by SEK.