Do actively managed equity funds outperform index funds?

Masterproef voorgedragen tot het bekomen van de graad van
Master in de Toegepaste Economische Wetenschappen

Maaike Bryon
Laurent Verhoeven
onder leiding van
Prof. Dr. Philippe Van Cauwenberge
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Maaike Bryon
Laurent Verhoeven
Preface

We have chosen this subject because of our interest in the fund sector. During our research we have gained a lot of insight in the way funds are being managed. We would like to thank Erik Pas (asset manager at Delta Lloyd) and especially Patrick Dekeer and Luc Seynaeve (KBC) for their contributions to this research. A special word of thanks goes to our promoter Prof. Dr. Philippe Van Cauwenberge for guiding us through the entire process of writing this thesis.

Maaike Bryon
Laurent Verhoeven
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1 Introduction

At the end of 2008 the value of all mutual fund assets worldwide totalled more than $24 trillion, which is almost twice the GDP of the US. More than 80 million people, or one half of the American households, invest in mutual funds. Given the major role of the mutual fund industry in the financial markets, it is imperative to have effective methods for evaluating these types of funds.

This paper compares the performance of actively managed equity funds with index funds. We found that the literature showed many contradictory results with regard to this research question. Nevertheless, the lack of a clear answer is not surprising since we do not tend to believe there is only one correct answer. The answer to this research question varies from case to case. Deciding whether to invest in an actively managed fund or an index fund is, according to us, an ad hoc decision. This paper therefore provides an insight on the analysis of the performance of equity funds. Based on these insights it will be possible to indicate, in a specific situation, which type of fund will be most likely to yield best.

This paper is organized as follows: section 2 provides basic knowledge concerning our research together with the basic characteristics of both actively managed funds and index funds. In section 3 the theoretical fundamentals of these characteristics are discussed, next to that an overview of relevant studies concerning our topic is presented. Subsequently, section 4 describes how we gathered and processed our data. Finally, we end with an in depth analysis of fund performance in section 5.
2 **Background**

In this section we provide basic knowledge concerning our topic. Firstly, we describe the type of funds we discuss in this paper. Secondly, the core characteristics of actively managed equity funds and index funds are addressed. We end this section with commonly known differences between index funds and actively managed funds.

Since the terminology differs from one country to another, it is important to accurately define the type of funds we discuss in this paper. The most appropriate and general term used for ‘funds’ is collective investment schemes. A collective investment scheme pools money from different investors and invests it in stocks, bonds, securities or other investment products. Collective investment schemes can be either open-end or closed-end. Closed-end funds have a fixed amount of capital. Investors cannot enter or exit the fund once it is established, unless the investor who wants to exit (or enter) finds an appropriate buyer (or seller). For this reason closed-end funds are usually listed. An example of a closed-end collective investment scheme is an unit investment fund. An unit investment fund is an investment company which purchases a fixed, unmanaged portfolio of securities and then sells shares in the trust to investors. An unit investment fund expires either on a fixed date or (in the case of bonds) on the security's maturity date.

Open-end funds, on the contrary, are permitted to issue and redeem shares on a continuous basis, hence the assets under management in these funds are variable. At the end of every day, the fund issues new shares to investors and buys back shares from investors wishing to leave the fund. Mutual funds are an example of open-end funds. A mutual fund is a specific type of an open-end collective investment scheme and is operated by an investment company. In a Belgian context mutual funds are referred to as ‘BEVEKS’. However, outside of the US, mutual fund is a generic term for various types of collective investment vehicle. The funds discussed in this paper are mutual funds.

Actively managed equity funds have the aim of outperforming their benchmark index. The excess return is known as “alpha”. An actively managed fund can only outperform the benchmark index by deviating from it. The degree of active management is generally
measured by the tracking error. The tracking error measures the volatility of the difference between the return of the fund and its benchmark index. Hence, tracking error is also a risk measure, measuring the risk relatively to the benchmark index. The higher the tracking error, the higher the degree of active management and the higher the risk. In section 4 we go more into detail on the concept of tracking error. Hereafter, for reasons of simplicity, we will call actively managed equity funds active funds.

Index funds merely have the objective to copy the index they are benchmarked to. The fund manager will have to make sure that adjustments or changes to the index are reflected as soon as possible in the portfolio of the index fund. Hence, index funds are also called passive funds because they are managed passively. Consequently, index funds will theoretically have a tracking error of zero, since they are not actively managed at all.

A tracker is a synonym that is often used for an index fund, nevertheless there is a small difference between the two. A tracker is being continuously traded on the stock market, while index funds (like active funds) are traded only once a day. Trackers are in fact hybrid instruments because they have a number of characteristics of shares (they can be traded at any moment at the stock market) and a number of characteristics of index funds (they merely follow the index). An other name for tracker is ETF or Exchange Traded Funds. Some well-known examples are: Spider (which tracks the S&P 500) and Qubes (which tracks the Nasdaq 100). A well-known ETF in Belgium is the Lyxor Bel 20, which tracks the Bel 20 index, the most important Belgian index.

A fundamental difference between active and index funds, is that active funds are managed by a fund manager, whereas passive funds are - for the greater part - managed by a computer program. This implies that index funds will bear lower costs than active funds. Since active management involves higher costs than index management, the main question is whether actively managed equity funds outperform index funds after costs. In section 4 we discuss the aspect of costs more into detail.

Concerning the size of the portfolio, there is another fundamental difference between active funds and index funds. In general, the portfolio of active funds is much smaller than the portfolio of index funds in order to enhance the agility of the fund manager. Index funds operate at a large scale in order to spread the fixed costs over a larger asset base and hence
reduce the expense ratios. In marketing terms one could state that index funds are the cost leaders and active funds the differentiators of the fund industry.
3 Literature

In this section an overview of relevant studies concerning our topic is presented. We specifically go into detail on the basics we introduced in the previous section. Firstly, we discuss the concept of active share. Secondly, two different methods for measuring performance are explained. Thirdly, we elaborate on the relationship between fund size and performance. After that, we summarize the most important findings of the authors we studied with regard to our research. Finally, we look at the factors on which investors base their investment decision

3.1. Measuring the degree of active management: active share

As we have already mentioned in section 2, the degree of active management is commonly measured by the tracking error. When a fund is actively managed, the fund manager deviates from the benchmark in order to generate excess return. A fund manager can deviate from the benchmark in two ways; either by ‘stock picking’ or by ‘sector picking’. In the case of stock picking, the fund manager hopes to generate excess return by selecting stocks that will yield more than the benchmark they belong to. Sector picking means that fund managers will pick entire industries or regions within a certain benchmark in order to outperform the benchmark. In spite of the fact that these two methods are both increasing the degree of active management to the same extent, they have a different impact on the tracking error. Cremers and Petajisto (2007) found that the tracking error of a stock picker is much lower than the tracking error of a sector picker. Hence, the tracking error fails to fully reflect the degree of active management caused by stock picking. This is in fact not surprising. A fund manager who tries to outperform - for example - the MSCI World index by stock picking will pick stocks that are expected to yield better that the index, regardless of the region or sector they belong to. A sector picker will only pick stocks of one particular sector that is part of the index, the financial sector for example. Hence, the risk and return generated by the stock picker will not differ in such a way from the benchmark as the risk and return generated by the sector picker. This is due to the fact that the stocks selected by the stock picker are diversified over approximately the same sectors and regions as the benchmark. The risk and
return of the sector picker - on the other hand - will fully depend on the selected sector. For this reason the systematic risk relatively to benchmark will be higher. Consequently, the tracking error - which measures the risk relatively to the benchmark (cfr. section 2) - of a sector picker will be higher than the tracking error of a stock picker.

Because of this reason, Cremers and Petajisto have introduced a new concept for measuring active management that should be used together with the concept of tracking error. Cremers and Petajisto argue that any portfolio can be decomposed into a 100% position in the benchmark index plus a zero-net-investment in other stocks. For example, an active fund that tries to outperform the Bel 20 index by stock picking can hold a portfolio in which we can recognize 100% of the Bel 20 index itself plus 30% more stocks of Delhaize minus 30% less stocks of Colruyt. When a stock is underweighted relatively to the index, the fund has an ‘active short position’ in it; if a stock is overweighted relatively to the index it has an ‘active long position’ in it. The size of this active long-short portfolio is what Cremers and Petajisto call ‘the active share’ of the portfolio and is a new measure for the degree of active management.

Active share is useful for two reasons. Firstly, it does not fail to measure the degree of active management when applying the stock picking method. Secondly, used together with tracking error one is able to determine the strategy of the active fund manager. A portfolio with a high active share but a low tracking error is a portfolio which diversifies itself from the benchmark by stock picking. Whereas a portfolio with a high tracking error and a low active share diversifies itself by sector picking. A portfolio with a high tracking error and a high active share is a portfolio that uses both stock picking and sector picking. It is very remarkable that there exist portfolios which have a low tracking error and active share that are still called ‘active’. These funds are called closet indexers. A closet index fund is a fund with a portfolio similar to the portfolio of the benchmark and achieves a performance level nearly identical to it, while still claiming to be actively managed. Hence, it is not favorable to invest in funds with a closet indexing strategy since they yield almost the same as index funds, and still charge the higher costs of active management.

In practice, the concept of active share is not used. In order to determine the active share of a
portfolio, perfect insight in the composition of the benchmark and the portfolio is required. This involves a considerable amount of work whereas the tracking error is a more time efficient concept. Despite its flaws, the tracking error is still broadly used in practice.

Figure 1: Different types of active and passive management

3.2. performance measures: style analysis

Investigating whether active funds outperform index funds induces the need for an adequate performance measure. A widely used performance measure in practice is the information ratio, which compares the performance of a fund to the index it is benchmarked to (we will discuss this concept in depth in section 4). However, Bogle (1997) describes an interesting new way of analysing fund performance: style analysis. Style analysis compares fund performances with peers following a similar strategy. Bogle describes the Morningstar category system which holds nine style boxes. On the vertical axis of the style box large-,
medium- and small-capitalization is set out; value-, blend- and growth-funds are placed on the horizontal axis. Value funds are funds that invest in stocks that are underpriced. Assuming that stock prices will not remain undervalued indefinitely, value funds generate return by buying before the expected upturn of the stock price. Growth funds are funds which generate return by investing in stocks of companies that are experiencing significant revenue growth. Blend funds are mixed funds that combine the strategy of value funds and growth funds. When using style analysis the performance of, for example, a large-cap blend fund is compared to the performance of another large-cap blend fund.

Figure 2: Morningstar Style Box

<table>
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<th></th>
<th>Value</th>
<th>Blend</th>
<th>Growth</th>
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<td>Small</td>
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When looking at the average risk-adjusted returns (using the Sharpe ratio\(^1\)) for each of the nine style groups, great differences can be found. This advocates the use of style analysis to evaluate fund performance next to the concept of information ratio. It is better to compare

\[ \text{Sharpe ratio} = \frac{E(R - R_F)}{\sqrt{\text{Var}(R - R_F)}}; \quad R = \text{return of the respective investment} ; \quad R_F = \text{risk free return} \]

\(^1\) Sharpe ratio = \[ \frac{E(R - R_F)}{\sqrt{\text{Var}(R - R_F)}} \]; \ R = \text{return of the respective investment} ; \ R_F = \text{risk free return}  \]
funds within the same style otherwise one is just comparing apples with oranges. However, it is important to be aware of the imperfections of this concept. Bogle remarks that it is not appropriate to give a lot of credit to a fund that outperforms its peers with the same style, if that style of funds is not able to outperform the market in the long run. If however, a certain fund fails to obtain a high ranking compared to its peers, while the style group outperforms the market, then such a fund deserves credit.

3.3. Size and performance

While the effect of scale on performance is an important question, it has received little research attention to date. Practitioners point out that there are advantages to operating at a large scale such as more resources for extensive research and lower expense ratios. However, others - like Berk - believe that at some point a large asset base erodes fund performance.

Concerning the size of actively managed funds, Cremers and Patajisto confirm the popular belief that active funds are relatively small compared to index funds. They found that fund size is negatively correlated with the degree of active management. J. Chen, H. Hong, M. Huang and J. D. Kubik (2004) found an explanation to why fund size of actively managed funds is relatively small. Chen et al. argue that size erodes performance of actively managed funds, and this due to two main reasons. Firstly, a large asset base causes higher (trading) costs due to price impact and liquidity. Price impact is caused when the volume of stocks a fund trades is to such an extent that stock prices are influenced when placing a transaction order. For example, when a fund manager has placed an order to sell a significant volume of stocks, the bid price will decline due to supply effects. The return generated by the fund will be eroded when having a large assets base - and hence placing orders of a larger volume - due to price impact. This is a forteriori the case when investing in small caps. Liquidity problems are due to the fact that the stocks a fund is willing to trade are not sufficiently traded on the market to exercise the order. The problem of liquidity influences the agility of the active fund manager. Agility is very important for active fund managers since they have to be able to quickly respond to changes in the market in order to outperform the index. Again liquidity is especially a problem when trading small cap stocks. Liquidity involves that a fund manager of a small fund can easily put all the money of
the fund in stocks that are expected to yield best, whereas large funds have to seek additional investment opportunities. For this reason, performance is eroded due to liquidity. Nevertheless, critics say that large funds have sufficient means to hire an additional portfolio manager to cover more stocks and hence are able to find other interesting stocks to invest in. A large fund can then take on smaller positions in more stocks in stead of large positions in only a few stocks. In that case they are able to avoid the problem caused by a lack of liquidity. Note that index funds - in general - trade stocks less frequently than active funds. Index funds only trade stocks when their benchmark changes, whereas active funds trade stocks more frequently in order to try to outperform the benchmark. Hence, index funds do not suffer to the same extent from liquidity and market impact as active funds.

Secondly, large funds have - when they are managed by more than one fund manager - to cope with organizational diseconomies. Concerning the processing of soft information, fund managers have more difficulties convincing others of their investment ideas. Eventually, a fund manager will end up expending too much research effort on convincing others to implement his/her ideas than he/she ideally would when individually controlling a smaller fund. Passive funds do not have to cope with organizational diseconomies at all, since they merely mimic the benchmark index. Hence, the above described problems do not occur.

Because of the two reasons described above index funds have - in general - a larger asset base than active funds and are therefore able to charge lower expense ratios. However, Chen et al. indicate that if a large fund is organized like a ‘fund family’ (different managers managing their proper small portfolios) the size of active funds is no longer negatively correlated with performance. In effect, when each manager invests in the stocks he or she covers, there are no liquidity problems nor is there price impact. Next to that, there are no hierarchy costs, since each fund manager is in charge of a personal portfolio within the fund family.

3.4. Do active funds outperform index funds: contradictory findings

Cremers and Petajisto (2007) found that actively managed funds outperform their benchmark indexes both before and after expenses. Since index funds purely have the goal to copy the benchmark index, one could say that according to Cremers and Petajisto, actively managed funds outperform their passively managed counterparts. Additionally, Cremers and Petajisto
remark that active funds with only a low degree of active management, underperform their benchmark indexes. Funds with a closet indexing strategy (cfr. supra: 3.1) are a perfect example of this.

The findings of Cremers and Petajisto (2007) are contradictory to the findings of Bogle. Bogle (2002) indicates that the Sharpe ratio of index funds exceeds the Sharpe ratio of the average actively managed fund. Keeping in mind that index funds bear lower costs than active funds, Bogle states that index funds outperform active funds before as well as after costs. Next to that, Bogle stresses that the costs are a very important factor. Bogle says that the substantial costs of financial intermediaries doom active investors as a group to poorer returns. It should not be surprising that Bogle is a great proponent of index funds, since he is the founder of the Vanguard group - the world leader in index funds – and convinced many institutional investors to invest in index funds.

Minor (2001) contradicts the findings of Bogle. Minor states that the real answer to whether index funds or actively managed funds are superior, depends on the period that is considered. He conducted the same research but instead of using data from the 1992-1996 period, like Bogle did, he used data from 1990-1994. This two-year shift lead, according to Minor, to a totally different conclusion. In this study, the actively managed funds had a higher risk-adjusted return than index funds. Minor states that investment professionals and educators should avoid making general conclusions about the capital markets on just five years of data. Even with adequate data conclusions must be made carefully, realizing the past is not always a good predictor for the future. Bowen and Statman (1997) suggest it can take up to 50 years or more to determine with a high degree of certainty whether or not a manager has added value to a portfolio. However, the problem is that there are not many managers with this tenure. A possible solution to this problem described in their research is return-based style analysis. Minor also reasons that even if it would be the case that, on average, active funds as a whole generate negative excess return, this does not need to be a problem. Investors simply have to choose active managers that do outperform index funds. Hence, there still would be no reason to break down active management as such.

Berk (2005) comes up with an other result: he states that at some point index funds yield the same as active funds. According to Berk, if a portfolio manager is skilled and generates
excess return relative to the market, this will cause a great amount of inflow of money to that particular fund. At a certain point the amount of money under management will be so high that the manager can not offer excess return anymore (cfr. supra 3.3). Eventually the process of inflow of money will stop when the return of the active fund is the same as the benchmark index. At that point investors are indifferent about investing in active or passive funds. Because of this mechanism, Berk comes up with the interesting finding that the skills of a fund manager are not proven by the return of the fund, but by the size of the portfolio being managed. Moreover, Berk remarks that the finding that on average active management cannot beat passive management, does not mean that active managers lack the necessary skills. It merely indicates that markets are competitive, and hence people are investing in funds that have generated the highest return in the past.

Lastly, it is important to remark that the believe of whether active funds or passive funds yield best is closely related to the market believe. If one believes in efficient markets, then one is an advocate of index funds. In efficient markets no fund manager will be able to generate excess return, at least not in the long run. If one does not believe markets are efficient, one believes that active management is able to outperform the market in the long run and hence can add value.

3.5. Future performance

The findings of Berk (2005) have introduced another interesting topic that needs to be considered: future performance. According to the theory of Berk, people invest their money in funds based on the past performance of that fund. However, due to the mechanism of fund inflows and outflows, past performance is not a reliable predictor for future performance. Nevertheless, fund investors chase return based on the past performance of funds. These findings raise questions about the rationality of investors.

Bogle agrees with Berk that it is not rational to forecast returns based on past performance. Bogle tries to indentify a factor that could be a good predictor for high returns in order to determine which funds will have the highest risk-adjusted return within a certain style box (cfr. supra) and hence are optimal to invest in. Bogle came to the conclusion that fund returns
within the lowest cost quartile were higher than returns of the highest cost quartile. Since expense ratios are highly predictable and an adequate performance predictor, Bogle advises to base investment decisions on the expense ratios. Hence, Bogle recommends to buy index funds since these funds bear the lowest costs. In effect, Bogle found that the risk-adjusted return of index funds in all of the nine boxes were greater than the risk-adjusted return of active funds.

In a subsequent research, Bogle (2002) indicates that the Sharpe ratio of index funds exceeds the Sharpe ratio of the average actively managed fund. Keeping in mind that index funds bear lower costs than active funds, Bogle argues again that index funds outperform active funds as well before as after costs.
4 Data

In this section the data used in our research will be discussed. Firstly, we explain how the necessary data was gathered. Secondly, we elaborate on two basic concepts for evaluating funds. We finish this section with analysing the costs component of equity funds.

4.1 Gathering the data

Our sample of funds consists out of funds issued by the most prominent financial institutions operating in Belgium. Since it is the purpose of this paper is to compare active funds with index funds, we primarily searched for active funds that had a passive counterpart benchmarked to the same index. However, we did not found a sufficient amount of index funds. We found that only KBC and Dexia issue index funds. However, only KBC had pure passively managed funds. Bankers of Dexia informed us that even their index funds comprise a small share of active management. The market leader in Belgium, Fortis, did not had index funds at all.

This lack of index funds is surprising, given that the literature (cfr. section 3) addresses the topic of index funds extensively. Bankers informed us that, from a marketing point of view, index funds are difficult to sell. According to them, their clients do not want to buy index funds, they want to buy funds that beat the benchmark index and not just copy it. Next to that, index funds are low cost funds and hence are not very interesting to sell. Financial institutions can make more profit by selling active funds, for which they can charge a higher fee. This could explain why banks are not making publicity for the few index funds they do provide. In a way one could say that financial institution fail to objectively inform clients, since they just keep quiet about index funds.

Due to the significant shortage in index funds we selected each index fund we could find that had an active counterpart. Nevertheless, we still could find only seven couples of funds. Therefore we decided to conduct our research in a different way by selecting a group of active funds to assess their performance. Evaluating the performance of solely active funds can in fact help to explain which type (active or index) of funds yield best. If the result would be that
active funds underperform the benchmark index it is evident that index funds yield better than active funds since they have returns almost identical to the benchmark index. In the opposite case, if we find that active funds systematically outperform the benchmark index, we can say that active funds yield better than index funds. We have chosen to limit our selection of active funds to region funds. To select funds and their respective benchmark we used the fund database of ‘de Tijd’, the leading financial journal in Belgium. In that database we systematically searched within each region for funds issued by financial institutions operating in Belgium. We have only selected capitalisation funds. Capitalisation funds are funds that do not pay dividends, as opposed to distribution funds.

Due to the financial crisis there was an other problem we had to overcome. Extensive fund outflows decreased the size of many funds significantly. Some funds even had become too small to generate a positive return for the financial institutions. The assets under management of certain funds declined to a level at which the expense ratio was insufficient to cover the costs made by the financial institution. For this reason, some financial institutions like AXA have chosen to merge different funds in order to operate at a sufficiently large scale. These mergers increased complexity, since these funds were benchmarked to different indexes. Therefore, we only use data before the merger.

After having selected the funds with their respective benchmarks we consulted Thomson Datastream to download the respective prices (net asset values\(^2\)). For reasons that we have mentioned in section 3, we aimed to go back in time as far as possible. For some funds (KBC equity fund jap.cap) we were able to get prices starting from 1991, for other funds (DEXIA equities L Asia permier clc.c cap) data were only available from 2004 on, since these were recently created funds. After obtaining the NAVs we calculated the performance of each fund. In order to calculate performance figures efficiently, we designed an IT application ourselves. Lastly, we used the Morningstar database to find the respective expense ratios of the selected funds.

\(^2\) Net asset value: (fund assets – fund liabilities)/ number of shares
4.2. Methods for evaluating funds

Once all the necessary data was gathered, we analysed each fund in depth. However, in practice there are only two important concepts that are used by fund managers: the tracking error (TE) and the information ratio (IR).

- Tracking error

There are many different formulas to calculate TE. For our research we calculated the ex-post TE since we work with historical data. The formula of the ex-post TE is the following:

\[
TE = \sqrt{\frac{\sum_{t=1}^{n} (P_{Ft} - P_{Bt})^2}{n - 1}}
\]

- \( P_{Ft} \) = Performance of the fund at time t
- \( P_{Bt} \) = Performance of the fund’s benchmark index at time t
- Performance = (Price at time t – Price at time t-1) / Price at time t-1
- \( n \) = the number of observations

The formula indicates that the tracking error of a fund can be interpreted as the standard deviation of the difference between the portfolio return and the return of its benchmark index. This difference between the portfolio return and the return of the index is called active return. It is the return of the fund relative to the benchmark. For example: if the return of the index is 3% and the return of the fund is 5% then the active return is 2%; if the return of the index is 2% and the return of the fund is -1% then active return is -3%. Active return does not exactly mean the same as excess return. Excess return is the return of an investment relative to the a market measure or the risk free interest rate. However, since a benchmark index of a fund is a market measure, active and excess return are - in the context of fund management - used as synonyms meaning: return relative to the benchmark index. Considering active return, TE could also be interpreted as the standard variance of the active return of a portfolio. Hence,
TE measures the volatility of the active return and is therefore a risk measure. TE actually measures the risk of the portfolio relatively to the benchmark index. A fund with a TE of zero percent bears no additional risk with respect to the benchmark index.

Since the concept of TE is based on the assumption of a normal distribution, a TE of 2% statistically means that there is 34.1% chance that the fund outperforms the index by 0% to 2%, and 34.1% chance to underperform the benchmark by 0% to -2%. In other words, there is 68.3% chance that the performance of the fund will be within these limits: $[P_{Br} - TE; P_{Br} + TE]$.

**Figure 3: Normal distribution**

The more the fund manager deviates from the benchmark index, the higher - in absolute value - the active return, and hence the higher the TE. For this reason, TE measures the degree of active management as it is impossible to generate active return (and increase TE) without deviating from the benchmark. When buying an active fund, one pays in fact to obtain a fund with a high TE. In effect, the more a fund deviates from the benchmark index, the more chance it has to outperform. Hence, TE indicates the potential of outperforming the index. However, as mentioned above, the TE can work in two directions, there is an equal chance that due to deviating from the benchmark the fund will underperform. It is therefore not
certain that a fund with a high TE will outperform. The TE merely indicates the chance that it will, since a fund with a TE close to zero has no chance of outperforming at all.

An index fund will - theoretically - have a TE of zero percent since this type of fund has the objective to copy the benchmark index exactly. However, in practice a TE of zero is unlikely to be obtained. There are several reasons for this. Firstly, fund managers who want to obtain a ‘European passport’ have to comply with the UCITS³ directives. Paragraph 22 of the UCITS III directive states that the sum of all shares in which a portfolio manager invests more than 5% of the fund’s assets, must not be higher than 40% of the fund’s assets. Together with that, it is also strictly forbidden to invest more than 10% of a fund’s assets in one share. Hence, this rule can restrict a fund manager to perfectly mimic an index. Secondly, when a fund manager trades stocks, transaction costs must be paid. These costs are incorporated in the net asset value of the fund. Thirdly, when an index is revisited there is some, although little, time before the index fund is adjusted for this. Hence, in this short period of time there is a tilt (deviation from the benchmark index). Due to these reasons, index funds are not capable to follow the index exactly and hence a small amount of active return is generated. This causes the TE to differ from zero percent. In spite of these constraints, the goal of index funds still remains trying to copy the index as good as possible in order to have a TE close to zero percent.

It is important to indicate that there is no ‘fixed line’ between active funds and index funds. It is more appropriate to talk about continuum where passive management flows into active management. On average a fund with a TE of 4% to 5% is qualified as an active fund, whereas a fund that has a TE of approximately 1% is qualified as an index fund.

In practice the TE is also used to limit the risk an active fund manager can take. KBC, for example, has a policy that states that an active fund manager may not generate a TE of more than 5% for various funds. If there would be no constraints, an active manager could take more risk than desired by the investors. By limiting the TE, investors know the maximum degree of risk that can be taken by the fund manager.

³ Undertakings for Collective Investment in Transferable Securities: European Union directive that aims to allow collective investment schemes to operate freely throughout the EU on the basis of a single authorization from one member state.
**Information ratio**

The formula of the IR is the following:

\[
IR = \frac{E(P_F - P_B)}{\sqrt{\text{var}(P_F - P_B)}}
\]

- \(P_F\): the return of the fund
- \(P_B\): the return of the benchmark
- \(P_F - P_B\): active return
- \(E(P_F - P_B)\): expected active return: \(\sum_{t=1}^{t=n} \frac{P_{Ft} - P_{Bt}}{n}\)
- \(\sqrt{\text{var}(P_F - P_B)}\): tracking error: standard deviation of the active return

We can interpret the formula as the fraction between the expected active return (which is statistically the same as the average of the active return) and the standard deviation of the active return. Unlike the TE, the IR is a performance measure. The IR divides the expected return relative to the benchmark index by the amount of risk the fund manager takes relative to the benchmark. Hence, IR is the risk-adjusted return relative to the benchmark. The higher the IR, the better the performance of the fund relative to the benchmark. There are two factors that can cause a high IR. Firstly, the higher the active return - ceteris paribus - the higher the IR. Secondly, the lower the risk and hence the lower the TE - ceteris paribus - the higher the IR. The concept of IR is based on the assumption that people are risk averse. This basic assumption in finance involves that additional risk has to be compensated with an additional amount of return, otherwise it is simply irrational to take on an additional amount of risk. Note that a fund which takes high risks and therefore generates a high active return, can still have a low IR if the active return does not compensate in a sufficient way the additional amount of risk. For example, which fund yields best: fund A that generates a return of 7% and has tracking error of 4%, or fund B that generates a return of 4% and tracking error of 2%? Assuming that the benchmark index return is -1.5%, fund A has an IR of 2,125% (= [7-(-1.5)]/[4])
whereas fund B has an IR of 2.75% \((-\frac{4-(-1.5)}{2})\). Hence, it is better to invest in fund B since it generates more return considering the degree of risk. A high IR means that a fund manager is more efficient than a fund manager whom manages a fund that has a low IR. A fund manager managing a fund with a higher IR in fact generates a higher active return for the same amount of risk, or generates the same active return by taking less risk compared to the manager who manages a fund with a lower IR. The IR is therefore a commonly used instrument to evaluate the performance of the portfolio manager.

Theoretically, index funds will have an IR of zero since the active return will be zero. However, active return and TE will, in practice, differ from zero and hence the IR will also differ from zero. We expect the active return to be negative. An index fund that follows the benchmark as close as possible still has to take into account costs. These costs will lower the return of the fund relative to the benchmark and will therefore generate a negative active return. Consequently, we expect the IR of an index fund to be negative as well. However, the use of calculating an IR for index funds can be contested. The IR of passive funds is mathematically inflated by the relatively low TE. Due to this effect the economic meaning of the IR is distorted.

The IR of active funds depends on how well the fund manager has managed the portfolio. A fund that outperforms the benchmark index will have a positive IR, a fund that underperforms the benchmark will have a negative IR. Since it is the objective of active funds to outperform the benchmark, a positive IR should be generated. The IR is therefore an adequate measure to assess whether the active fund beats the benchmark. As previously mentioned, assessing the performance of solely active funds can help solving the question which type of fund yields best. Active funds which have a positive IR yield better than index funds benchmarked to the same index. Hence, if we find that the IR of the active funds we have selected is positive then - based on the assumption concerning index funds - actively managed equity funds do outperform index funds.

Lastly we remark that, at first sight, the IR seems similar to the Sharpe ratio. However, the Sharpe ratio compares the return of an investment with the risk free return and not with the return of the benchmark. It is important to keep this difference in mind.

\footnote{Under the theoretical assumption that index funds generate the exact same return as the benchmark.}
4.3. Costs

Costs are a very important factor when evaluating fund performance. A small difference in expense ratio can cause a considerable difference in cumulative return. Hence, it is not surprising that the fund industry hides cost through a layer of complexity.

**Figure 4: Cost difference**

<table>
<thead>
<tr>
<th></th>
<th>Annual Return</th>
<th>Management Fee</th>
<th>Net Annual Return</th>
<th>Investment Year 0</th>
<th>Net Asset Value Year 30</th>
<th>Cumulative Net Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fund A</td>
<td>4%</td>
<td>1.25%</td>
<td>2.75%</td>
<td>5000</td>
<td>11283,00864</td>
<td>125.66%</td>
</tr>
<tr>
<td>Fund B</td>
<td>4%</td>
<td>0.80%</td>
<td>3.20%</td>
<td>5000</td>
<td>12863,55249</td>
<td>157.27%</td>
</tr>
</tbody>
</table>

![Graph showing annual returns for Fund A and Fund B over 30 years](image-url)
In general, there are two types of costs when investing in funds: transactions fees paid when buying or selling shares of a fund (loads) and yearly recurrent costs (expense ratio). Loads are in essence one-time commissions paid to financial intermediaries where the fund is bought or sold. This category of costs can be further subcategorised into ‘front-end loads’ and ‘back-end loads’. A front-end load is a fee paid when shares of the fund are purchased. This type of load reduces the invested amount. For example: if one invests 10000 euros in a fund with a front-end load of 5%, then 500 euros are paid to the financial intermediary and only 9500 euros are invested in the fund. In a Belgian context these costs are referred to as ‘instapkosten’. A back-end load is a fee paid when shares of the fund are sold. In a Belgian context, back-end loads are referred to as ‘uitstapkosten’. Since loads only have to be paid once, and hence are non-recurrent, they do not weigh as much on the return of the fund as the recurrent costs. Especially when considering a longer investment period, these cost can be considered negligible. Hence, we have chosen not to take them into account.

The yearly recurrent costs consist out of the transaction costs made by the fund manager and (management) expense ratio. Transactions costs are the costs incurred when the fund manager is trading shares. These costs are directly incorporated in the NAV of the fund since they are incorporated in the price of an order when buying or selling stocks.

The expense ratio is calculated as an percentage of the NAV of the fund. For example, if the expense ratio is 2% and the fund generates a return of 5% (the NAV increases with 5%), then the investor obtains a net return of 3%. The expense ratio generally consists out of four main components: management fee, administrative costs, custodian costs and other costs. The management fee is remuneration for the management of the portfolio and is the main component of the expense ratio. In a Belgian context the management fee is referred to as ‘beheersvergoeding’. Administrative costs comprise legal costs, accounting costs, customer service, postage and costs related to systems and procedures to process the business. Custodian costs are charged because the fund's assets are kept in custody. Other costs comprise expense such as audit fees director fees.

As opposed to loads, recurrent costs are not directly paid by the investor, but are incorporated in the NAV. Hence, these costs lower indirectly the return for the investor. It is often not clear to investors what total percentage of the yearly recurrent costs is.
Because the fund industry tries to conceal costs through complex mechanisms of different types of costs, legislators have taken action. At the beginning of March 2005, the UCITS III directive of the European Union was converted into Belgian law. The UCITS III directive has the goal to increase transparency for investors with regard to risk, costs, and returns. To increase the transparency and comparability of the costs, the directive compels fund managers to publish the ‘Total Expense Ratio’ (TER). In theory, the TER divides the total amount of the yearly recurrent costs by the total amount of assets under management. Hence, this concept shows a clear image of the costs related to a specific fund. However, in practice the TER does not account for the transaction costs made by the fund manager because these costs are difficult to quantify. In general, these transaction costs are estimated at 0.5% per year. Hence, in order to determine the effective total expense, 0.5% should be added to the TER.

In general, active funds bear higher costs than index funds. Firstly, active funds will charge higher manager fees. Beating the benchmark index requires more expertise and effort from a portfolio manager than merely copying the index, thus it is reasonable to charge a higher fee. Secondly, active funds make a lot of publicity and therefore have higher marketing costs. Since financial institutions can make more profit by selling active funds, due to the possibility of charging higher management fees, they make no publicity at all for index funds. Thirdly, transaction costs of active funds will be higher, since they trade significantly more than index funds (cfr. section 3). Lastly, index funds operate at a larger scale than active funds and are therefore able to spread the fixed costs over a larger asset base and hence lower the expense ratio.
5 Findings

In this section we provide an in-depth analysis of the funds we have selected. Since we did not consider the fund database of ‘de Tijd’ exhaustive, we have by no means the intention to generalize our findings to the total population of our research. However, this is no problem since we believe that deciding whether to invest in an actively managed fund or an index fund is an ad hoc decision. The objective of this section is to provide a better understanding of fund performance. Next to that, one will be able to indicate - in a specific situation - which type of fund has performed best.

5.1 Index funds vs. active funds

As we initially expected, the TE of the index funds is lower than the TE of their active managed counterparts in all cases that we have investigated. Since the index funds issued by Dexia are not purely passively managed, their TE is higher than the TE generated by the index funds of KBC, which are purely passively managed funds.

- KBC world

Based on the TE of KBC equity fund world, there is 68.3% chance that this fund will generate a return between [−2.32%; +2.32%] relative to the benchmark. When taking into account the management fee, the return will be between [−3.57%; 1.07%]. In other words, this fund has a priori 28.77% chance of outperforming the benchmark after costs (cfr. Figure 5). However, the positive IR of 2.64% indicates that from 1991 till September 2008 this fund has outperformed the benchmark index.

KBC index fund world, on the other hand, has a 68.3% chance to generate a performance between [−0.67%; +0.67%]. When considering the management fee, this interval is reduced to: [−1.37; −0.03%]. Hence, there is only a small chance to outperform the benchmark index. This is in fact no problem at all since this is not the objective of an index fund. An index fund is successful when the performance does not deviate significantly from the benchmark,
regardless of whether the performance is higher or lower than the benchmark.

Figure 5: Chance percentage

In this particular case, investing in the active fund would have been the right decision based on the IR. When considering investing in a certain fund, it is irrational to base the decision solely on the past performance since this is a not a good predictor for future performance (cfr. Berk 2005). Hence, the IR does not inform us about the future performance whereas the TE can indicate the chance to outperform in the future. The investor himself should make the decision whether the 28,77% chance to outperform is sufficient to believe in the active fund or not.

\[ \text{TE} = 2,32\% = 1\sigma \text{; Total Expense Ratio: 1,29\%} \]

\[ 2,32\% \rightarrow 1\sigma \]
\[ 1,29\% \rightarrow 0,56 \sigma \] The chance to be on the right of 0,56\(\sigma\) is 28,77\% 

The same method is used for calculating the chance percentages of the other funds.
- **KBC Europe**

KBC equity fund Europe has 68.3% chance to generate a return between [-4.85%; +4.85%]. Considering the total expense ratio, this fund has 37.45% chance to outperform the benchmark. Nevertheless, the IR of this fund is negative indicating that, in the past, it was not able to outperform the benchmark index. In this case, active fund management did not add value and hence it was better to invest in the index fund.

**Figure 6: Data active and passive funds**

<table>
<thead>
<tr>
<th>Fund</th>
<th>Active/Passive</th>
<th>Benchmark</th>
<th>TE</th>
<th>IR</th>
<th>Management Fee</th>
<th>TER</th>
</tr>
</thead>
<tbody>
<tr>
<td>KBC EQUITY FUND EU.CAP</td>
<td>Actief</td>
<td>MSCI EUROPE - PRICE INDEX</td>
<td>4.85%</td>
<td>-1.48%</td>
<td>1.25%</td>
<td>1.53%</td>
</tr>
<tr>
<td>KBC INDEX FD. EUROPE CAP</td>
<td>Passief</td>
<td>MSCI EUROPE - PRICE INDEX</td>
<td>0.35%</td>
<td>0.03%</td>
<td>0.70%</td>
<td>1.05%</td>
</tr>
<tr>
<td>KBC EQUITY FUND JAPAN CAP.</td>
<td>Actief</td>
<td>NIKKEI 300 - PRICE INDEX</td>
<td>1.95%</td>
<td>-0.62%</td>
<td>1.25%</td>
<td>1.48%</td>
</tr>
<tr>
<td>KBC INDEX FUND JAPAN CAP.</td>
<td>Passief</td>
<td>NIKKEI 300 - PRICE INDEX</td>
<td>0.50%</td>
<td>0.53%</td>
<td>0.70%</td>
<td>0.88%</td>
</tr>
<tr>
<td>KBC EQ.FD.WORLD CAP</td>
<td>Actief</td>
<td>MSCI WORLD - PRICE INDEX</td>
<td>2.32%</td>
<td>2.64%</td>
<td>1.25%</td>
<td>1.29%</td>
</tr>
<tr>
<td>KBC INDEX FUND WORLD CAP</td>
<td>Passief</td>
<td>MSCI WORLD - PRICE INDEX</td>
<td>0.67%</td>
<td>0.13%</td>
<td>0.70%</td>
<td>1.02%</td>
</tr>
<tr>
<td>DEXIA INDEX EUROPE CLC. C CAP</td>
<td>Passief</td>
<td>MSCI EUROPE - PRICE INDEX</td>
<td>2.30%</td>
<td>-1.64%</td>
<td>0.35%</td>
<td>0.70%</td>
</tr>
<tr>
<td>DEXIA EQUITIES L EUROPE CLC.C CAP.</td>
<td>Actief</td>
<td>MSCI EUROPE - PRICE INDEX</td>
<td>2.66%</td>
<td>1.45%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DEXIA INDEX JAPAN CLC.C CAP.</td>
<td>Passief</td>
<td>MSCI JAPAN - PRICE INDEX</td>
<td>2.81%</td>
<td>3.11%</td>
<td>0.35%</td>
<td>0.78%</td>
</tr>
<tr>
<td>DEXIA EQUITIES L JAPAN CLC.C CAP.</td>
<td>Actief</td>
<td>MSCI JAPAN - PRICE INDEX</td>
<td>6.87%</td>
<td>-2.53%</td>
<td>1.50%</td>
<td>1.90%</td>
</tr>
<tr>
<td>DEXIA INDEX US CLC.C CAP.</td>
<td>Passief</td>
<td>MSCI USA - PRICE INDEX</td>
<td>1.39%</td>
<td>-1.79%</td>
<td>0.35%</td>
<td>0.83%</td>
</tr>
<tr>
<td>DEXIA EQUITIES L USA CLC.C CAP.</td>
<td>Actief</td>
<td>MSCI USA - PRICE INDEX</td>
<td>1.62%</td>
<td>-0.06%</td>
<td>1.50%</td>
<td>1.84%</td>
</tr>
<tr>
<td>DEXIA INDEX WORLD CLC.C CAP.</td>
<td>Passief</td>
<td>MSCI WORLD - PRICE INDEX</td>
<td>4.53%</td>
<td>3.75%</td>
<td>0.35%</td>
<td>0.70%</td>
</tr>
<tr>
<td>DEXIA EQUITIES L WORLD CLC.C CAP.</td>
<td>Actief</td>
<td>MSCI WORLD - PRICE INDEX</td>
<td>8.62%</td>
<td>1.29%</td>
<td>1.50%</td>
<td>1.81%</td>
</tr>
</tbody>
</table>
## 5.2. Active region funds

When discussing active versus passive management based on the performance of active funds, we have to introduce certain hypothesis concerning index funds.

**H1:** TE of index funds equal to zero  
**H2:** IR of index funds equal to zero

Based on these assumptions, active funds with a positive IR outperform index funds. In our sample of active region funds 20 out of 32 active funds have a positive IR and hence outperformed the benchmark index.

### Figure 7: Data active regional funds

<table>
<thead>
<tr>
<th>Region</th>
<th>Fund</th>
<th>TE</th>
<th>IR</th>
<th>Management Fee</th>
<th>TER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia</td>
<td>PRIVILEGE PRTF.AVIVA FUND.ASIA PAC.EQ.FD.P1</td>
<td>2.97%</td>
<td>2.41%</td>
<td>1.50%</td>
<td>2.34%</td>
</tr>
<tr>
<td></td>
<td>DEXIA EQUITIES L ASIA PREMIER CLC.C CAP.</td>
<td>2.93%</td>
<td>2.38%</td>
<td>1.60%</td>
<td>1.86%</td>
</tr>
<tr>
<td></td>
<td>FORTIS L FUND EQ.ASIA THES</td>
<td>2.47%</td>
<td>2.83%</td>
<td>1.50%</td>
<td>1.59%</td>
</tr>
<tr>
<td></td>
<td>KBC EQUITY FUND NEW AI. CAP</td>
<td>2.34%</td>
<td>1.90%</td>
<td>1.40%</td>
<td>1.58%</td>
</tr>
<tr>
<td>Belgium</td>
<td>EUPAR.MLT.INV.FD.BLG.M. INDEX B LOAD</td>
<td>3.64%</td>
<td>-0.77%</td>
<td>1.15%</td>
<td>1.34%</td>
</tr>
<tr>
<td></td>
<td>ING (B) INVEST BLGM.CAP</td>
<td>0.75%</td>
<td>-0.70%</td>
<td>1.20%</td>
<td>1.37%</td>
</tr>
<tr>
<td>Germany</td>
<td>DEXIA EQUITIES L GERMANY CLC.C CAP.</td>
<td>2.28%</td>
<td>-0.53%</td>
<td>1.50%</td>
<td>1.80%</td>
</tr>
<tr>
<td></td>
<td>ING (B) INVEST GERMANY CAP</td>
<td>2.61%</td>
<td>4.20%</td>
<td>1.20%</td>
<td>1.36%</td>
</tr>
<tr>
<td></td>
<td>EUPAR.MLT.INV.FD.GERMANY INDEX B LOAD</td>
<td>2.55%</td>
<td>1.14%</td>
<td>1.15%</td>
<td>1.30%</td>
</tr>
<tr>
<td>Europe</td>
<td>AVIVA INVRS.EUR.SCLY. RESP.EQ.FUND B</td>
<td>2.51%</td>
<td>-0.30%</td>
<td>1.60%</td>
<td>2.27%</td>
</tr>
<tr>
<td></td>
<td>AWF EURO EQUITIES A DS.</td>
<td>0.88%</td>
<td>-0.39%</td>
<td>1.50%</td>
<td>1.62%</td>
</tr>
<tr>
<td></td>
<td>FORTIS L FUND EQ.ER.THES</td>
<td>1.77%</td>
<td>-2.29%</td>
<td>1.50%</td>
<td>1.64%</td>
</tr>
<tr>
<td></td>
<td>ING LX.INVEST EMU EQ.P CAP.</td>
<td>0.85%</td>
<td>2.52%</td>
<td>1.30%</td>
<td>1.52%</td>
</tr>
<tr>
<td></td>
<td>KBC EQ.EUROZONE CAP</td>
<td>0.30%</td>
<td>-0.09%</td>
<td>1.25%</td>
<td>1.52%</td>
</tr>
<tr>
<td></td>
<td>DEXIA EQUITIES L EUROPE CLC.C CAP.</td>
<td>2.66%</td>
<td>1.45%</td>
<td>1.50%</td>
<td>1.58%</td>
</tr>
</tbody>
</table>
5.3. Closet indexers

Closet indexers are, as we mentioned in section 3.2, funds with a portfolio similar to the benchmark index while still claiming to be actively managed. In essence, closet indexers are passively managed funds sold as active funds in order to be able to charge a higher fee. Hence, closet indexers can be identified as funds with a low TE and a high management fee.

The KBC equity Nasdaq fund, for example, has 68,3% chance to generate a return relative to the benchmark between [-0,86% ; 0,86%]. Due to the high management fee this fund only has 2,94% chance of outperforming the benchmark. These results indicate that, notwithstanding this fund is sold as an actively managed fund, it actually is an index fund. Figure 8 (cfr. infra)
clearly indicates that starting from September 2001 KBC equity fund Nasdaq mimics the benchmark almost exactly and hence is passively managed.

Investing in closet indexers is not optimal since the same results can be generated by index funds, without being charged a high management fee.

**Figure 8: Graph KBC equity Nasdaq**

**Figure 9: Data closet indexers**

<table>
<thead>
<tr>
<th>Fund</th>
<th>TE</th>
<th>IR</th>
<th>Management Fee</th>
<th>TER</th>
</tr>
</thead>
<tbody>
<tr>
<td>KBC EQ.FD.NASDAQ CAP</td>
<td>0.86%</td>
<td>0.96%</td>
<td>1.35%</td>
<td>1.63%</td>
</tr>
<tr>
<td>KBC EQUITY FUND Eastern Europe. CAP</td>
<td>1.13%</td>
<td>0.07%</td>
<td>1.40%</td>
<td>1.71%</td>
</tr>
<tr>
<td>ING (B) INVEST BLGM.CAP</td>
<td>0.75%</td>
<td>-0.70%</td>
<td>1.20%</td>
<td>1.37%</td>
</tr>
<tr>
<td>AWF EURO EQUITIES A DS.</td>
<td>0.88%</td>
<td>-0.39%</td>
<td>1.50%</td>
<td>1.62%</td>
</tr>
<tr>
<td>ING LX.INVEST EMU EQ.P CAP.</td>
<td>0.85%</td>
<td>2.52%</td>
<td>1.30%</td>
<td>1.52%</td>
</tr>
</tbody>
</table>
ETFs have, in general, a lower TE than index funds. Hence ETFs are more successful in following the benchmark index. This is due to three main reasons. Firstly, the average management fee is much lower than the management fee charged for the index funds. The management fee charged for the ETFs in figure 10 was in each of the cases 0.5%. Secondly, because index funds are open-end mutual funds, index fund managers are also confronted with the need to provide liquidity to buyers and sellers of their funds’ shares. This requires them to hold a percentage of their assets in cash. ETF managers do not have to do this. Purchases and sales of their funds' shares only take place in the secondary market (ETFs are closed-end funds). Because ETFs are traded on a stock exchange, market animators see to it that the prices of ETF shares do not deviate from the net asset value. The average deviation between the daily closing price and the daily NAV of ETFs is generally less than 2%.

When considering the Lyxor ETF Bel 20, for example, there is a 68.3% chance to generate a return after costs between [-0.47% ; +0.47%]. These results indicate that this is a successful tracker, since the objective is - like index funds - to mimic the benchmark index.

### Figure 10: Data ETFs / Trackers

<table>
<thead>
<tr>
<th>Fund</th>
<th>TE</th>
<th>IR</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWERSHARES QQQ (IRS) TST.SR.1</td>
<td>0.64%</td>
<td>-2.53%</td>
</tr>
<tr>
<td>S&amp;P.DEPY.RECPT.TST.UNIT SR.1</td>
<td>0.30%</td>
<td>0.00%</td>
</tr>
<tr>
<td>LYXOR ETF BEL 20</td>
<td>0.47%</td>
<td>2.30%</td>
</tr>
</tbody>
</table>
6 Conclusion

The in depth analysis in the previous section confirms our statement that the answer to the question - whether active funds outperform index funds or not - varies from case to case. Nevertheless, we have a critical remark concerning actively managed funds. As we mentioned, the studies published until now have not been able to prove that actively managed funds generally outperform index funds. However, actively managed funds bear more risks than index funds. If there is no study that can prove active funds consistently outperform index funds, then why should one be willing to take extra risks without any - proven - chance of outperforming the market?

Another remark we want to make concerns the fact that index funds are not provided by the most prominent financial institutions in Belgium, except for KBC. Bankers informed us that this is due to the fact that investors are not interested in index funds. Nevertheless we tend to believe investors are simply not informed concerning index funds. The financial institutions make no publicity for these funds at all, and according to us, this is due to the fact that the profit margin is too low on index funds. Therefore financial institutions fail to objectively inform clients.

The fund industry is a booming industry, in which there is an enormous amount of money involved. If index fund advocators are proven right, this would have an enormous impact. Not only would many people lose their job, the profit of bank institutions would also decrease significantly. Everyone wants to be proven right and therefore the authors only consider data that affirm their conclusions. For this reason, we believe that the ongoing discussion in the literature will not fade out.

Although it is not possible to provide an unilateral answer to our research question, we strongly advice investors to look at the guidelines we have explained in this paper. However, one should always be aware of the fact that future performance will never be fully predictable.
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