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by

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Born on 14 March 1965 in The Hague (the Netherlands)

## INVESTMENT FUND GOVERNANCE

AN EMPIRICAL INVESTIGATION OF  
LUXEMBOURG UCITS

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*For Florian, Suzette and Bouke*



# Acknowledgements

It was in the autumn 2008, around the time of the collapse of Lehman Brothers and thus in the midst of the financial crisis, that I started thinking again about pursuing a PhD in Finance. Again, because this was a thought that had been in the back of my mind since I graduated from university in 1989. Although it had been a persistent ambition, it had never become concrete. Two things were different this time. The first was that I had the feeling it was *now* or *never*. This was the result of the mix of the right circumstances at work and in my private life, combined with a feeling of unrest, probably stemming from a mild form of midlife crisis. The second was that I knew what I wanted to research and write about, namely *investment fund governance*.

Based on reading earlier research on the topic, I soon discovered that there were several studies on the governance of U.S. funds, but that there was hardly anything on European funds. That seemed to be the perfect gap to fill. The next steps followed quickly. In May 2009, I wrote the first draft for the PhD proposal. In the summer of that year, I convinced my wife, Odette, that my plan was sound and that it would be possible to combine work, family and this new *hobby*. In that same period, my employer, ING Investment Management, also proved to be supportive and allowed me to combine pursuing this research project with my regular work. In October 2009, I teamed up with Professor Dr. Christian Wolff as my supervisor.

The two years that followed can be characterised by long working hours and huge satisfaction. I enjoyed the relatively lonely activity of gathering the required data and doing the research, often until late at night. At the same time, the study brought me into contact with many people who I had not met before, while strengthening ties with others. Almost everywhere I was greeted with open arms and supported in my pursuit of data, information and knowledge. This was a fantastic experience.

In the period that I worked on my dissertation, the financial crisis was far from over and markets continued to be volatile. While financial institutions restructured their debt and the U.S. subprime mortgage crisis developed into a government debt crisis, I built up an enormous amount of debt as well. In my case, it is not a debt that is measured in monetary terms, but one that consists of favours to be repaid one day. Those are so many and to so many different people, that I cannot mention all of them here. My gratitude is great, nonetheless, and I will not forget. What follows is a list of my biggest creditors:

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# Chapter 1

## Introduction and background

*“Welke Effecten, ten Comptoire van den Administrateur bewaard zullen worden, in eene sufficante yzere Kist met drie different werkende Slooten voorzien, waar van onder ieder der Heeren Commissarissen en gemelde Notaris, eene Sleutel zal blyven berusten; in welke Kist mede jaarlyks, de respectivelyk afgelost en geroyeert wordende Aandelen, en ingetrokken Coupons, zullen worden gelegd.”<sup>1</sup>*

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<sup>1</sup> Translation from Dutch: “The securities will be kept at the office of the administrator in a sufficient iron chest with three different locks, of which a key will be held by each of the directors and the notary public mentioned. In the same chest, also respectively the repaid and redeemed shares (in the fund) as well as withdrawn coupons will be placed.”

Text is a section from article X of the offering document of the first investment fund in history, launched in Amsterdam in 1774 under the name “Negotiatie onder de Zinspreuk *Eendragt maakt Magt*” (Fund under the Motto *Unity is Strength*). The whole of article X is shown as figure 1.2.

## 1.1 Introduction

Millions of investors worldwide have entrusted assets to investment funds<sup>2</sup> as part of their financial planning, with the goal of securing a healthy financial future for themselves and their families. Assets under management of investment funds worldwide as of the end of 2009 were estimated at EUR 15.9 trillion. Investment funds provide investment solutions to individuals and play an important economic role intermediating savings and investments. This role makes the investment funds sector highly relevant, economically and socially.

One of the benefits of, and reasons for, investing in investment funds is professional portfolio management. Portfolio managers managing investment funds actively aim to outperform the market (market indices), passive managers (index funds) and each other (their peer group). Investors investing in actively managed funds that are successful in achieving those aims, will see their wealth grow faster than those investing in passive or unsuccessful funds. Thus, they can save less or reach their financial goals sooner.

Although some fund managers have been very successful in achieving superior performance for their investors, even to the extent that they have become *stars* in their own right, the performance of investment funds as a group has been disappointing. Academic research shows that the average investment fund underperforms the market and passive funds. Swensen (2005, p. 213) formulates the critics' view as follows:

"Equity mutual-fund returns in recent decades provide a textbook example of the negative-sum game of active management. Recall that active managers as a group must underperform the market by a margin equal to the cost of trading (market impact and commissions) and the burden of fees. The theoretical possibility exists that mutual funds as a group might exhibit superior performance, with other market players producing shortfalls sufficient to counterbalance the superior mutual-fund results. Unfortunately for the mutual-fund investor, U.S. equity markets contain insufficient mullets for fund managers to exploit for active management gains. ... Because well-informed institutions define the market, would-be-market-beating investors as a group face the unwelcome prospects of losing to the market by the amount that it costs to play the active management game".

Conflicts of interest and high fees are often cited as reasons for the disappointing results of the average investment fund. The primary stakeholders of an investment fund are the fund investors and the fund management company. Their interests are not necessarily aligned and can even conflict. This conflict stems from a typical agency problem, where, in this case, managers (agents) manage assets on behalf of investors (principals). The investor invests in a fund aiming for a maximum risk-adjusted return,

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<sup>2</sup> An investment fund pools assets of investors in order to invest these collectively for their benefit. The term *investment fund* or *fund* will be used throughout this dissertation. However, where U.S. studies are quoted, these generally use the term *mutual fund*. Studies of the OECD and IOSCO, also quoted in this dissertation, use the term Collective Investment Scheme, in short CIS. For the purpose of this dissertation, these terms can be seen as equivalent.

net of costs. The fund management company receives a management fee, which is a percentage of the assets under management. Higher fees are in the interest of the fund management company, but are at the expense of the investor's return. The inherent conflict of interest has led to a group of critical followers of the fund management industry, both among practitioners and academics. The position of the critics with regard to the conflict of interest between investors and the fund management company is articulated well by Ambachtsheer (2005, p. 31):

"In my judgment, the premier agency issue in the financial services industry continues to be the inherent conflict that results from for-profit organizations providing management services directly to millions of mutual fund investors. The combined forces of acute informational asymmetry and pronounced principal-agent problems logically lead to many clients paying too much for too little. These forces, and their adverse effects on clients, continue to be a major public policy issue today, despite being identified by Jack Bogle<sup>3</sup> as early as 1950. More than 50 years later, despite token efforts by securities regulators, this issue has yet to be addressed in the fundamental manner it deserves."

When an investor is not satisfied with the operations or results of an open-end fund, he can always sell his units in the fund at the net asset value. This possibility of investors *voting with their feet* is a disciplining force that helps to ensure that the fund management company acts in their best interest. Furthermore, regulations are designed to ensure that fund management companies act in the investor's best interest. Given the economic and social relevance of the investment fund industry and the inherent conflicts of interest present, it is not surprising that investment funds are strictly regulated, with investor protection as the main area of focus.

In the mitigation of the conflicts of interest between fund investors and the fund management company, funds' boards of directors have a role to play. In some jurisdictions, such as the U.S., by law, a certain minimum proportion of the directors must be independent from the fund management company. These independent directors are positioned as the guardians of the investor's interest. In other jurisdictions, such as Luxembourg, there is no requirement to have independent directors.

This dissertation is an economic study into investment fund governance and the added value of board members who are independent from the fund management company. Central to this dissertation is the position of the fund investors and the question of whether or not they benefit from independent governance. Two aspects of investment funds will receive the most attention, specifically costs and investment performance. The empirical part of this study uses a sample of funds domiciled in Luxembourg to analyse the relationship of governance characteristics with costs and investment performance.

The central research question of this dissertation is formulated in section 1.2. In that same section, the contribution of this dissertation to the literature on Finance is also described. Sections 1.3 to 1.6 are meant to provide relevant background to the

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<sup>3</sup> John C. Bogle is the founder and retired CEO of The Vanguard Group, one of the largest U.S. fund management companies. The ownership structure of Vanguard is different from most fund management companies in that it is owned by the funds it manages. In 1975, Vanguard launched the first index fund, the Vanguard 500 Index Fund.

central research question. Section 1.3 describes the development of the investment fund, by highlighting some of the most important product innovations in its history, as well as governance aspects of these funds. In section 1.4, the benefits of investment funds will be listed, several of which are similar for the modern, open-ended investment fund, distributed on a cross-border basis, and its *ancestors* from earlier centuries. In that same section, the economic relevance of the investment fund sector will be addressed, along with statistics on the development of the assets under management in the last decades. In section 1.5, fund performance and fund flows are the main areas of focus, while section 1.6 explores conflicts of interest in further detail. The goal of these two sections is to provide insight into how boards of directors can add value for investors. The structure of the rest of the dissertation is provided in section 1.7.

## 1.2 Monitoring forces and the central research question

There are numerous potential conflicts of interest present in the investment fund industry between the investors and the other stakeholders, most notably the fund management company. Without any or sufficient monitoring, these conflicts of interest could lead to suboptimal investment performance, either as a result of excessive management fees and other costs, or as a result of behaviour by fund management companies that is suboptimal for investors. This is depicted in the centre of figure 1.1. As shown in this figure, there are three types of monitoring forces that are active in helping to align the interests of investors and the fund management company.

The first monitoring force is that of market forces. By the possibility of withdrawing or adding assets to a fund, depending on whether investors like or dislike the operations and results of the fund, they force the fund management company to act in their best interest. Investors may buy or sell the fund at their own initiative or with help from their advisors. In other words, the recommendations of advisors and distributors also form part of the market forces exercising oversight over the investment fund industry. However, the effectiveness of this monitoring force might be limited in reality, due to conflicts of interests between the investor and his advisor. Monitoring as exercised by, for example, consumer organisations and the press, can also be seen as part of the market forces. High market forces help to align the interests of investors and the fund management company. In that case, good performance – which is the primary interest of investors – is also what the fund management company strives for as an effective method to increase fund size and revenues.

The second monitoring force is that of regulators, operating in the legal and regulatory framework of the domicile in which the fund is established. IOSCO (2000, p. 10–11) states that:

“The regulatory mechanisms which are used to address conflicts of interests share a common regulatory objective, which is to ensure investor protection by eliminating or minimising the adverse impact of any possible conflicts of interest of the CIS operator and its affiliates on the CIS and its investors. ... The range of regulatory mechanisms that are used by member jurisdictions to address conflicts of interests include:

- general duty imposed on the CIS operator to act in the best interests of CIS investors;
- review/oversight of a CIS operators' activities by an independent third party;
- direct prohibitions of transactions which are likely to give rise to conflicts of interests;
- review and/or approval of certain transactions by the regulator or an independent third party where they raise conflicts of interests;
- disclosure of information relating to conflicts of interests to investors and/or regulators;
- detailed standards and procedures that must be followed by a CIS operator;
- restrictions relating to certain conduct;
- use of Codes of conduct that deal with conflicts of interest situations; and
- regulator's power to monitor and impose sanctions in appropriate cases."

The third monitoring force is that of the fund's own governance framework, which includes, for example, the fund management company's risk management and compliance function, the fund's depositary and auditor, as well as the fund's board of directors. Meschke (2007, p. 6–7) sees a role for fund boards only when market forces fail:

"In a competitive market with reasonably informed fund investors, market discipline imposed by their purchase and redemption decisions will sufficiently mitigate conflicts of interest between advisors and investors. ... In the presence of informational and institutional frictions, board oversight of mutual funds may potentially serve an important economic purpose."

Although its influence might be indirect, the board can have an influence on the performance of a fund, for example, by not approving excessive fees or by urging the fund management company to take action in the case of continued underperformance.

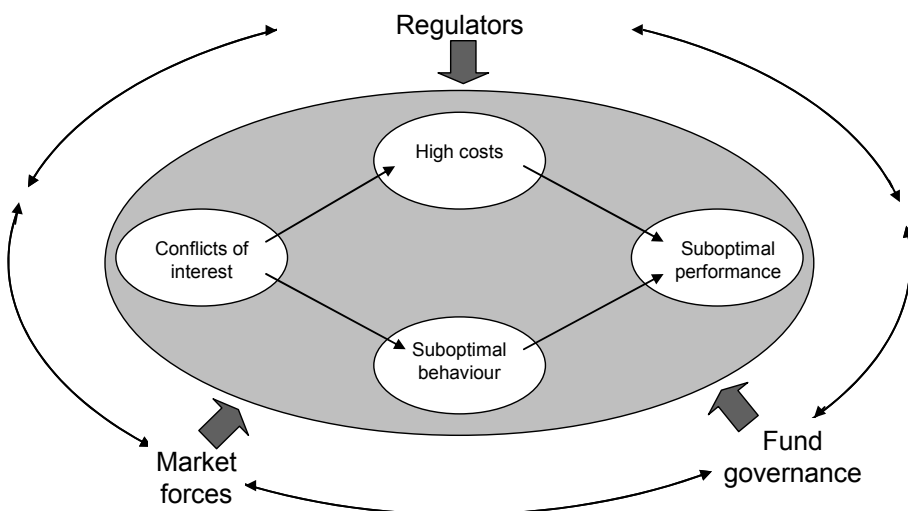


Figure 1.1: Investment funds' monitoring forces

The three different monitoring forces identified can influence and enforce each other, which is graphically depicted in figure 1.1 by the arrows between these monitoring forces. For example, the fifth regulatory mechanism of IOSCO mentioned above, disclosure of information, is there to facilitate market forces being able to do their monitoring work. Examples are requirements to clearly disclose costs and risks in a fund's prospectus, which investors can then interpret and respond to. The second mechanism, independent oversight, is part of the regulatory forces and imposes requirements on how funds may organise their governance. In some jurisdictions, such as the U.S., the requirement to have independent directors on the boards is such an example. In other jurisdictions, such as Luxembourg, there is no requirement for the fund directors to be legally independent. Nevertheless, many funds in Luxembourg have voluntarily appointed independent board members.

Market forces can also influence fund governance. If investors see independent governance as superior and direct their investments to funds with independent boards, it would force other fund management companies to organise their funds that way as well. Furthermore, if investors value independent boards, one would expect that fund management companies with funds with independent boards to use that characteristic as a key sales argument.

Whether or not boards with independent board members are more effective for investors in their monitoring and decision-making than boards with dependent board members only, and thus, whether independent board members add value for investors, is an empirical question. Which brings us to the central research question of this dissertation:

**Are (more) independent boards more effective for investors, leading to lower costs and/or better investment performance?**

The central research question is relevant from at least two perspectives:

- **Fund selection.** Investment funds provide certain services to investors, in particular, professional portfolio management and risk reduction by means of diversification. Small differences in annual performance can make a significant difference in the amount of capital that is available at the end of the investment horizon. If more independent governance leads to or helps achieve better performance, as a result of lower costs or otherwise, then that is of high social-economic relevance. In that case, investors should select investment funds by taking into account fund governance characteristics.
- **Regulatory implications.** In Luxembourg, there is no regulation imposing funds to have independent board members. Funds in the U.S. are required to have independent board members. These independent directors have been assigned certain responsibilities, such as the annual approval of the fund's investment advisory contract, including the advisory fee. Following scandals in 2003, the U.S. Securities and Exchange Commission (SEC) aimed to impose additional regulations, increasing the required minimum of independent directors from 40% to 75% and introducing a mandatory independent chairman. However, these new regulations were vacated in court on the basis that the SEC had not provided sufficient evidence that the new rules could be expected to be effective. When funds with independent boards



would achieve better results for investors, but market forces are somehow unable to enforce such governance best practices across the industry, there would be a role for lawmakers and regulators to enforce (more) independent governance.

This dissertation contributes to the literature in Finance in several ways. By using a sample of Luxembourg-domiciled funds for the empirical part of the study, the dissertation sheds light on a fund domicile that is of high economic importance, but has received little academic attention to date. European-domiciled funds in general, and Luxembourg funds in specific, are hugely underrepresented in empirical studies in the field of Finance when compared to funds domiciled in the U.S. Whereas the ratio of assets under management of the U.S. and European funds is approximately 5:3, the relative number of empirical studies analysing European fund data is much lower. Indicative is that out of the 50 academic, empirical studies referred to in this dissertation, only three use European data, which implies a U.S. to European ratio of 47:3. Presumably, this is at least partly a consequence of academic quality data being readily available for U.S. funds, but not for European funds. Indeed, much effort had to be put into gathering data for this study of Luxembourg-domiciled funds and ensuring that the quality of the data was good.

As far as could be determined, this study is the first empirical study into the effectiveness of boards, analysing a sample of European-domiciled open-end funds. In Europe, a different legal and regulatory framework is in place and different governance practices apply than for U.S.-domiciled funds, which were analysed in earlier empirical fund governance studies<sup>4</sup>. Compared to other European fund domiciles, Luxembourg is an ideal testing ground for such a study, because the market has sufficient size to form a meaningful sample of fund management companies and funds operating in a single legal and regulatory environment. As part of the study, the development of fund governance in Luxembourg was analysed as well, in particular, whether boards of Luxembourg UCITS have become more independent in the past decade.

By using Luxembourg fund data for the empirical part of the dissertation, this study provides further evidence for the discussion about the effectiveness of independent versus dependent boards. The most notable difference between fund governance in the U.S. and Luxembourg is that in the U.S., having independent board members is mandatory, whereas in Luxembourg, that is not the case. In Luxembourg, many fund boards do have independent members, but on a voluntary basis. In studies of U.S. fund governance, the level of independence in funds is always above the regulatory minimum. In the sample of Luxembourg funds analysed for this dissertation, there are funds without any independence and funds with independent board members on their boards. In fact, of the 45 top cross-border fund management companies at the end of 2009, approximately half had at least one non-dependent director on the board of their flagship umbrella fund<sup>5</sup>, whereas the other half had dependent board members only. This different and, perhaps stronger, distinction between the different governance structures of funds in the sample may lead to new insights.

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<sup>4</sup> See Chapter 3.

<sup>5</sup> An umbrella fund, in this dissertation also referred to simply as an umbrella, is a single legal entity consisting of more than one compartment, each with a different investment policy. These compartments are referred to as sub-funds or funds.

In addition to a regression-type methodology, also applied by earlier studies, a survey was conducted among board members of the funds in the sample regarding their role in general and their influence on costs and performance. The approach with both the regression and survey methodologies is a powerful combination to achieve clearer and stronger results.

### 1.3 Historic development of investment funds

This section describes some of the most important milestones in the development of the investment fund as a *financial product*, from the first investment fund that was launched in the eighteenth century in the Dutch Republic, to the modern, cross-border fund held by investors in multiple countries.

#### 1774: First investment fund in history

The history of the investment fund dates back to the second half of the eighteenth century. The development and launch of the first investment fund followed from the financial crisis that had started in England and then hit the Dutch financial market in 1772 and 1773. In this context, the Amsterdam broker, Abraham van Ketwich, launched a fund in 1774 in the Dutch Republic under the name “Negotiatie onder de Zinspreuk *Eendragt maakt Magt*” (*Fund* under the Motto “Unity is Strength”<sup>6</sup>). Risk reduction through diversification for smaller investors was one of the fund’s main objectives. Interestingly, the diversification rules were laid down in the offering document by specifying ten different categories of bonds across which the investments had to be spread. Those categories included bonds from Austria, Denmark, German kingdoms, Spain, Sweden, Russia and plantations in Latin America and the West Indies (Berghuis, 1967, p. 46–56). Because the fund did not invest in equity or domestic bonds, it can be characterised as an international bond fund *avant la lettre*.

The fund had a closed-ended structure, but the shares were traded on the Amsterdam stock exchange to provide liquidity. The fund was set up for a period of 25 years, after which the portfolio would be liquidated and the proceeds would be distributed to the participants, unless the participants were to decide to continue the fund. Different from modern investment funds, one of the product characteristics of “Eendragt maakt Magt” was a complicated lottery element, which at the time was common for securities. Each year, participations were drawn that were repaid at par plus a premium of 10% (Berghuis, 1967, p. 46–56).

What may well be the first *advertisement* in history for an investment fund is shown as figure 1.2<sup>7</sup>. In the section “Bekentmaakingen” (Announcements) of the Gron-

<sup>6</sup> “Eendragt maakt magt” was also the motto of the Dutch Republic (1588-1795); in its coat of arms, usually shown in its Latin form “Concordia res parvae crescent”. That was also the name of the second fund launched by Abraham van Ketwich in 1779. Literally, “Concordia res parvae crescent” means *Unity makes small things grow*.

<sup>7</sup> This was the first reference to the fund that was found in any of the Dutch newspapers that are available via the website of the National library of the Netherlands (“Koninklijke Bibliotheek”). It cannot be ruled out that there were similar announcements for the same fund slightly earlier, in Dutch newspapers not available through this source.

inger Courant of 6 September 1774, it is announced that investors can subscribe for the fund “Eendragt maakt Magt” during that month. The text mentions that a *plea regarding its absolute certainty and interesting advantages* can be obtained from Abraham van Ketwich in Amsterdam and from representatives of the fund in several other Dutch cities.



**Figure 1.2:** Newspaper announcement with regard to “Eendragt maakt Magt”

Translation from Dutch: “In the FUND under the Motto ‘UNITY IS STRENGTH’, established in Amsterdam, can in this running month be participated for 527 guilders 10 stuivers per share, including the interest since July 1<sup>st</sup>; the contribution shall be increased in the Month September by 2 guilders and 10 stuivers per share. The receipts Nr. 1 to 500 can be exchanged now against the Original shares and Coupons and the shares of Nr. 500 to 1000 will be ready in 2 to 3 weeks; this Fund, which is already far advanced, will extend itself to the sum of ONE MILLION GUILDERS and not more; the NOTICE as well as a PLEA REGARDING ITS ABSOLUTE CERTAINTY AND INTERESTING ADVANTAGES can be obtained from ABRAHAM van KETWICH Broker in Amsterdam, as well as at the offices of the gentlemen A.J. HESHUYSEN and Comp. in HAARLEM, A. and S. BOAS and J. HUYGENS in The Hague, A.A. VERMEULEN, ROTTERDAM, WILLEM VAN VLOTEN and D.W. van VLOTEN in UTRECHT as well as from the Bookseller L. HUISINGH in GRONINGEN and further in local cities from Brokers in Bonds.”

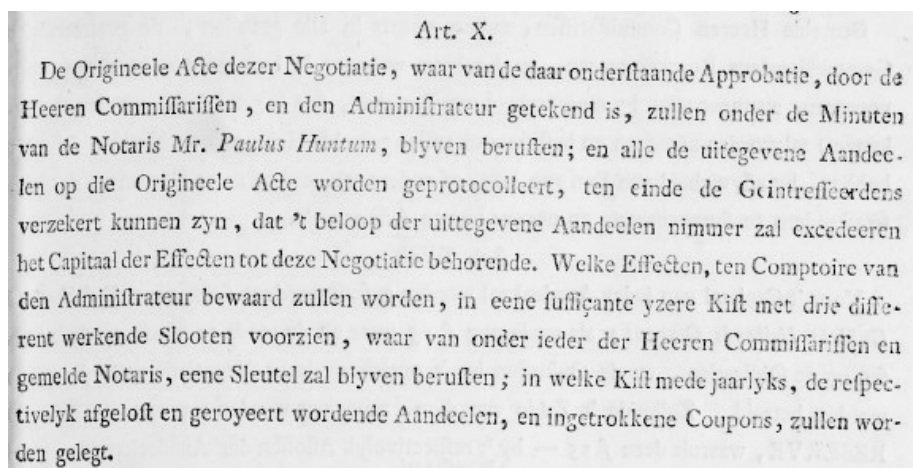
Source: Groninger Courant, 6 September 1774, available via <http://kranten.kb.nl/>

An aspect worth noting in the context of fund governance is that Van Ketwich seemed to be aware already of potential *conflicts of interest* in the fund’s management and operations. On the basis of the offering document, the daily management of the portfolio was entrusted to the two directors (“commissarissen”). They could make investment decisions, but only within narrow limits, which were specified in the offering document as well. Van Ketwich looked after the administrative aspects of the fund. Berghuis (1967, p. 54) writes about the fund:

“Active management was only reserved for the two directors. Abraham van Ketwich was entrusted with a more passive role. He was accountable to the directors on an annual basis with regard to the administration. Through this separation of management powers, it at least appeared that the conflict of interest between the founder-director of the fund and the collective of participants was avoided. Churning of the portfolio could be profitable for Abraham van Ketwich from the viewpoint of generating commissions. Since he had no influence on this, the investment fund could not be misused as a cash cow.”<sup>8</sup>

The offering document also described the arrangement that was in place to ensure that the investments of the fund were safe. This depositary function consisted of an iron chest with three different locks, in which the portfolio of securities would be kept. The keys were in the possession of the two directors and the notary (see figure 1.3).

<sup>8</sup> Translation from the original text in Dutch.



**Figure 1.3:** Article X from the offering document of “Eendragt maakt Magt” (1774)

Translation from Dutch: “Article X. The original deed of this fund, of which the below imprimatur is signed by the gentlemen directors and the administrator, will be deposited among the minutes of the notary Mr. Paulus Huntum and all shares issued will be logged on the original deed so that those interested can be ensured that the shares issued will never exceed the capital of securities (invested in) belonging to this fund. The securities will be kept at the office of the administrator (of the fund) in a sufficient iron chest with three different locks, of which a key will be held by each of the directors and the notary mentioned. In the same chest, also respectively the repaid and redeemed shares (in the fund) as well as withdrawn coupons will be placed.”

Source: Amsterdam City Archives, Archive of Notaries residing in Amsterdam (access code 5075), Archive of Mr. Paulus Huntum (inventory number 14163).

The management fee of the fund is estimated at 0.2% of the assets per annum, which consisted of a commission of 0.5% at the launch of the fund plus 100 guilders per annum for each of the 20 classes of participations (Rouwenhorst, 2005, p. 257)<sup>9</sup>. The 838,550 guilders that Van Ketwisch raised with this first fund in history was only a relatively small amount compared to the estimated 1.5 billion guilders that Dutch investors had invested abroad at the time, hence the fund was of limited commercial success (Berghuis, 1967, p. 65). The investment results were disappointing as well. In the first few years, the results of the fund were satisfactory, but starting from 1782, the Fourth Anglo-Dutch War (1780–1784) had an adverse influence on the fund, especially on the fund’s investments in colonial bonds. As of 1782, Van Ketwisch had to suspend the annual redemptions. After the war, the situation did not improve due to continued turmoil in Europe. By 1799, when the fund reached its planned maturity date, it was decided to continue, in an attempt to recover losses and hoping that the participations could be repaid at par on a later date. Finally, the fund was liquidated in 1824 (Berghuis, 1967, p. 62–69).

<sup>9</sup> This is low compared to today’s management fees: The asset-weighted average management fee (including transparent distribution fees) of retail shares of global bond funds domiciled in Luxembourg is 0.77% (source: Lipper Luxembourg Funds Encyclopaedia 2009).

*1873: Fund manager discretion*

Investment funds of various forms and shapes were developed and launched after the first fund in the Netherlands in the eighteenth century. Slot (2004, p. 101–112) describes several predecessors of the modern investment fund, both in the Netherlands and in the Anglo-Saxon world. Outside of the Netherlands, the first funds were launched in the second half of the nineteenth century in the United Kingdom (U.K.). Slot mentions the launch of the First Scottish American Investment Trust by Robert Fleming in 1873 in Scotland, as an important innovation in the development of the investment fund. A characteristic of Fleming's fund was that, unlike other funds available in the U.K. at the time, the fund manager had complete freedom to change the composition of the portfolio. In the two decades that followed, some 50 similar trusts were launched in England and Scotland. These trusts were *balanced funds*, normally investing approximately one third of the portfolio in bonds. The remainder of the portfolio was invested in equity and preferred stocks. With regard to the governance of these funds, Slot (2004, p. 104) states that:

"The managers of the funds – usually no more than one person with a number of assistants – in most cases had considerable personal investments in the funds they had under their care, which of course was conducive to the trust other participants in the fund could have. Furthermore, there was a board of trustees that monitored the investments on behalf of the other participants."<sup>10</sup>

*1924: Open-end funds*

The first open-end fund worldwide was The Massachusetts Investors' Trust, launched in the United States (U.S.) in 1924 (Wilcox, 2003, p. 645). After a relatively slow start, this fund would become the largest U.S. investment fund in the 1950s. In this period, modern techniques for the marketing and sales of funds to the mass market became popular. The open-end concept was copied by other funds in the U.S. in the 1920s and in other countries after World War II (Slot, 2004, p. 107–108). However, these funds turned out to have their shortcomings as well, in particular due to conflicts of interest between the manager and the investor. Slot (2004, p. 109) writes that:

"The providers of these funds were in many cases investment banks and securities firms, but also commercial banks and business people threw themselves at the fast growing and – in the 1920s – very lucrative market of investment funds. The quality of the hastily established funds left much to be desired. It was not always clearly stated what the objectives of the new funds were. The rights of the participants were not well-protected. With high turnover in the portfolio, it was attempted to generate additional revenues. It often happened that funds invested in each other, leading to dangerous, pyramid-like structures."<sup>11</sup>

As a result of poor design, funds, especially those launched shortly before 1929, were affected negatively by the stock market crash. The lessons learned in this period were a reason for the United States Congress to regulate investment funds by means of the

<sup>10</sup> Translation from the original text in Dutch.

<sup>11</sup> Translation from the original text in Dutch.

Investment Company Act of 1940<sup>12</sup>. One of the measures enforced by means of this act, aimed at improving investor protection, is that a minimum proportion of the board of directors is required to be independent from the fund management company.

### *1985: Cross-border funds*

A more recent milestone in the development of the investment fund was the adoption of the UCITS<sup>13</sup> Directive in 1985. This European Union (EU) Directive marks the start of the development of cross-border funds. Before then, fund management and fund distribution were primarily local-for-local activities, both in the U.S. and in individual European countries. The goals of the UCITS Directive were to harmonise EU national laws for investment funds, including rules to enhance investor protection, and to create a single market for investment funds in the EU. Under this directive, funds domiciled in one EU country and operating within the UCITS rules can obtain a *European Passport*, which facilitates registration and distribution outside of the country of the fund's domicile<sup>14</sup>. The UCITS Directive allows a fund authorised as a UCITS in its home country, to market its units in other Member States. Such a fund does not need to go through a full registration process in each country of sale; a relatively simple notification procedure is sufficient.

On 30 March 1988, Luxembourg was the first EU Member State to transpose the UCITS legislation into its national law. In 1959, the first Luxembourg fund (Eurunion) had been established. By the time the UCITS Directive became law in Luxembourg in 1988, 463 Luxembourg-domiciled funds were in existence (Lipper, 2010, p. 9). The new legislation allowed many of these funds to convert to UCITS funds, in order to facilitate their cross-border distribution. Firms that were among the first to launch cross-border investment fund activities from Luxembourg were Commercial Union, Robert Fleming & Co., Fidelity Investments and Franklin Templeton (Evans, Fessey and Saluzzi, 2008, p. 59). By the end of 1988, 120 new vehicles had been created in Luxembourg, benefiting from the new legislation (Brausch and Kremer, 2008, p. 23).

Due to its first mover advantage, combined with an entrepreneurial spirit applied to the developing investment fund industry, Luxembourg was more successful than other domiciles in positioning itself as the location of choice for cross-border fund distribution (Zurstrassen, 2008, p. 12). Other aspects that contributed to Luxembourg's success as a fund domicile were its neutral position in the EU among the larger countries with domestic interests, its multilingual workforce and the fact that it could benefit from its position and experience as a centre for private banking.

Although the number UCITS established in Luxembourg increased strongly in the following years, in the early years of UCITS, the majority of funds were used for what is referred to in the industry as *round-tripping*. This is the use of a Luxembourg-domiciled UCITS, rather than a locally domiciled fund, to offer to investors in the home country of the fund management company. At the end of 1993, 984 of the 1,691 (58%) Luxembourg UCITS were only sold in one market (Lipper, 2010, p. 11).

At the time, the majority of European banks, which were the main distributors of investment funds, had what is referred to as a *closed-architecture*, meaning that they

<sup>12</sup> The U.S. regulatory framework for funds will be discussed in more detail in section 2.2.2.

<sup>13</sup> UCITS stands for Undertakings for Collective Investment in Transferable Securities.

<sup>14</sup> Since 1994, the UCITS Directive applies in the whole European Economic Area (EEA).

only actively offered funds managed by their in-house fund management company. Opportunities for cross-border fund management companies, often firms from the U.S. or U.K. without an affiliated distribution network, were limited to private banks, wealth managers, institutional investors and (networks of) independent financial advisors. From the early years of this millennium however, an important trend has been the development of less restricted distribution models, with online brokers and fund supermarkets embracing a fully *open-architecture* distribution strategy, in principle offering any fund available. Many banks have opted for a *guided-architecture*, in which they offer funds of a limited, selected group of fund management companies. In the period from the end of 2001 to the end of 2009, the percentage of Luxembourg-funds sourcing at least 80% of their assets from more than one country – funds qualified by Lipper as *international funds* – increased from 57% to 67% (Lipper, 2010, p. 19), which indicates that the importance of round-tripping has decreased and true cross-border distribution has become more important.

Luxembourg-domiciled UCITS are distributed in 58 countries and more than 75% of UCITS funds distributed internationally are based in Luxembourg (ALFI, 2010). Luxembourg UCITS are not only registered and distributed in EU countries, but also in non-EU European countries (Switzerland, Norway), Asia (Hong Kong, Singapore, Taiwan, South Korea), the Gulf region and Latin America (Chile, Peru). Whereas at the end of December 1993, only 112 Luxembourg UCITS were registered in five or more countries, by the end of 2009 that number had increased to over 3,500 Luxembourg UCITS, of which 700 were registered in twenty countries or more (Lipper, 2010, p. 9, 20). Lipper (2010, p. 6) states:

“In the twenty years since its launch, Ucits has become a brand recognised around the world as a well-regulated investment vehicle suitable for all levels of retail saver. ... Although the intention of the Ucits Directive was to facilitate the cross-border trade of investment funds in Europe, the outcome has been global with Europe becoming the centre of international investment in mutual funds. Luxembourg, in turn, sits right at the centre of this activity.”

The international registrations and cross-border distribution gives fund management companies an enormous potential market to sell funds and raise assets under management, which in turn can lead to economies of scale for the investor. However, cross-border distribution comes with complexities in all areas of the fund management value chain – including fund governance – that could well be expensive for the fund management company and ultimately, also for the investor.

### Conclusion

Abraham van Ketwich, who in 1774 was the initiator of the first investment fund in history, already seemed aware of certain potential conflicts of interest between the fund manager and the investor, in particular that of the manager generating excessive portfolio turnover to boost brokerage commissions. To mitigate these conflicts of interest, a distinction was made between persons with administrative responsibilities and those with portfolio management responsibilities.

Conflicts of interest continued to be an important theme in the centuries that followed. Funds that were developed in the U.K. in the nineteenth century had a board of trustees that monitored the investments on behalf of participants. In the U.S., cases in the interwar period in which the trust of fund investors had been abused, led to the Investment Company Act of 1940. Typical for this legislation, aimed at protecting the interests of investors, is that a minimum proportion of the board of directors is required to be independent from the fund management company. Although for UCITS, funds domiciled in Europe that have the possibility to be distributed on a cross-border basis, extensive regulations apply, there is no requirement to have independent board members.

## 1.4 Economic relevance

### *Benefits of funds*

Hazenbergh, Kamphof and Roelofs (1996, p. 15–18) provide the following overview of the benefits of and reasons for investing in investment funds:

- Risk reduction, by means of diversification.
- Professional portfolio management.
- Higher convenience and lower administrative burden, compared to direct investments.
- Lower transaction costs, compared to direct investments, in particular when investing relatively small amounts.
- Wide choice, as a result of which it is possible to find funds meeting individual needs and preferences.
- Flexibility to increase or reduce exposure to certain asset classes.
- Access to markets that are otherwise not accessible or difficult to invest in.
- Tax benefits of certain types of fund investments, compared to direct investments.
- Liquidity.

The early investment funds and modern investment funds share many of the same benefits for their investors. Especially the first two benefits mentioned, risk reduction and professional portfolio management, have played a role throughout the centuries since the establishment of the first investment fund in history. No doubt, these benefits have been important reasons for the popularity of investment funds, which have developed into an important building block of individual investor portfolios. The OECD calls investment funds (OECD, 2005, p. 137):

“...one of the most significant developments in financial intermediation during the past few decades. OECD data indicate that CIS assets have been rising sharply as a share of national income and a share of financial assets in most Member countries. In addition to functioning as an effective vehicle for individuals to implement their preferred investment strategies, CIS already play a major role in providing for retirement income. This role is likely to grow in coming years, as increased responsibility is placed on the average citizen, as opposed to governments or companies, in meeting critical needs such as educa-



tion, retirement and health care. In this context, CIS can be used, either alone or in combination with other forms of institutional savings, such as pension funds and insurance products, to enable individuals to meet their financial planning goals.”

### Market size

Assets under management of investment funds worldwide as of the end of 2009 were estimated at EUR 15.9 trillion. The U.S. was the largest fund market globally, with EUR 8.2 trillion of assets under management (48.6% of total). On the same date, European-domiciled funds had EUR 5.3 trillion (33.0% of total) of assets under management (ICI, 2010a).

Despite the history of investment funds going back to the eighteenth century, the rapid growth of the assets under management in funds has only occurred in the last 30 years. Table 1.1 shows the development of the total net assets and the number of funds in the U.S., Luxembourg and the Netherlands. Whereas in the U.S. there were only 564 funds with US\$ 134.8 billion of assets under management in 1980, this number had grown to over US\$ 11.1 trillion invested in almost 8,000 funds by the end of 2009. A significant driver behind the growth of the U.S. fund market has been the accumulation of retirement assets, in particular in individual retirement accounts and employer-sponsored defined contribution pension plans, which are invested in funds to a large extent (ICI, 2010b, p. 95–103). In terms of growth rates (CAGR), Luxembourg’s record is even more impressive. Since the UCITS Directive was transposed in national law in Luxembourg in 1988, that fund domicile has undergone a rapid development and is now the second largest worldwide. In the period from 1980 until 2009, assets under management have grown from only EUR 2.9 billion to EUR 1.6 trillion.

**Table 1.1:** Growth of the fund industry 1980-2009: Number of funds and Total Net Assets (TNA)\*

Year	U.S.				Luxembourg				Netherlands			
	Funds (number)	CAGR (%)	TNA (US\$ bn)	CAGR (%)	Funds (number)	CAGR (%)	TNA (EUR bn)	CAGR (%)	Funds (number)	CAGR (%)	TNA (EUR bn)	CAGR (%)
1980	564		134.8		76		2.9		50		6.7	
1990	3,079	18.5	1,065.2	23.0	805	26.6	72.2	37.7	213	15.6	24.6	13.9
2000	8,155	10.2	6,964.6	20.7	6,084	22.4	792.8	27.1	473	8.3	91.3	14.0
2009	7,691	-0.6	11,120.7	5.3	9,017	4.5	1,592.4	8.1	458	-0.4	66.3	-3.5

\* Funds investing in transferable securities and money market instruments

Sources:

U.S.: ICI (2010b, p. 124).

Luxembourg: 1980: ALFI; 1990: Lipper (2010, p. 7); 2000, 2009: EFAMA (2010b, p. 268, 281).

Netherlands: 1980, 1990: Slot (2004, p. 312, 370); 2000, 2009: EFAMA (2010b, p. 268, 281).

Whereas Luxembourg is almost entirely a domicile for cross-border distribution, the Netherlands is an example of a fund domicile almost purely used for domestic distribution. The Netherlands as a domicile has clearly suffered from the competition from abroad, especially Luxembourg funds. The Dutch market has been open to investment funds domiciled in Luxembourg, offered by international fund management companies. In addition, Dutch fund management companies offer their Luxembourg funds on the Dutch market. Leading Dutch/Benelux fund management companies, such as the

former Fortis Investments in 2003, Robeco in 2004 and the former ABN AMRO Asset Management in 2005, transferred their Dutch-domiciled funds to Luxembourg, which contributed to the drop in assets under management in the 2000–2009 period. Compared to the U.S., the Dutch fund market has hardly benefited from the development of individual and defined contribution retirement plans. With most of the assets of Dutch pension funds held in defined benefit plans, defined contribution and individual forms of retirement plans form a relatively small part of the total retirement savings of the Dutch population. Also unfavourable to the size of the Dutch fund market, at least in official statistics, is that contrary to what is market practice in most other markets, many providers of individual or defined contribution retirement plans in the Netherlands use non-public, unit-linked funds as underlying investment vehicles. Due to their non-public nature, the assets of these funds are not part of the stated assets of Dutch-domiciled investment funds.

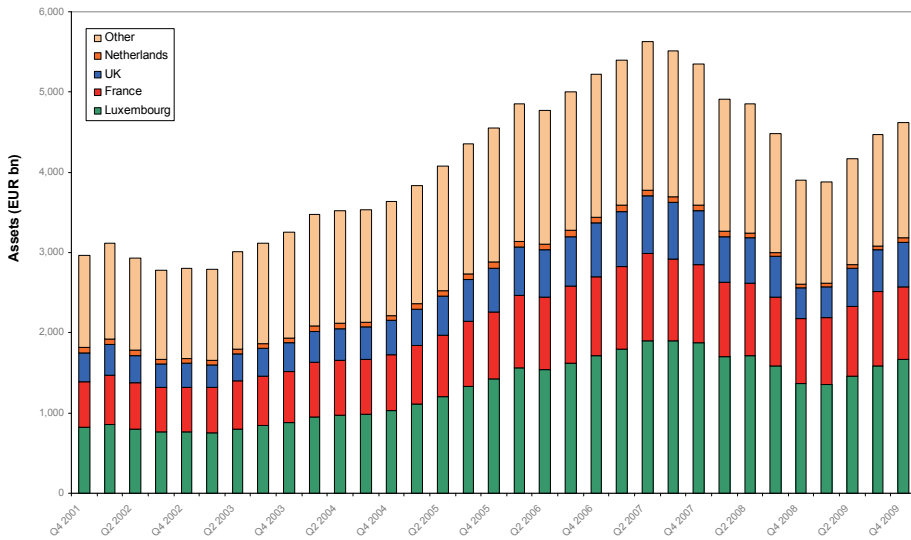
Whereas assets under management in the U.S. are higher than that of the European domiciles combined, the number of funds in the U.S. is much smaller (7,691 in the U.S. versus 35,946 in Europe). As a result, the average fund size in the U.S. is almost seven times that in Europe. This is at least partly the result of the history of European investment funds being one of domestic markets with domestic fund management companies. Only since the UCITS Directive became effective in the second half of the 1980s, is it possible to develop pan-European distribution of funds.

Developments within Europe are shown in figure 1.4, which depicts the development since 2001 of the total net assets of funds domiciled in the EU core-countries<sup>15</sup>. Luxembourg is the largest fund domicile within Europe, a position that has strengthened in the period since the end of 2001. Whereas at the end of 2001, Luxembourg accounted for 27.6% of the fund assets of the twelve core countries, by the end of 2009, that percentage had increased to 36.0%. Fund assets expressed as a percentage of GDP for the EU core-countries stood at 34.9% at the end of 2001, which had increased to 52.2% at the end of 2009<sup>16</sup>.

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<sup>15</sup> EU core-countries defined here as those that were among the countries signing the Maastricht treaty in 1993, i.e., Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain and the U.K.

<sup>16</sup> Fund assets concern funds domiciled in the twelve EU core-countries. Note that these assets are not sourced from these countries only.



**Figure 1.4:** Development of assets under management in EU core-countries  
Source: Lipper FMI

With assets under management in Europe amounting to over half the annual GDP, investment funds are already an important component of the Europeans' wealth. In light of demographic developments, in particular the ageing of populations, changing pension arrangements and budget deficits of governments, individuals are expected to have to bear a greater responsibility for their financial future. These trends are expected to provide a further stimulant for the amount of assets under management in the fund industry. In a March 2010 press release of the European Fund and Asset Management Association (EFAMA), which accompanied the publication of a report on long-term savings in Europe, Jean-Baptiste de Franssu, President of EFAMA, stated (EFAMA, 2010a, p. 1):

"Securing the financial future of Europe's citizens is at the heart of EFAMA's strategy for the coming years. Pension solutions in Europe, where demographic challenges are forcing governments to act, are fragmented and often inadequate and we in the industry have a key role to play in building an EU pensions framework in partnership with others who share the responsibility of safeguarding Europe's economic future. We believe the recommendations of the report are a valuable distillation of progressive industry thinking that provide a strong basis for regaining the confidence of investors across Europe in savings and investment. With the UCITS vehicle we already have one of the most robust underlying investment products for retirement plans, but the successful development of long-term savings and private retirement products also relies on the quality of distribution, educating investors about the optimum solutions, and on knowing client needs better."

This statement shows that the fund industry certainly has the ambition to take a leading role in providing solutions for Europeans saving for their retirement, with investment funds (UCITS) having a pivotal role.

### *Abuses of trust and fraud*

Despite the success of the investment fund in terms of growth of the total assets entrusted, there have also been numerous cases in which the trust of investors has been abused. The OECD (2005, p. 141) states:

“Governance failures in CIS can span a wide range of problems. Chronicled abuses have included simple theft or misappropriation of assets, sales or redemptions at inappropriate valuations, deceptive promotion techniques, unclear title to assets, negligent or self-interested investment selection or management, poor disclosure about essential details of the undertaking, unreasonable fees, unenforceability of the obligations of the promoters and lack of an accountable party from whom redress can be sought. Some schemes have become insolvent, leading to very large losses for some investors. Some schemes may avoid the outright abuses categorised above but they may still operate primarily to the benefit of the promoters and other insiders rather than investors.”

Recent examples include the late trading<sup>17</sup> and market timing<sup>18</sup> scandal in the U.S., in which certain large clients received preferential treatment and benefited at the expense of other clients. The scandal surfaced in 2003, when New York Attorney General Eliot Spitzer announced the issuance of a series of complaints against fund management companies and other firms that had either benefited from or facilitated such practices. Nearly all firms charged by Spitzer with allowing market timing or late trading settled with his office and the SEC in the course of 2004 and 2005. The funds in which the late trading and market timing took place were U.S.-domiciled and regulated funds. On the basis of the Investment Company Act, these funds were required to have at least 40% of their board seats taken by independent board members, but this form of independent governance could not prevent these abuses of trust from taking place.

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<sup>17</sup> Late trading occurs when investors are allowed to purchase fund shares after the cut-off time for orders, still at that day's closing price. Such trades can be made with information about after-hours market developments in the U.S. or other countries. This gives such late traders an unfair advantage at the expense of other investors in the fund. Late trading was illegal under regulations of the SEC.

<sup>18</sup> In this context, market timing refers to trading frequently in and out of a market segment in order to profit from short-term market movements, using a fund to get exposure to that market segment. Market timers are costly to the other investors in the fund, since the fund may need to keep a higher cash balance in order to have sufficient liquidity and the higher volume leads to higher administrative and transaction costs, borne by all investors in the fund. Market timing is especially attractive for arbitrageurs and detrimental for long-term investors in the case of so-called *stale pricing*. Then, the prices used to calculate the NAV are not current. An example of this is when U.S. funds invest in non-U.S. stocks listed on markets that, due to time differences, have closed long before the NAV of the fund is determined. In the case of a stale price, arbitrageurs can take advantage of information that has become available that is not reflected in the NAV of the fund. Market timing was not illegal, but, in many cases, frequent trading was restricted according to fund documents and prospectuses. Attorney General Eliot Spitzer nevertheless charged funds, which allowed frequent trading, with fraud, arguing that fund management companies allowed this trading in order to increase their assets under management.

In fact, Meschke (2007), Ferris and Yan (2007b) and Qian (2011)<sup>19</sup> did not find evidence that boards with a higher percentage of independent directors or with independent chairs were less likely to be involved in these scandals.

At the end of 2008, the Madoff affair shocked fund investors in both the U.S. and Europe. What had seemed for years to be a brilliant investment opportunity to many, turned out to be nothing more than a so-called *Ponzi scheme*, where new investments are used to pay old investors and fund redemptions. In 2009, Bernard L. Madoff pled guilty to eleven felonies and was sentenced to 150 years in prison and ordered to pay restitution of US\$ 170 billion. Prosecutors estimated the size of the fraud at US\$ 64.8 billion. The investments with Madoff were channelled to his firm through various *feeder funds*, operated by other firms. Bernard L. Madoff Investment Securities LLC initiated and executed trades on the accounts of those feeder funds through discretionary brokerage agreements, while also being the sub-custodian for the assets.

The largest of the feeder funds was Fairfield Sentry Limited, with US\$ 7.3 billion of assets under management at the end of April 2008. The fund was domiciled on the British Virgin Islands and managed by Fairfield Greenwich (Bermuda) Limited, a company belonging to the Fairfield Greenwich Group. In addition to one of the founding partners of Fairfield Greenwich Group, the three-member board of directors of the fund consisted of two independent, non-executive directors. These independent directors, as well as the independent auditor, custodian and administrator, were all unable to prevent the fraud from taking place.

With US\$ 1.9 billion of assets under management<sup>20</sup>, the largest Luxembourg-domiciled feeder fund investing with Madoff was LUXALPHA SICAV – American Selection. The fund, initiated by Access International Advisors LLC, had several UBS group entities involved in various roles, including that of depositary/custodian. The board of the fund consisted of six members in total, four of them were representatives of UBS, one was the fund's legal advisor in Luxembourg and one was a partner of the investment advisor. The fund was approved and operated under the UCITS regime, implying that it could be distributed to retail investors, based on a high degree of investor protection. Nevertheless, the parties involved, including the supervisory authorities, the depositary/custodian, the auditor and the board of directors, did not protect the fund investors against the fraud. Investors in the fund suffered substantial losses or even their whole investment.

### Conclusion

Millions of investors depend on funds for their financial future. Professional portfolio management and risk reduction through diversification are the main benefits of investment funds that have allowed them to become an industry with EUR 15.9 trillion of assets under management worldwide at the end of 2009. Despite the success of the industry in terms of growth, there have also been cases in which the trust of investors was abused. In recent cases, such as the late trading and market timing scandal of 2003 and the Madoff fraud uncovered at the end of 2008, independent governance was unable to prevent fraud from taking place.

<sup>19</sup> These and other empirical studies are analysed in more detail in chapter 3.

<sup>20</sup> Source: Semi-Annual Report of LUXALPHA SICAV as of 30 June 2008.

## 1.5 Fund performance and fund flows

In this section, studies into the actual performance of funds are analysed, along with studies explaining the levels of flows into funds from previous periods' performance and other factors.

### *Performance versus benchmarks: Outperformance*

Several academic studies analyse whether investment funds as a group perform better than their benchmark on a risk-adjusted basis, in other words, whether they are able to *outperform*. An early study into the performance of investment funds, analysing funds in the U.S. in the period 1945–1964, is Jensen (1968). This study finds that on a risk-adjusted basis and net of expenses, funds on average underperformed the S&P Index. Gross of expenses, there was no evidence that funds were able to outperform either. There were individual funds that outperformed the index in the period analysed, but the number of outperforming funds and the magnitude of outperformance was not greater than what would be expected on the basis of chance.

Studies in which the performance of investment funds is compared to indices or index funds have the risk of overstating fund performance, due to *survivorship bias*<sup>21</sup>. Later studies explicitly controlling for survivorship bias generally confirm the conclusion that the average fund underperforms net of expenses. However, the results gross of expenses differ, either showing a slight underperformance (e.g. Malkiel, 1995) or showing a slight outperformance of benchmarks (e.g. Gruber, 1996). On the whole, the value added of professional, active fund management by security selection and/or market timing of the average fund seems insufficient to recover the fees charged. This result is consistent with the efficient market hypothesis, which says that prices of securities always incorporate and reflect all relevant information. Under this hypothesis, active managers on average would not be expected to outperform market indices on a risk-adjusted basis. When markets are efficient, the track record of an individual portfolio manager would not give any indication for future performance either. Individual managers with excess risk-adjusted performance in a certain period would just be *lucky*, not *skilled*.

### *Performance persistence: Hot hands*

The underperformance of the average investment fund found by various studies does not end the debate between proponents of active and passive management. Even if portfolio managers on average do not outperform, that in itself does not prove that the efficient market hypothesis holds. It might be possible that certain portfolio managers are skilled (often referred to as having *hot hands*) and that these managers are able to systematically earn higher risk-adjusted returns than market indices, index funds and their average actively-managed competitors. When there are two categories of managers, skilled managers and unskilled managers, with the former being able to

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<sup>21</sup> A sample of funds selected to measure performance in a certain period, might only include funds that still existed at a point in time after the measurement period (the *survivors*) and therefore exclude funds that existed in that period, but have since closed down. Because poorly performing funds are more likely to be merged into more successful funds or to be liquidated, the average performance of surviving funds is likely to overstate the actual average performance.

pursue security selection and/or market timing strategies successfully, one would expect to find performance persistence in samples of investment funds. Funds selected in a formation period on the basis of their superior risk-adjusted performance, would be more likely to persist in their superior performance in a subsequent evaluation period. Past performance of funds would be indicative of skill and would have predictive power for future performance. As a consequence, track records and performance rankings would be a useful and valuable tool for fund selection by investors.

Hazenbergh (1993), Hendricks, Patel and Zeckhauser (1993) and Goetzmann and Ibbotson (1994) indeed find evidence of performance persistence, the former in a sample of global equity funds in the Netherlands and the latter two in samples of domestic equity funds in the U.S. Malkiel (1995) comes to similar results, but is sceptical whether this is the result of portfolio managers' skills. Over the whole period (1971-1991), strategies of investing in investment funds selected on the basis of past performance outperformed, but this was only due to strong outperformance of such a strategy in the 1970s. Furthermore, following such a strategy would have resulted in considerable transaction costs, which were not taken into account in the analysis.

Other problems in these earlier studies into performance persistence are that there are risk factors not corrected for with the Capital Asset Pricing Model (CAPM) and that differences in expense levels across funds and survivorship bias might have had an influence on the results. Four studies published in the 1995-1997 period explicitly address these shortcomings, all using U.S. equity fund data. Brown and Goetzmann (1995), Gruber (1996) and Elton, Gruber and Blake (1996) find performance persistence. This is not merely due to higher fees, but mostly due to losing funds continuing to do badly. The costs of funds with superior performance are not increased subsequently. Carhart (1997) finds performance persistence as well. However, most of the persistence is explained by differences in exposures to the common risk factors (book-to-market, one-year momentum and size), expense ratios and transaction costs. Remaining persistence is due to the continued underperformance of the worst performing funds. Past performance seems to be a useful indicator of funds to avoid, but it remains doubtful that it can be used to consistently beat market indices or even the average fund.

Four more recent studies provide new insights for the discussion about performance persistence and come to results that are promising for believers in portfolio manager skills as a driver of investment results. Morey and Gottesman (2006) analyse the predictive power of Morningstar stars<sup>22</sup> and find that funds rated in the top category significantly outperformed the other funds. In the fund management industry, Morningstar ratings are seen as highly influential, since they are intuitive, available free of charge and widely-used by individual investors. Therefore, they are more likely to be actually used for investment decisions than academic performance measures.

Bessler, Blake, Lückhoff and Tonks (2010) find that manager changes and fund flows are counterbalancing forces for performance persistence. A manager with good performance can be promoted to a larger fund or leave the fund management company for a better-paid position at a competitor, whereas a manager with poor performance

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<sup>22</sup> Morningstar is a rating agency originating in the U.S. that assigns ratings to investment funds in the form of Morningstar stars.

might be replaced. Inflows into winning funds can lead to transaction costs and capacity issues, reducing performance in a subsequent period, even when the manager is skilled. Ibbotson and Patel (2002) argue that much of the performance difference between a fund and a broad market index is attributable to the fund's style, rather than the manager's skill. Ranking funds on the basis of style-adjusted performance, they find evidence of performance persistence in the top funds.

Cremers and Petajisto (2009) dissect the way individual funds are managed by calculating funds' active share, the fraction of portfolio holdings that differ from the benchmark, and tracking error, the volatility of fund returns in excess of the benchmark. They find that tracking error does not predict performance, but active share does. Among the highest active share funds, there is significant performance persistence. Funds with a high active share and high tracking error, so called *concentrated stock pickers*, as well as *diversified stock pickers*, funds with high active share and low tracking error, display superior skill, which persists over time.

#### *Fund flows and performance: Performance chasing*

Gruber (1996) and Sirri and Tufano (1998) analyse the relationship between fund performance and subsequent cash flows from investors buying or selling fund participations. Both studies find that this relationship is not symmetrical. Outperformance is associated with inflows, but underperformance is not associated with the same level of outflows. Keswani and Stolin (2008) find the same pattern for domestic equity funds in the U.K. Del Guercio and Tkac (2008) find that the asymmetric relationship between performance and flows holds when analysing the relationship between Morningstar ratings and flows. According to Gruber (1996, p. 807), the existence of two clienteles explains why not all investors redirect their money invested on the basis of past performance:

"The sophisticated clientele directs its money to funds based on performance. The disadvantaged clientele consists of three groups:

- 1) Unsophisticated investors—a group that directs its money to funds based at least in part on other influences such as advertising and advice from brokers.
- 2) Institutionally disadvantaged investors—a group primarily represented by pension accounts that are restricted by the plan they are part of to a set of funds that underperforms the best active funds.
- 3) Tax disadvantaged investors—a group that has held one or more funds for enough time so that capital gains taxes make it inefficient to remove money from these funds. This group can still act as sophisticated investors in placing new money."

Lynch and Musto (2003) add as explanation for the convex relationship between performance and fund flows that when the performance falls below a certain threshold, investors might anticipate a change in the way the fund is managed, either due to the replacement of the portfolio manager or a change in the fund's investment approach. When such changes are made and it is unlikely that poor performance will persist, it is sensible for investors not to react to poor performance with redemptions. Their em-



pirical results show that, indeed, bad fund performance is more likely to be followed by manager changes and changes to the profile of the fund.

Nanda, Wang and Zheng (2004) find that there are strong spillover effects within fund families, which is the effect that in a fund family with a star performer, other funds benefit with inflows as well. By offering a high number of funds and/or funds that have returns with a low correlation among each other, the likelihood of having a star in the fund family can be increased. The results of the study are consistent with the hypothesis that fund families with inferior investment capabilities pursue such star-creating strategies, in order to benefit from the spillover effect. The results also indicate that families with superior capabilities do exist.

#### *Performance on flows: Smart money*

The conclusion of several empirical studies that performance persists, in combination with studies that find that investors select funds on the basis of past performance, suggests that there is a *sophisticated* client group, making the right investment and disinvestment decisions, so that their money can be called *smart*. Gruber (1996) indeed shows that investors that subscribe into and redeem from funds have a positive risk-adjusted performance on their positive and negative cash flows, exceeding the return of the average active, as well as, the average passive fund. Zheng (1999) confirms Gruber's results, however the performance of the positive flow funds is not statistically significantly higher than the market return. Fund flows are related to past performance, but there seems to be other fund-specific information that affects flows playing a role as well. Keswani and Stolin (2008) do a similar analysis on domestic equity funds in the U.K. They confirm the conclusion that money is smart and this is the case both for individual and institutional money. Although the result is statistically significant, the effect is small from an economic perspective.

#### *Fund flows and marketing: Search costs*

Sirri and Tufano (1998) argue that which funds investors buy might not only depend on past performance, but could be a function of search costs as well. When collecting and processing information is costly, consumers buy funds that are easier or less costly to find. Three proxies for search costs are used in their study, namely fund complex size, marketing and distribution expenditures and media coverage. Funds with more media attention and belonging to larger complexes indeed grow more rapidly than other funds. Funds with higher marketing efforts, measured as higher fees (which are in part spent on marketing), benefit more in the form of inflows in the case where performance is good. However, fund complex size in combination with strong performance is not associated with additional inflows. Jain and Wu (2000) study investment fund advertising in relationship to performance and flows. They find that in the one-year period prior to the advertisement, the performance of the funds advertised is significantly better than that of benchmarks, but that in the year after the advertisement, it is inferior to the benchmark. In the sample of funds that advertise, there is no evidence of performance persistence, but rather a reversal of performance. Investors, however, seem to be sensitive to advertising. Compared to a control group of funds that are similar in terms of past-performance, past-flows and fund size, flows into funds that advertise are larger than flows into funds that do not advertise.

Frye (2001) compares the performance of bank-managed and non-bank managed bond funds in the U.S., pointing out that banks have the reputation of providing funds with inferior investment performance. Reasons for investing in bank-managed funds, other than for performance, could be related to lower search costs. Investors investing in bank-managed funds are likely to have a relationship with the same bank for other financial services and might appreciate the convenience of *one-stop shopping*. From the viewpoint of the bank, it can also be beneficial and cost advantageous to cross-sell, using client relationships and information for offering different services. The study finds that non-bank funds have higher returns, but there is no evidence that bank funds underperform non-bank funds on a risk-adjusted basis. Bank funds are managed more conservatively, leading to a lower standard deviation of returns and a lower risk relative to the index. The conservatism of banks is also expressed in the type of funds offered. Banks are underrepresented in equity funds and in the higher risk fixed income investment objectives, such as corporate high yield and convertible bonds. This might be the result of banks attracting a different, more risk-averse and possibly less experienced clientele than non-bank fund management companies. An alternative explanation for banks offering lower risk funds is that they do so because of the risk of losing investors as bank clients when their funds underperform by a wide margin. The results show that the average expense ratio of bank-managed funds is lower than that of non-bank managed funds, despite bank-funds being smaller and thus less able to benefit from economies of scale. These lower costs could be a result of the revenues that banks make on other services offered to the same clients. Furthermore, the study shows that flows into bank-managed funds are less dependent on past performance than flows into non-bank managed funds, which suggests that bank clients invest based on marketing efforts and the reputation of the bank.

#### *Fund flows and costs: Fee sensitivity*

Sirri and Tufano (1998) find that fund buyers are sensitive to fees; funds that have lower fees and funds that reduce their fees grow faster. However, fee increases are not associated with outflows. This could be the result of the counterbalancing effect of lower search costs, in the case where the higher fees are spent on marketing or incentives for distributors. Barber, Odean and Zheng (2005) find a statistically significant negative relationship between fund flows and front-end loads. There is no statistically significant relationship between total operating expenses and flows. The authors find a positive relationship between flows and 12b-1 fees<sup>23</sup>, the part of the ongoing expenses that are meant for marketing and distribution expenditures. The authors argue that investors have learned more quickly to avoid front-end loads, which are very visible (e.g. on transaction confirmations), than ongoing fees.

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<sup>23</sup> 12b-1 fees are "fees paid by the fund out of fund assets to cover distribution expenses and sometimes shareholder service expenses." 12b-1 fees" get their name from the SEC rule that authorizes a fund to pay them. The rule permits a fund to pay distribution fees out of fund assets only if the fund has adopted a plan (12b-1 plan) authorizing their payment. "Distribution fees" include fees paid for marketing and selling fund shares, such as compensating brokers and others who sell fund shares, and paying for advertising, the printing and mailing of prospectuses to new investors, and the printing and mailing of sales literature. The SEC does not limit the size of 12b-1 fees that funds may pay. But under FINRA rules, 12b-1 fees that are used to pay marketing and distribution expenses (as opposed to shareholder service expenses) cannot exceed 0.75 percent of a fund's average net assets per year." (source: SEC website, [www.sec.gov](http://www.sec.gov), 16 June 2011).

Wilcox (2003) analyses investor preferences with a group of participants in an experimental setting and concludes that investors emphasise past performance and that they make an incorrect trade-off between front-end loads and annual expense ratios, overweighting the former and underweighting the latter. Wilcox (2003, p. 658) states that:

“Investors appear to make substantial cognitive errors when evaluating a fund’s fee structure. Disclosure requirements that allow greater transparency into the total cost of owning the shares of a mutual fund would likely lead to better investment decisions. Seemingly small differences in fees can lead to very substantial differences in total asset value over time horizons of 2 or 3 decades.”

### *Conclusions*

Academic studies analysing the performance of investment funds generally find that, on a risk-adjusted basis, the average fund underperforms the market, certainly after fees. The costs included in expense ratio as well as transaction costs and load fees, all have a direct, negative impact on performance. Investors pay too little attention to the ongoing expenses of funds to achieve optimal investment results in the long term.

Several studies find evidence of performance persistence, which indicates that fund performance is not a random process. The performance persistence of funds performing poorly is stronger than that of those performing well. Apparently, it is easier to consistently destroy value than to consistently add value. Differences in cost levels are an important contributor to the performance persistence found, but also different levels of skills of portfolio managers seem to play a role. Manager changes and large inflows after a period of strong performance disrupt the performance persistence of funds performing well. On the other hand, manager changes after poor performance are positive for the subsequent performance.

Good performance is associated with inflows, but poor performance is not associated with the same level of outflows, due to switching and search costs and other market frictions. This asymmetry indicates that the external governance of market forces could be insufficient to align the interests of the investors and the fund management company, and that it is likely that additional monitoring could be effective. Ongoing costs, manager changes and protecting funds against the costs of excessive flows are all examples of factors that a board of directors can potentially influence in the interest of investors.

## **1.6 Conflicts of interest**

This section is dedicated to different conflicts of interest that exist in the fund management industry between the fund investor and other parties involved. Figure 1.6 displays the structure of Luxembourg funds, showing the fund itself in the core of the chart, surrounded by the main parties involved in its management, operations and distribution. Whereas the inner circle can be seen as the fund in a narrow, legal definition, the outer circle, including the main parties involved, can be seen as the fund ac-

cording to an economic definition, namely as the total *financial product* that the investor buys and experiences.

The activities of the various parties involved can be divided into three types:

1. Commerce, mainly consisting of the marketing, sales and distribution of the fund.
2. Services, mainly consisting of fund management and administrative services.
3. Oversight.

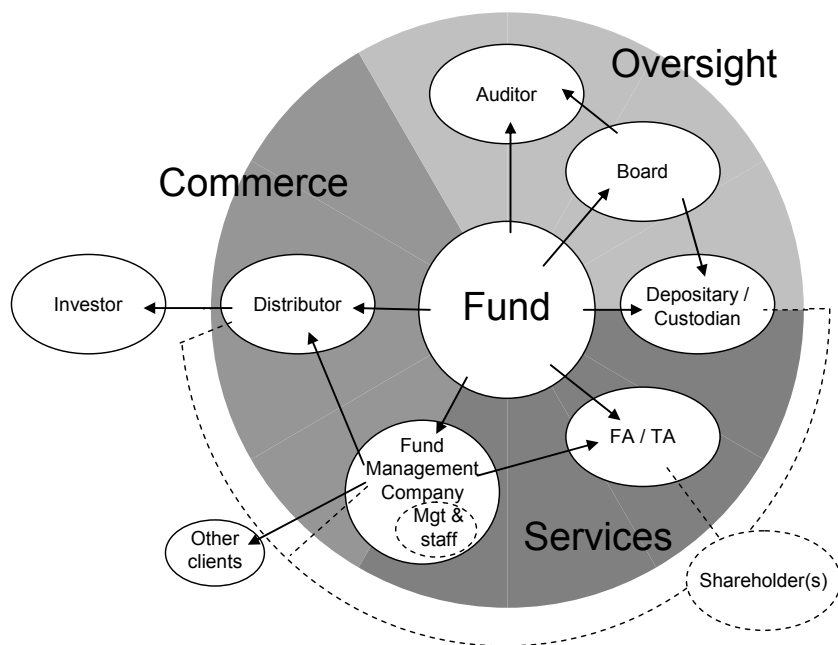


Figure 1.5: Stakeholder model for Luxembourg funds

The fund management company<sup>24</sup> is placed in both the Commerce and Services sections. It is the provider of professional portfolio management services to the fund. It is usually a commercial, profit-seeking company, *selling* its services in the market. A fund management company normally does not manage only one fund, but several, and can manage portfolios for individuals and institutions as well. The fund management company staff – its management, portfolio managers and other employees – is included as stakeholders separately, since they also have their own personal interests.

<sup>24</sup> Fund management company, as shown in the chart, is the combination of the management company of the fund and the investment manager, the company to which the actual management of the portfolio is delegated. In most cases, these companies belong to the same group. For that reason, the investors see them as one organisation. Examples of such groups are BlackRock, DWS and Franklin Templeton. In Luxembourg the term *promoter* is often used for the fund management group. This is equivalent to the term *sponsor*, used in the U.S.

The management company can also provide administrative services to the fund or choose to outsource those activities to another company, either in the same group or outside. Luxembourg funds set up as contractual vehicles must have a management company, whereas Luxembourg funds set up as a corporate vehicle can either be self-managed or appoint a management company. This is elaborated in chapter 2.

A fund management company can have a direct relationship with its investors, but usually a distributor is positioned in between them, in particular where retail investors are concerned. Main fund distributors are banks, insurance companies, fund platforms and (independent) financial advisors. It should be noted that the relative importance of the various distribution channels differs, both between the U.S. and Europe, as well as between the different European countries.

The administrative services are divided into fund accounting (“FA” in the chart), which involves the calculation of funds’ net asset value, and transfer agency (“TA” in the chart), which involves managing the shareholders’ registrar, including keeping records of subscriptions and redemptions and executing dividend distributions. The depositary is the fund’s *central custodian*, which has three main functions:

1. Safekeeping of the assets of the fund.
2. Day-to-day administration of the assets of the fund, including receiving the assets’ income.
3. Oversight of the fund’s operation, including compliance with investment policies.

Whereas the first and second functions of the depositary can be seen as Services, the third function is clearly an Oversight role. For that reason, the depositary is placed in two of the three sections, Oversight and Services. The depositary is appointed by the board, whereas the auditor is proposed by the board and appointed by the shareholders. The board, the auditor and the depositary all have oversight responsibilities.

The distributor, the fund management company, the fund accountant (FA), transfer agent (TA) and the depositary are usually all commercial companies, which are part of larger (financial) groups. It is not uncommon that, for a specific fund, several or all of these functions are provided by companies of the same group, i.e., sharing the same ultimate shareholder.

The different stakeholders, their primary interests and how these interests potentially conflict with the interests of the investor will be explored in the remainder of this section on the basis of figure 1.5. Several theoretical and empirical academic studies will be referred to in this context. The International Organization of Securities Commissions (IOSCO) paper published in May 2000 and titled, “Conflicts of interest of CIS Operators” (IOSCO, 2000; hereafter IOSCO Conflicts Paper), has been used for this section as well.

### *Fund management company*

The most fundamental conflict of interest in the fund management industry exists between the fund investor (at the same time being a shareholder or participant of the fund and a client of the fund management company) on the one hand, and the fund management company (the provider of the financial product) on the other hand. It is a typical agency problem, resulting from the separation of ownership and management of the fund’s assets. The payoff structures of these two stakeholders are not fully aligned. At the same time, the manager of the assets has an information advantage over the owner of the assets. The fund management company is remunerated for its services with a management fee, which in general, is a percentage of assets under management. In Europe, the general practice is that the fund management company

pays the distributor of the fund for its distribution and advisory services with a trailer fee, also referred to in the industry as *retrocession* or *rebate*. The trailer fee is usually a percentage of the management fee and arranged for in a distribution agreement. In some cases, funds charge a separate, transparent distribution fee to the fund, on top of the management fee. These are usually funds of firms originating from the U.S., used to the 12b-1 fees in that market. A fund management company seeking to maximise fee income will strive to increase assets under management and will prefer higher fees to lower fees.

Although investment funds often come with secondary services that could be of value to the investor (e.g., reporting services with regard to the value and performance of investments, for example, for tax filings, ability to easily buy and sell funds, availability of other financial products via the same provider, linkage to an insurance scheme), the investor primarily invests in a fund aiming for a maximum risk-adjusted return, net of costs. This equals the gross risk-adjusted return of the fund minus the management and distribution fee, minus any other costs charged to the fund. For fund investors, management fees and other fees charged are the price paid for the services received. *Ceteris paribus*, higher fees imply lower risk-adjusted net returns. Therefore, a fund investor will prefer lower fees to higher fees.

Charging excessively high costs would be a way for the fund management company to exploit fund investors. This could be in the form of high management fees, but overcharging can also take on more subtle forms. The IOSCO Conflicts Paper mentions the following as examples:

- When the fund management company may use fund assets to pay for marketing and distribution expenses<sup>25</sup>, there is an incentive to spend excessive amounts. The costs of marketing are for the fund, while the benefits – management fee over increased assets under management – are for the fund management company (IOSCO, 2000, p. 9).
- When the fund management company obtains goods or services from a third party for both itself and for the fund (e.g. audit services), there is an incentive to charge a larger than fair part of the total fees to the fund or to use the total purchasing power for a discount on the fees paid by the fund management company (IOSCO, 2000, p. 8-9).

The practice of so-called *soft dollar arrangements*<sup>26</sup> gives rise to potential conflicts of interest as well. It gives the fund management company the possibility to transfer expenses that would normally be paid from its own resources to the fund it manages. Examining U.S. funds, Siggelkow (2004) finds that soft dollars are positively related to expense ratios, implying that soft dollar revenues are not used to lower expense ratios. Hence, soft dollars transfer expenses from the fund management company to fund investors and are not beneficial for investors.

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<sup>25</sup> In several jurisdictions this is permitted, because the fund investors would benefit from increased assets under management in the form of economies of scale being passed on in the form of lower costs.

<sup>26</sup> A soft dollar arrangement is in place when trade execution services are bundled with research services, sometimes including providing data sources, and are paid for through broker commissions.

A decline of assets under management results in a decline of the fund management company revenues. Therefore, market discipline, the possibility of investors selling the units of funds that charge excessive fees or underperform, is a mitigating factor for the conflict of interest between the fund management company and the investor. If market forces work properly, charging excessive fees is unlikely to be a value optimising strategy for fund management companies in the long run. Analysing the situation in the U.S., Coates and Hubbard (2007) conclude that price competition is a strong constraint on fund management companies and as a result, they cannot earn monopoly rates. The market concentration is low and market shares of different funds and fund management companies have fluctuated significantly. Barriers to entry in the industry are low and new entry is common in practice. Fee information is highly transparent and easily available, fee decreases are common and finally, price competition has proven to be an effective way to increase market share.

Khorana and Servaes (2007) investigate empirically whether the conflict of interest between investors and fund management companies is mitigated by competition. The study uses U.S. market data during the period 1979–1998, in which assets under management increased by a factor of twenty, while the number of fund families increased by a factor of three. Analysing the development of fund management company market shares, overall and within different *investment objectives*<sup>27</sup>, in relationship to annual fund expenses and loads, the study finds that both price and non-price competition have an effect on market shares. Fund families that charge lower fees than funds with the same objective have higher market shares. The same applies to fund families that share more of the economies of scale with investors. Both suggest that market forces indeed mitigate conflicts of interest, since investors reallocate assets from expensive to cheaper groups. Good performance, in particular when measured as Morningstar ratings, is also associated with higher market shares. There is evidence of a spillover effect, since fund families are able to increase their market share in a certain investment objective when they perform well in other objectives. Innovation, measured by the number of new launches, and more diversified product offerings are also associated with higher market shares.

In the same study, however, there are also indications that fund families can follow pricing strategies to increase their market share that are not in the interest of shareholders. The market share of low cost fund families is not impacted negatively when expenses are increased towards the average, thereby increasing the revenues of the firm. When splitting the total fees in loads, 12b-1 fees and other fees, the impact on market share of higher other fees is negative, but higher loads are associated with higher market shares. Higher 12b-1 fees, expenses for marketing and distribution, have a neutral influence on market shares. Loads and 12b-1 fees are paid directly by fund shareholders, but are meant to increase assets under management. However, the study shows that this does not translate into lower other costs, due to economies of scale.

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<sup>27</sup> A fund's investment objective is the asset class in which it invests and/or its investment style. Examples are Aggressive growth, Balanced, High quality bonds, High-yield bonds, Global equity and Growth and income. In Europe, the term fund sector is commonly used.

The convex nature of the performance-flow relationship found by Gruber (1996), Sirri and Tufano (1998), Del Guercio and Tkac (2008) and Keswani and Stolin (2008), which indicates that investors reward strong performance more than they punish poor performance, gives rise to conflicts of interest. It is in the fund management company's interest to make risky investments in order to create a star performing fund, which, when successful, would lead to a high payoff in the form of additional assets under management and additional fee income. When the investment strategy fails and the fund underperforms, it is the investor who suffers the losses. The fund management company comes out relatively unscathed, since it is not punished with significant outflows. The payoff function of the fund management company is comparable to an option, the value of which can be increased by increasing the variance of returns and thus the risk profile of the fund in which the investor invests.

Several empirical studies find evidence of types of fund management company behaviour that are in their interests, but go against the investors' interests. Brown, Harlow and Starks (1996) and Chevalier and Ellison (1997) find evidence of fund managers changing the risk profile of their fund, depending on the year-to-date return. This behaviour is a consequence of the competition in the fund industry, where funds that are the winners in the annual *tournament* among competing funds are rewarded with additional assets. Brown et al. (1996) find that funds that are behind the market in the first half of the year increase their volatility to a greater extent during the second half of the year, compared to funds that are ahead of the market.

Chevalier and Ellison (1997) show that, in particular, young funds that are slightly behind the market, *gamble* in an effort to catch up by year-end, whereas funds that are ahead of the market tend to *lock-in* their favourable results by indexing the portfolio. The strongest incentive found is that of funds that are well ahead of the market, increasing their risk profile in what seems to be an attempt to make it to the list of top performers as per the end of the year. This type of behaviour can be a value maximising strategy for the fund management company, given that it competes with other fund management companies for new assets on the basis of relative performance that is assessed per calendar year. However, it is not in the interest of the investor, who is pursuing a maximum risk-adjusted performance over his holding period.

Carhart, Kaniel, Musto and Reed (2002) find that some investment fund managers inflate the quarter-end and, especially, year-end net asset value of their fund, by aggressively purchasing stocks they already hold. Since the stock prices fall back shortly thereafter, this behaviour, which the authors call *leaning for the tape*, moves returns from one period to the next. This happens particularly in funds that have the greatest incentive to do so, namely funds that are already placed well in the performance ranking for the period, and through this practice get a further push up the rankings. The logical explanation is that they do so to attract new flows in the subsequent period. Investors buying at inflated prices will have a reduced investment performance. In addition, investors are misguided by overstated results, which can lead to different investment decisions than they might have taken otherwise.

### *Other clients*

Most fund management companies do not offer a single investment fund, but offer a range of funds, and might also offer discretionary portfolio management services to



individual or institutional clients. Offering a range of funds potentially leads to *economies of scope*<sup>28</sup>. Scope advantages can exist in the area of *production*, for example, resulting from investment analysts providing research for more than one product, as well as in staff functions, such as legal, compliance and risk management, working across the fund range. When a range of products is offered, sales staff can be on the road promoting more than one product, as fund distributors require more than one fund on their shelves. In marketing and advertising, a scope economy occurs when the whole range of funds benefits from increased brand awareness. This, in turn, can be of benefit to investors, lowering their search costs.

Certain conflicts of interest are introduced when offering and managing a range of funds. When funds are managed side by side, fund management companies can be tempted into unethical or even illegal behaviour. The convex relationship between performance and flows and the spillover effect, make it more profitable for the fund management company to produce one top performing fund and one poor performing fund than to produce two average performing funds. This creates the incentive for the fund management company to produce good performing funds, even if that is at the expense of having additional poor performing funds in the range. The late trading and market timing practices uncovered in 2003 can be explained by the conflict of interest between different clients, since with late trading and market timing possibilities, certain large clients received preferential treatment and benefited at the expense of other clients. Fund management companies got something in exchange for making these practices possible, such as additional assets under management in other funds.

While recognising potential scale advantages, Gaspar, Massa and Matos (2006, p. 74) point out that:

“...family affiliation may distort the incentives of fund managers, possibly inducing them to sacrifice the interest of fund shareholders if the overall family stands to benefit. Families are liable to coordinate actions across funds in the complex in order to enhance the performance of funds that are the most valuable to the family, even if this comes at the expense of the performance of other member funds. This family strategy of “favoritism” is the result of the divergence of interests between fund management companies and shareholders.”

Cross-subsidisation is an example of a strategy under which the performance of one or more funds is subsidised at the expense of the performance of other funds. In a range of funds, cross-subsidisation can be strategy that increases the profitability of the fund management company, but is against the interests of the investors in the funds that are not favoured by the fund management company. Gaspar et al. (2006) empirically find that strategic cross-subsidisation in fund families takes place and observe that the performance of *high value funds* is enhanced at the expense of *low value funds*. High value funds include funds with high fees and funds that perform well currently (funds with high year-to-date performance, likely to be well placed in year-end fund rankings). They find evidence that high value funds are favoured in the allocation of under-

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<sup>28</sup> Economies of scope is the effect that occurs when the costs to produce two or more products jointly are lower than the costs to produce them independently.

priced initial public offerings (IPOs) and by placing opposite trades. In the latter case, the fund family coordinates the trades of its funds in such a way that the low value funds trade in the market to buffer the price pressure of orders by high value funds or directly crosses buy and sell orders without going to the open market.

Cici, Gibson and Moussawi (2009) and Nohel, Wang, and Zheng (2010) analyse the performance of funds of fund management companies with what is referred to as a *side-by-side* business strategy, where regular investment funds and hedge funds are managed by the same firm. Firms with such a strategy often share portfolio management, research and other resources between the two activities. Proponents of such an approach argue that these firms might be able to attract the best portfolio managers, research analysts and other staff, giving them a competitive advantage over firms managing regular investment funds only. Hedge funds could offer a larger financial compensation, which is often performance-related, and, due to being less constrained, might provide a more challenging and stimulating environment in which to work. On the other hand, there are reasons to have concerns about such a side-by-side approach. Revenues per euro or dollar under management are higher for hedge funds and hedge funds usually have a performance-related fee. There are several ways in which favouritism could take place, subsidising the hedge fund at the expense of the investors in the investment fund in order to increase the firm's total revenues. Cici et al. (p. 2009, 1–2) mention the following possibilities:

“First, firms can front run the execution of hedge fund trades ahead of mutual fund trades. Second, in a practice known as ‘cherry-picking’, decisions about how a trade is allocated can be delayed, with trades experiencing favorable subsequent price movements allocated to hedge funds. Third, rather than allocating the average price paid in a bunched trade, shares bought at the lowest price and shares sold at the highest price can be allocated to hedge funds. Fourth, mutual funds can pay trade commissions inflated by soft dollar payments, but hedge funds can benefit from services purchased with the soft dollars. Fifth, firms can allocate disproportionately more underpriced IPO shares to hedge funds and fewer to mutual funds. In the sixth and final example, the favoritism is quid pro quo: For hedge fund investors who agree to commit assets for extended periods, firms extend stale-price or late-trading privileges in the mutual funds they oversee. In this last example, the wealth transfer may be more circuitous than in the other examples, but the end result is that hedge fund investors’ stale-price or late-trading profits come at mutual fund investors’ expense.”

Cici et al. (2009) find that firms that run regular funds and hedge funds side-by-side favour their hedge funds. Side-by-side mutual funds get less benefit from participating in underpriced IPOs than affiliated hedge funds and than similar funds managed by other firms. However, Nohel et al. (2010) do not find any evidence that conflicts of interest result in a welfare loss for fund investors when these funds are managed by the same portfolio managers who are managing hedge funds.

*Shareholder of the fund management company*

Fund management companies act as agents of two principals, namely the shareholders of the funds, the investors, and the shareholders of the fund management company. Siggelkow (2004, p. 2) describes the fund management company as being *caught between two principals*:

“In the context of the mutual fund industry, if asset managers at mutual fund providers would not be maximizing profits ... the owners of the fund providers, i.e., the shareholders who have invested in the fund providers (e.g., Merrill Lynch’s shareholders), would also have reason to complain of an agency problem. The owners of the fund providers can reasonably demand that the fund providers’ managers maximize profits for them, as long as the providers do not engage in illegal activities. In short, asset managers are caught between two principals: fund shareholders, who want fund providers to maximize returns, and the owners of the fund providers, who want fund providers to maximize profits. Yet any dollar given to one principal comes directly out of the pocket of the other principal, and pleasing one principal might be seen as an agency problem by the other principal.”

The type of fund management company shareholder might be of influence on the severity of the conflict of interest between the fund management company and the investor. In a report based on a survey among fund management companies, KPMG (2006, p. 6, 12) argues that investment managers that are subsidiaries of large banks and insurance companies tend to have a *sales-driven*, as opposed to an *investment-driven culture*. By being able to take a long-term view when meeting client needs, independent houses and partnerships have a better alignment of interests between investors and managers. Similarly, Ferris and Yan (2009, p. 619) state:

“Since fund management companies with a short-term focus emphasize near-term profits over long-term value creation, they are more likely to adopt strategies that increase their current fee revenue, but conflict with the interests of fund shareholders. For instance, they might raise fees or allow market timing trades by favored clients. By contrast, fund management companies possessing a long-term focus are less likely to employ such myopic strategies because they tend to decrease long-term fee revenue due to lower fund performance and investor cash flows. Instead, long-term fund management companies tend to focus on fund performance maximization. Consequently, the interest of fund shareholders is better aligned with that of long-term fund management companies than with fund companies having a shorter-term orientation.”

Indeed, Ferris and Yan (2009) find empirically that agency costs are higher when fund management companies are publicly owned. Such firms charge higher fees, are more likely to be implicated in the mutual fund scandals and significantly underperform privately-owned families.

Often, a fund management company is part of a larger financial group, such as a banking or insurance group. Dealing with affiliated parties within the same group can give rise to a wide-variety of conflicts of interest. For example, when the fund management

company is involved in a transaction with an affiliated party within the same group for the account of the investment fund, there are several ways in which that transaction can be against the interests of the fund and its investors, but for the benefit of the group. IOSCO (2000, p. 4–7) distinguishes three types of such transactions:

1. Principal transactions involving a fund and its affiliated parties.
2. Transactions using affiliated party intermediaries.
3. Joint transactions with affiliated parties.

Whereas IOSCO focuses on transactions in the fund portfolio, conflicts of interest also arise when delegating certain functions, such as fund accounting, transfer agency and depositary/custody, to affiliated parties. There is the risk of overcharging relative to the quality of the services provided. Paying more than market rates or receiving a sub-par service level, in effect subsidises the group to which the fund management company belongs at the expense of the fund investors. With the depositary, which has an oversight function, there is the additional risk that it is less inclined to take appropriate action when overseeing a fund management company that belongs to the same group.

A different area in which conflicts of interest can arise is that of proxy voting. As any other shareholder in publicly traded companies, funds are entitled to vote at shareholder meetings on proposals put forward by a company's board or its shareholders. This proxy voting power gives fund managers and fund management companies the ability to affect the outcome of shareholder votes and to monitor corporate events. This also creates a potential conflict of interest. The fund manager, the fund management company or the group to which the fund management company belongs might have business or personal ties with company management and therefore might sacrifice the interest of the investors in the fund by voting on the basis of their other interests. Chou, Ng and Wang (2007) find evidence that governance practices of fund management companies affect their investment decisions and the monitoring efforts of corporate activities. Well-governed investment funds showed a higher level of fiduciary duty and acted in the interest of their shareholders.

### *Management and staff*

In addition to conflicts of interest between fund management companies and investors, agency issues within fund management companies can also lead to unfavourable outcomes for investors. For example, employees of fund management companies might be tempted to front run transactions of the funds their firm manages or allocate favourable trades to their personal accounts and non-favourable trades to the funds. Fund management companies need to have adequate rules and controls in place to avoid this type of behaviour (IOSCO, 2000, p. 9, 10). Mahoney (2004, p. 175) points out a number of cases that came up in the market timing and late trading scandal where fund management company employees were permitted to market-time their firms' funds, benefiting at the expense of their clients.

Chevalier and Ellison (1999) find that following underperformance, younger managers have a higher risk of being demoted to a smaller fund or losing their position as portfolio manager altogether. As a result of this higher risk, young managers have the incentive to be more risk-averse in the way they manage their portfolio. Younger man-

agers hold portfolios with less unsystematic risk (i.e., with smaller *bets*) and have more conventional portfolios (i.e., they are less likely to deviate from the *herd*).

Certain remuneration schemes can also give rise to conflicts of interest. Performance fees are often promoted as aligning the interests of the investor and the manager, but in practice, can lead to the opposite result. In particular, when there is no downside to underperformance, performance fees can lead to risk-seeking behaviour, either at the initiative of the portfolio manager or encouraged by his employer.

### *Distributor*

In the U.S., most funds are sold through brokers or by the fund management company directly. In continental Europe, banks are the dominant distribution channel. When funds are sold through a financial advisor or a bank, these distributors have to be compensated for their efforts and service. In the U.S., distributors are paid in the form of a front-end load or are compensated from the 12b-1 fee. In Europe<sup>29</sup>, the distributor can charge a front-end load to the investor and is paid a part of the management fee as a trailer fee by the fund management company. Some funds have a transparent distribution fee. The fund distributor maximises its ongoing revenues by maximising distribution fee plus management fee times trailer fee percentage times assets under management. Both a fund management company and a distributor seeking to maximise fee income will strive to increase assets under management and will prefer higher fees to lower fees. The distributor and the fund management company are better off with a higher management fee than a lower management fee, whereas a higher management fee reduces the performance of the investor. As a result, the pay-off function of the distributor is more aligned with that of the fund management company than that of the investor.

The risk of such arrangements is that the trailer fees have an influence on the range of investment products offered and actively recommended to investors. This form of compensation is prone to conflicts of interest, possibly leading to pushing high margin products, rather than advising products which are the optimal solution for the client. Furthermore, commission-based distribution can lead to high turnover. The value of advice is difficult to measure. It is not only the superior risk-adjusted return of the fund recommended versus its peers that determines its value. The nature of the advice can be much broader than fund selection alone and can include advice regarding financial and tax planning, asset allocation, portfolio composition and diversification, as well as the suitability of certain investments. One could argue that when comparing the performance of actively-managed funds to indices or index funds, one should first add back the part of the funds' expenses that compensate the distributor for advice.

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<sup>29</sup> The Markets in Financial Instruments Directive (MiFID), which was introduced on 1 November 2007, is a EU Directive that provides harmonised regulation for investment services across the European Economic Area. Its main objective is to increase competition and consumer protection in investment services. Current MiFID regulations do not prohibit rebates, there referred to as inducements, provided that certain conditions are met to avoid conflicts of interest between distributor and investor. The 2011 proposal for MiFID II prohibits rebates when funds are offered in the context of independent advice and portfolio management. Further regulatory developments in Europe in the area of fund distributor remuneration can be expected in the coming years. A detailed analysis of the current regulations or the development thereof is out-of-scope for this dissertation.

The role of banks in the fund industry in the U.S. is different from that in Europe. In the U.S., banks were latecomers to the fund management industry. The Glass-Steagall act of 1933 allowed banks to manage fund assets, but only to distribute funds they did not manage. These regulations were relaxed as of 1992, allowing the growth of banks as managers and distributors of funds (Frye, 2001, p. 422). In most continental European countries, the funds market is traditionally dominated by the fund management arms of domestic banks. Only since the adoption of open-architecture distribution models by these banks in the last decade are independent fund managers able to distribute their funds through these channels.

In a series of non-academic studies, Lipper, a firm providing fund data, analytical tools and commentary, analyses different aspects of the fund industry in Europe. Lipper (2011a) compares the performance of funds managed by funds operated by *pure play* asset managers to funds managed by asset managers that are part of banking, insurance or bancassurance companies. The study covers four separate universes of funds, namely funds registered for sale in France, Germany, Switzerland and the U.K. respectively. For each market, funds of several bond, balanced and equity fund sectors are included in the sample. Within each sector and market, funds are ranked in quintiles based on their risk-adjusted return, according to a proprietary Lipper-methodology, and their total return over 3, 5 and 10 years. The general pattern that emerges across the four markets is that pure players have relatively more funds in the first and fifth quintile, whereas the fund management arms of financial services groups have relatively more funds in the second, third and fourth quintile. The results are more pronounced over 3 and 5 years than over 10 years. Although the study does not test the statistical significance of the results, this result of banks missing the top-quintile, but avoiding the bottom-quintile, is consistent with Frye's (2001) finding that banks offer products that are more risk-averse.

Lipper (2009a) and Lipper (2011b) analyse the sales of newly launched funds versus existing funds. The studies show that historically, fund managers in Europe relied much more on newly launched funds for raising new assets under management than fund managers in the U.S. Within Europe, France, Germany, Spain and Italy favoured newly launched funds, whereas in the U.K., the Nordics, as well as the cross-border segment of the market, existing funds tended to gather most of the net new money. These differences are related to the way funds are distributed. In the U.K., Independent Financial Advisors are the primary distribution channel for funds. This channel requires funds to have a multi-year track record, whereas in continental Europe, banks have been able to distribute proprietary, newly launched funds through their own networks. Lipper (2009a) shows that in the 2002-2008 period, bank-related asset managers have raised assets with newly launched funds and suffered redemptions from their existing funds. For pure play asset managers, the flows into new and existing funds were more balanced, with existing funds outselling new funds each year, except in the 2008 financial crisis year. These results for Europe are consistent with the results of Frye (2001) for the U.S., where flows into bank-managed funds were less dependent on past performance and appeared to be driven more by marketing and the bank's reputation. Lipper (2009a, p. 25) states in the concluding section:

“Particularly in markets where banks dominate fund distribution the dominance of new fund launches in capturing the lion’s share of sales can be clearly seen: ‘product push’ is a key business driver.”

### *Board of directors*

The board of an investment fund plays, or can play, an important role in defending the interests of fund investors against conflicts of interest between various stakeholders, in particular, that between the investors and the fund management company. In fulfilling their oversight role, independent board members, as opposed to dependent board members, might be more inclined to put the interests of the fund investors first and to act against the interests of the fund management company, if necessary. Having at least some independent board members might well bring a certain perspective and discipline lacking in boards that are only internal. In the U.S., having independent directors is mandatory. These directors are to serve as *watchdogs* for the fund investors, able to negotiate with the fund management company at an arms length basis.

Independence can be defined in various ways. Independent directors at least exclude anyone who is employed by the fund management company. A stricter definition would exclude anyone who was previously employed by the fund management company, anyone who is employed within the group to which the fund management company belongs and anyone with ownership or business ties with the fund management company, such as employees of companies that are service providers to the fund or the fund management company. The investor might be served best when those entrusted with an oversight role can and do *act independently* from the fund management company, irrespective of their legal status.

There are several reasons why the added value of independent directors for investors might be limited or non-existent in practice. The way board members are selected and appointed might influence how effective boards are in mitigating conflicts of interest. An investment fund is created by the fund management company, which also appoints the fund’s initial board of directors. That way, the fund management company selects the initial board and usually also has a significant influence when new board members are appointed. This implies that the fund management company nominates or has influence over who is appointed in the role to oversee and monitor them. Although the fund management company may not have the right to fire board members, it will not ask a demonstrated *troublemaker* to serve on the board of a fund it may establish in the future.

Since independent board members generally receive a financial compensation for their role, there is also a financial incentive not to disregard the interests of the fund management company. In fact, directors on the board of a fund are economic agents in their own right. When independent directors are recruited from the *circle of friends* of the management of fund management company, their independence can be of limited added value to the investors. Financial, business or personal connections may lead to favouritism, which can limit effectiveness for investors. One can also wonder how much power an independent board member really has, especially when he is on his own or forms part of a small minority. In addition, there is the argument of asym-

metric information. Internal board members could be better informed than external, independent board members.

### *Conclusion*

There are numerous potential conflicts of interest in the fund management industry, between the fund investor and other parties involved in the management, operations and distribution of funds. The most fundamental conflict is that between the investors and the fund management company. The fund management company receives a percentage of the assets of the fund as an annual management fee. The investor aims to achieve an optimal risk-adjusted return, net of costs. The higher the management fee that the fund management company receives for its services, the lower the risk-adjusted return. An investor in an open-end fund can always sell his participation at net asset value when he is not pleased with the results of the fund. This market force helps align the interests of investors and the fund management company.

However, the convex nature of the performance-flow relationship has the result that fund management companies benefit from strong performance more than they are punished for poor performance. This has the effect that various types of behaviour that go against the investors' interests, are optimal for the fund management company. Therefore, it is unlikely that market forces alone are sufficient to ensure that conflicts of interest are fully mitigated. Where market forces fail, there is room for other forms of oversight, such as that of regulators and the board of directors, to add value for investors.

## **1.7 Structure of the dissertation**

The following chapters of this dissertation are organised as follows: Chapter 2 is dedicated to the legal and regulatory framework in which investment funds operate, as well as to various codes of conduct published by industry associations and governance studies published by consultancy firms. These are described and analysed to provide the relevant background to the empirical studies presented in chapters 3 through 7.

Chapter 3 analyses earlier empirical studies into the effectiveness of governance by fund boards. These studies investigate the relationship between, on the one hand, board characteristics and on the other hand, fund costs, performance and/or fund management company behaviour. Most of these studies analyse data with respect to funds domiciled and offered in the U.S.

Chapters 4 through 7 are dedicated to the analysis of fund governance using a sample of Luxembourg-domiciled funds. All funds in the sample are regulated under the UCITS regime, which allows them to be distributed on a cross-border basis. Chapter 4 describes the population and sample analysed. It uses descriptive statistics to investigate the sample from various angles, including how (independent) governance developed in the period from 2000 to 2009. The goal of chapter 5 is to establish whether board characteristics explain variation in fund costs, for which a multiple regression analysis is used. Chapter 6 is similar in its methodology, but is dedicated to the relationship between governance and performance.



In chapter 7, the results of a survey among board members of Luxembourg cross-border funds are presented, which consisted of questions related to funds governance, board independence, costs and performance. An inherent shortcoming of the methodology used in chapters 5 and 6 is that when statistically significant relationships are established, it still does not prove causality. The goal of the survey is to gain more insight into the influence of boards on costs and performance in order to substantiate any relationships found in chapter 5 and 6.

Chapter 8 provides the summary and conclusion.



## Chapter 2

# Regulation and best practice

*“Examining the history of the mutual-fund industry leads to the disheartening conclusion that legislation and regulation prove no match for the greed-inspired creativity of mutual-fund companies.”<sup>30</sup>*

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<sup>30</sup> David F. Swensen, 2005, *Unconventional success: A fundamental approach to personal investment* (Free Press, New York), p. 271.

## 2.1 Introduction

Chapter 2 is dedicated to the legal and regulatory framework in which investment funds operate, as well as various codes of conduct, best practice recommendations and governance studies published by industry associations and consultancy firms. These are described and analysed to provide the relevant background to the empirical studies presented in chapters 3 through 7.

Section 2.2 provides an international overview of the legal and regulatory framework for investment funds in general, and fund governance by boards and other entities in specific. The U.S., Luxembourg and the Netherlands are analysed individually. The reason for selecting these fund domiciles is that the majority of earlier empirical research regarding the effectiveness of governance by fund boards was done in the U.S. Luxembourg was chosen as the largest domicile for cross-border fund distribution and because the empirical study done for this dissertation uses a sample of Luxembourg-domiciled funds. The Netherlands is an example of a typical domestic market in Europe and was chosen because of the discussions that took place in the last decade between regulator, government and industry regarding the model for fund governance regulation and best practices. Sections 2.3 and 2.4 contain an analysis of fund governance best practices and codes of conduct, again focusing on the three selected domiciles. Given the central research question of this dissertation, the focus is on regulations and recommendations regarding independent oversight, as well as on costs and performance.

## 2.2 Analysis of the legal and regulatory framework

In this section, the legal and regulatory framework of funds is analysed, focusing on aspects relating to fund governance and costs and performance. After an international overview in section 2.2.1, section 2.2.2 focuses on the U.S., 2.2.3 on European legislation, 2.2.4 on Luxembourg and 2.2.5 on the Netherlands.

### 2.2.1 International overview

The international overview of the legal and regulatory framework for governance of investment funds in this section is based on two influential papers on the topic of fund governance, namely the OECD White Paper of March 2005 (OECD, 2005) and the IOSCO Report of June 2006 (IOSCO, 2006a and 2006b). It should be noted that both these documents are not binding rules. There are no binding rules for investment funds at this level. The reason for presenting these papers here is that they provide a good overview of the legal and regulatory framework in different domiciles, focusing on fund governance, while listing several general principles. Thereby, they give a relevant background to the binding rules of the U.S., the EU, Luxembourg and the Netherlands, which are discussed in subsequent sections. Furthermore, these papers have strongly influenced the development of fund governance thinking, as well as best prac-

tices, as laid down in several industry association recommendations. Several of these recommendations are discussed in section 2.3

### *OECD White Paper*

In March 2005, the Directorate for Financial and Enterprise Affairs of the Organisation for Economic Co-operation and Development (OECD) published the “White paper on Governance of Collective Investment schemes (CIS)” (OECD, 2005; hereafter referred to as the OECD White Paper). The analysis and recommendations in the OECD White Paper are aimed at open-ended funds that are offered to the general public. In the document introduction, reference is made to the fact that there is an agency relationship between the fund manager and the investor, as well as asymmetry of information and market power. Furthermore, it states that investors tend to focus on relative performance, risks and costs of funds and the suitability of a particular fund given the investor’s objectives, but that governance gets little attention, unless a serious breach is discovered. Investors apparently rely on the fund industry and individual funds to have sound internal governance in place, so that the interests of investors are safeguarded. The internal governance is to monitor management on behalf of investors and to ensure that supervisory, regulatory and risk management requirements are met. The supervisory authorities mainly assess the adequacy of that governance system and take action in case of shortcomings. The purpose of the OECD White Paper is to present the elements of robust fund governance to policy makers and the fund industry. In separate sections, the OECD White Paper covers the legal and regulatory framework, rights of investors, the role of the private sector, market discipline and infrastructure, transparency and disclosure and internal governance.

The legal form of funds differs across jurisdictions, and often the legal and regulatory framework of a jurisdiction allows for more than one form<sup>31</sup>. In order to protect investors and ensure confidence in and stability of the financial system, all countries with well-developed markets have a legal and regulatory framework in place for the management and offering of funds, which is part of a broader framework for capital markets legislation and regulation. General principles are that the investor in the fund bears the investment risk and that regulation is not designed to prevent or limit investment losses. In this respect, the OECD White Paper states (OECD, 2005, p. 142):

“The objectives of the investor protection regime are to protect investors against fraud, negligence and conflict of interests, to ensure that each CIS observes the rules of fair and transparent operation and that investors are adequately informed of the risks involved in their investment.”

A regulatory authority oversees the fund sector and ensures that firms active in the sector have the appropriate governance framework in place. Investors are entitled to transparency with regard to costs and performance. The paper mentions the investment policy, the assets held and their valuation, financial performance and costs and expenses as the aspects that the fund should present transparently (OECD, 2005, p.

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<sup>31</sup> The UCITS Directive of the European Union allows UCITS to be constituted in accordance with contract law (as common funds managed by management companies), trust law (as unit trusts) or statute (as investment companies).

147). Within the legal and regulatory framework, the private sector also has its role to play, particularly the industry associations. The influence and power of the industry associations varies by jurisdiction, ranging from the development of common positions within the industry to functioning as self-regulatory organisations, with the power to impose sanctions. A general practice among industry associations from different jurisdictions is the development of codes of conduct and standards. Industry associations can promote higher standards than the legal and regulatory minimum, using peer pressure to enforce such industry best practices among market participants (OECD, 2005, p. 150)<sup>32</sup>.

Distributors play a role as intermediaries between the fund management company and the investor, and sales commissions are usually a main source of revenue for these distributors. It is the responsibility of the distributor to assess the suitability of an investment and they may not mislead the investor with regard to the nature of the investment and the costs associated (OECD, 2005, p. 151). For transparency and the disclosure of information, two documents play a vital role, namely the offering document (prospectus) and the periodic reports. Information to be included in the offering documents usually consists of a minimum of:

- Basic features of the fund.
- Parties responsible for the fund (fund management company and investment manager, as well as parties with oversight roles, such as the trustee, depository (custodian) and auditor).
- Fees and commissions, as well as sales and distribution costs.
- Explanation of the investment policy, including investment restrictions.
- Explanation of the types and degrees of risk.

The fund management company must inform investors of any material subsequent changes.

Periodic information must be provided at least annually in financial statements certified by an independent auditor. These are to include:

- Assets of the fund and their valuation.
- Portfolio turnover.
- Investment performance.
- Costs and expenses, including brokerage fees.

Fees, commissions and expenses affect performance. In order to prevent the misuse of the information advantage over investors, fund management companies must provide full transparency on fees, commissions and expenses. Market forces should be able to do their work restraining costs. With regard to costs and performance, comparability of costs and performance figures of competing funds is of high importance and standardisation is encouraged. The OECD is in favour of a standard fee table to ensure that fees, commissions and expenses can be easily compared (OECD, 2005, p. 154–157). Because of the relevance to the central research question of this dissertation, the complete section on fees, expenses and commissions is included in table 2.1.

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<sup>32</sup> The guidelines and codes of conduct related to fund governance of the industry associations in the U.S., Europe, Luxembourg and the Netherlands are addressed in section 2.3.

**Table 2.1:** OECD White Paper's section on fees, commissions and expenses (OECD, 2005, p. 156–158)**Fees, commissions and expenses**

One important area in which CIS operators as well as other parties, such as distributors and financial advisors, may use their information advantage to the detriment of investors is fees, commissions and costs. Fees and commissions may be charged in a wide variety of ways. Investors may not have the capability to determine whether fees are reasonable or to assess whether they are high relative to those of competitors, and it may not be obvious whether additional services offered by one provider are sufficient to justify higher fees. It is clear that fees and expenses affect total performance. Full and transparent disclosure and competitive pressure that restrain the level of fees and expenses are defining characteristics of a fair market.

In addition to the standard fees for operating the CIS and managing the portfolio, many CIS charge fees that vary according to the performance of the CIS. Some CIS also charge fees that are used to defray marketing costs. Some CIS are subject to sales fees at the time of sale and/or at the time of redemption. Fees are often divided by the operators among the operator, investment manager, service providers, distributors and investment counsellors. Often the distribution of fees is not explained in a transparent manner.

CIS incur expenses which are passed on to the final investors. Normally, investors will want to examine expenses carefully and compare expenses of competing CIS. The investor may conclude that higher expenses are justified by better services or investment results. A CIS may incur comparatively high expenses by inefficient operation. Alternatively a CIS may incur high expenses by dealing with affiliated service providers (e.g. brokers, advisers etc.) at uncompetitive rates. The use of techniques such as “soft commissions”, rebates and the sharing of fees among operators, managers and distributors all complicate the transparent presentation of costs and give rise to possible conflicts of interest.

The difficulties in identifying the full extent of fees, commissions and expenses and in assessing the relative costs of competing CIS are magnified when information regarding fees and expenses is not presented in a uniform manner by competing CIS. Therefore it is good practice to promote standardisation in presentation.

The most desirable means to achieve an equitable fee structure is through strict disclosure standards and market discipline. In order for market discipline to be effective, strong disclosure requirements need to be imposed on CIS operators and parties involved in distribution while requiring the highest possible consistency in disclosure. Simultaneously, investor education and the financial press can sensitise investors to the need to monitor fees and expenses. Regulations normally specify the information that must be disclosed in the offering documents and periodic reporting and may set rules regarding information provided in advertising and promotional material. It is desirable for efforts of the regulatory authority to be supplemented by the efforts of the CIS industry and SROs<sup>33</sup> to set standards that encourage transparency and consistency. It is considered good practice for CIS to include a discussion of their fees structure, with a comparison to industry standards, in material that is disclosed to investors.

While market discipline is the preferred way of obtaining an equitable fee structure, in some cases the regulatory authority may decide that an official determination of some fees, the prohibition of certain fees or official ceilings on some charges are the only practical way of obtaining a fair fee structure or of removing conflicts of interest. In order to maintain a fair fee structure the authorities may also decide to limit or impose conditions on transactions between the CIS and its affiliates.

Regulatory practices, industry standards, policies of firms and market infrastructure should ensure a high degree of transparency concerning fees, commissions and costs. In some cases, the authorities may decide that direct regulation or limitation is necessary in order to achieve an equitable fee structure or to minimise conflicts of interest.

**Conclusion**

Regulatory practices, industry standards, policies of firms and market infrastructure should ensure a high degree of transparency concerning fees, commissions and costs. Transparency and market competition are the strongly preferred means to achieve a reasonable fee structure, but in some instances the authorities may decide that direct regulation or limitation is necessary.

<sup>33</sup> SRO stands for Self Regulatory Organisation.

The OECD White Paper also addresses conflicts of interest and states that, in virtually all countries, funds are required by law to be operated exclusively for the interests of investors (OECD, 2005, p. 160). The internal governance of the fund is to mitigate conflicts of interest and should be designed to monitor the execution of the investment policy and to protect the interest of investors (OECD, 2005, p. 159).

In the internal governance structure of funds that are organised as a separate corporation, the board of directors has final accountability, whereas in other cases it is often the board of the fund management company. The final section of the OECD White Paper covers the independent review function, an area where there are significant differences between fund domiciles. The OECD White Paper mentions two dimensions of independence (OECD, 2005, p. 165):

- “i) sufficient independence from the management of the operator to be able to engage in effective monitoring, which is an accepted standard everywhere and
- ii) independence from all parties having any ownership, control or other business relationships with the operator, which is an additional requirement in some jurisdictions.”

In some domiciles, there is an additional layer of review, such as in the U.S., where each fund has a separate board of directors with independent members. Under the EU’s UCITS Directives however, there is no requirement for such an additional, independent layer of review, but there is an oversight responsibility assigned to the depositary. The OECD White Paper concludes (OECD, 2005, p. 165):

“In cases where the final authority for monitoring for standards of integrity rests solely with the board of the operator, it is essential to erect very robust internal safeguards to address conflicts of interest and prevent the abuse of insider positions. This obligation is particularly strong when the board members have links to affiliated companies and/or when an affiliated company acts as depositary.”

The responsibilities and powers of the independent review function also differ across domiciles, from assuring compliance with regulations and avoidance of conflicts of interest to explicitly representing the shareholders in relation to the fund management company. In the U.S., the latter is the case. In the U.S. fund governance model, the independent directors are to review the contracts with the investment adviser and ensure that their fees and expenses are at a level that is in the best interest of the investors. In other countries, there is only the general responsibility of persons in an oversight role to act in the best interest of investors. Industry associations often make this responsibility more concrete by issuing specific guidelines for the execution of oversight roles and by prescribing how to ensure that persons in such positions can act sufficiently independently and are incentivised to do so. Several guidelines and codes of conduct related to fund governance will be addressed in section 2.3.

### *IOSCO Report*

In June 2006, the Technical Committee of the International Organization of Securities Commissions (IOSCO), the international association of securities regulators, published its report, “Examination of Governance for Collective Investment Schemes” (IOSCO,



2006a and 2006b; hereafter IOSCO Report). The IOSCO Report provides a comprehensive overview of the different legal forms and governance characteristics that investment funds have in different jurisdictions. It is based on a survey among the member jurisdictions and aims to establish broad general principles of fund governance. The report recognises that there are differences between the legal structure of investment funds, as well as the legal and regulatory framework in which funds operate, resulting in different approaches to fund governance. However, the primary general principle of independent review and oversight of the fund management company's<sup>34</sup> fiduciary duties, including the prevention of conflicts of interest, is universal. The IOSCO Report also recognises the difference between *general* corporate governance and the specific governance for investment funds that is to be aimed at ensuring that the fund is operated in the interest of the fund investors, as opposed to the interests of those involved in operating it. This is clarified as follows (IOSCO, 2006a, p. 4; note that the footnotes in this citation are the footnotes in the cited IOSCO text):

"A framework for CIS Governance must reflect the unique nature and purpose of CIS. CIS are a vehicle for pooling the investments of individuals in order to obtain professional management of the investors' pooled assets. The purpose of a CIS is to successfully invest the pooled assets for the primary benefit of CIS Investors.<sup>35</sup> As a consequence, a robust CIS Governance framework should seek to protect, through oversight and review, the CIS assets from loss due to malfeasance or negligence on the part of those that organize or operate the CIS and should strive to ensure that investors are adequately informed of the risks involved in their investment and the rewards they can obtain, and above all that the CIS is operated in the investors' best interests at all times<sup>36</sup>."

According to the report (IOSCO, 2006a, p. 4–9), investment funds are typically organised according to one of two structural forms, corporate or contractual (or as a hybrid of the two). Table 2.2 provides an overview of the main characteristics of the different forms and states in which of the three jurisdictions of analysis in this dissertation, the U.S., Luxembourg and the Netherlands, the respective models can be found.

The IOSCO Report describes the main purpose of the Independent Oversight Entity as follows (IOSCO, 2006a, p. 10):

"The Independent Entity's or Independent Entities' main purpose should be ensuring that when faced with a conflict, CIS Operators respect the applicable rules, their contractual obligations and their duties, from "an outside, although objective and informed, perspective", and therefore protect CIS Investors from divergent behaviors of the CIS Operator."

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<sup>34</sup> In the IOSCO Report referred to as CIS Operator.

<sup>35</sup> We recognize that CIS Operators and others benefit from a CIS through (sic) compensation for the services that they render to the CIS.

<sup>36</sup> The definition of a CIS Governance regime, should not, however, disregard that commercial mechanisms and competition, together with the need to preserve and enhance firm reputation are factors that continually enhance the alignment of CIS Operator and investor interests.

**Table 2.2:** Structural forms of investment funds

Model	Characteristics	Oversight entity	Countries
Corporate model (1)	Investors hold shares in the investment company. Investment manager/advisor is appointed by the board of directors.	Board of directors	Luxembourg, U.S.
Corporate model (2)	Investors hold shares in the investment company. Portfolio is managed by an investment manager/advisor.	Depository	Netherlands
Contractual model (1)	Investors hold units in fund. Fund has no legal personality. Management of the portfolio entrusted to management company.	Depository	Luxembourg, Netherlands
Contractual model (2)	Investors hold units in unit trust, which is established and governed by a trust deed. Portfolio is managed by management company.	Trustee	Form not seen in U.S., Luxembourg or the Netherlands, but e.g. in the U.K.
Hybrid model	Investors hold units in unit trust, which is established and governed by a trust deed. Portfolio is managed by management company.	Supervisory board at the level of the fund or fund management company. Independent review or compliance committee.	Netherlands

To be effective, especially in conflict of interest situations, the oversight entity should be independent, have sufficient financial resources and be sufficiently empowered versus the fund management company, for example, by means of reporting possibilities to regulatory authorities and to the external auditor. The various jurisdictions in the sample differ in how this independence or *outside perspective* is to be ensured, ranging from directors who are independent from the fund management company and other entities involved in the fund, to regulations requiring the trustee and the fund management company to be unrelated in terms of ownership and board composition. The IOSCO Report does not go as far as requiring legal and economic independence of the oversight entity, but states that when there is no legal and economic independence, at least it should be able to act independently from the interests of the fund management company. Depending on the legal and regulatory framework in the jurisdiction and the set-up of the fund, the structure of the oversight entity can differ. This can range from a simple solution consisting of an independent board of directors in the case of a corporate entity, to a complex solution in the case of a contractual set-up of the fund, with oversight responsibilities being spread over different entities, such as independent members within the board of directors of the fund management company, the depository, the trustee, an independent review or compliance committee or the supervisory board of the fund or fund management company. Also, the regulator and external auditor contribute to the oversight function (IOSCO, 2006a, p. 11-13).

Whereas part I of the IOSCO Report is mostly descriptive, analysing and describing the forms of fund governance that were observed in the member jurisdictions, part II of the report is more normative in its approach. Part II takes as a starting point the principle of independent oversight by Independent Oversight Entities from part I and aims to develop the concept of independence and the powers and functions that an

Independent Oversight Entity should possess (IOSCO, 2006b, p. 3–4). The concept of independence is defined as follows (IOSCO, 2006b, p. 4):

“a set of arrangements that provide Independent Entities with appropriate legal conditions and autonomy to exercise their powers and functions without constraints or interferences from the CIS Operator or its related parties, and allow adequate and objective oversight of the CIS and CIS Operator’s activities, with the objective of protecting CIS Investors and their assets.”

In the text that follows, the document lists principles and criteria to ensure independence that should apply in any jurisdiction. However, the way they are or can be implemented differs depending on the jurisdiction. The principles are (IOSCO, 2006b, p. 5–8):

- “1. The Independent Oversight Entities should be set up, composed, appointed or dismissed under conditions that prevent the decision making process from being tainted by any type of conflicts of interests with the CIS Operator and its related parties.
2. The organization and the practical functioning of the Independent Oversight Entities should allow them to be out of the control or the influence of the management of the CIS Operator or its related parties.
3. There should not be any confusion between responsibilities of the Independent Oversight Entities when exercising their oversight function on the one side and the CIS Operator in its asset management role over the CIS on the other side.”

Examples of ways in which the first principle can be implemented are a direct election of the members of the Independent Oversight Entity, self-appointment and appointment in a transparent manner. Dismissal by the fund management company should not be possible without disclosed and motivated explanations or after involvement of the fund unit holders or the regulator. The Independent Oversight Entity should have a majority of independent members. In its criteria of independence, the IOSCO Report largely follows U.S. legislation, such as having no affiliation with the fund management company and not being an immediate family member of an affiliated person. In the case where a Trustee or Depositary functions as an Independent Oversight Entity, these functions should be segregated from the fund management company in a legal and organisational sense.

The second principle is to ensure that management and supervisory functions are separated. The consequence of the third principle is that members of the Independent Oversight Entity have a supervisory function and should not be involved in the management of the assets or in operational aspects of the fund. Furthermore, they should not receive any remuneration from the fund management company.

The Independent Oversight Entities should always have the following powers, irrespective of the legal structure of the fund (IOSCO, 2006b, p. 9–10):

- “1. The Independent Oversight Entities should be entitled to receive all relevant information enabling them to perform their oversight function in a proper manner.

2. The Independent Oversight Entities should be given the necessary means to carry out their duties without relying exclusively on the CIS Operator's assistance.
3. The Independent Oversight Entities should be given the right to review the legal and operational conditions of the CIS management in relation with the CIS in a reasonable way."

An example of relevant information that the Independent Oversight Entity should receive is information concerning management of conflicts of interest between the fund and fund management company, as well as, any compliance or legal issues that might be of relevance to the investors. The contract of the fund with the fund management company should be subject to review by the Independent Oversight Entity.

Finally, the report (IOSCO, 2006b, p. 11–13) addresses the functions to be performed by the Independent Oversight Entity:

- "1. The Independent Oversight Entities, collectively, should have the function of overseeing the CIS Operator and CIS Operator's activities.
2. The Independent Oversight Entities, collectively, should have the function of ensuring that appropriate mechanisms are in place to prevent or avoid the erosion or expropriation of CIS investor's wealth and interests in the CIS.
3. The Independent Oversight Entities should have a duty of reporting to the regulatory authorities or the CIS unit holders."

These functions are directly related to investor protection and aim to prevent and avoid the inappropriate loss of entrusted assets. Examples of functions mentioned, which are most relevant to this dissertation, are overseeing potential conflicts of interest when concluding transactions with or outsourcing to related parties, ensuring that fees and expenses charged are appropriate and assessing the accuracy of the Total Expense Ratio (TER). In the corporate model case, these oversight functions can be fulfilled by the board of the fund, while in the contractual or hybrid model, oversight is typically provided by independent directors sitting on the board of the fund management company, a Supervisory Board, or an Independent Review or Compliance Committee. Certain functions can also be performed by the auditor.

### **2.2.2 U.S. – 1940 Act**

In the U.S., a fund management company can set up an investment fund as either an investment company (corporate model) or an investment trust (contractual model). An investment fund set up as an investment company is overseen by a Board of Directors, whereas an investment fund set up as a trust is overseen by a Board of Trustees. This legal distinction makes no difference from an economical point of view. The requirements with regard to the independence of these boards are also the same. Most fund management companies establish a series of investment funds with different characteristics, thereby forming a product range or fund family. Individual funds in the product range of a fund management company are separate entities from a legal point of view and they each have their own board. Economically, they normally have a lot in common, such as having the same investment advisor. In practice, the composition of

the boards is also usually similar or even exactly the same across the fund management company's product range.

A central role in the regulatory framework for U.S. investment funds is played by the *Investment Company Act of 1940* (hereafter 1940 Act). This Act of the U.S. Congress was passed as a United States Public Law (PL 76–768) on 22 August 1940 and was amended in 1970 and 2001. The Act defines the responsibilities of investment companies that are offered to the public and is enforced by the SEC. The Act protects the public primarily by requiring disclosure of important information to the investor and the financial situation of the fund, rather than supervising the investment company's investment decisions. Furthermore, conflicts of interest are regulated and the board of directors plays an important role as *watchdogs*. The SEC describes the Act as follows:

“This Act regulates the organization of companies, including mutual funds, that engage primarily in investing, reinvesting, and trading in securities, and whose own securities are offered to the investing public. The regulation is designed to minimize conflicts of interest that arise in these complex operations. The Act requires these companies to disclose their financial condition and investment policies to investors when stock is initially sold and, subsequently, on a regular basis. The focus of this Act is on disclosure to the investing public of information about the fund and its investment objectives, as well as on investment company structure and operations. It is important to remember that the Act does not permit the SEC to directly supervise the investment decisions or activities of these companies or judge the merits of their investments.”<sup>37</sup>

The 1940 Act imposes on directors a fiduciary duty to act in the interest of investors and gives fund investors the right of legal action against the directors in case of breach of that duty. Relevant for this dissertation is that the 1940 Act requires investment companies to have a minimum proportion of independent directors on their boards, while also defining independence<sup>38</sup> and assigning independent directors with certain specific responsibilities. The standard is that at least 40% of the directors on a fund board need to be independent. This is raised to a majority of independent directors in the case of funds that rely on certain Exemptive Rules<sup>39</sup>, such as e.g., open-end funds offering shares through an affiliate of the adviser. Approximately 90% of U.S. funds rely on at least one such Exemptive Rule (IOSCO, 2006a, p. 16). Phillips (2003, p. 3) summarises the legal definition of independence according to the 1940 Act as follows:

“The definition of “interested person” contained in Section 2(a)(19) of the 1940 Act essentially disqualifies a person from serving as an independent director of a fund if such person: (1) is an “affiliated person” of the fund, other than solely by reason of his or her directorship or ownership of fund shares; (2) has, at any time during the prior two years, served as legal counsel to the fund; or (3) is affiliated with a person who has, at any time during the prior six months, engaged in any portfolio transactions, as principal or as agent for, or distributed

<sup>37</sup> Source: SEC website [www.sec.org](http://www.sec.org), 22 December 2009.

<sup>38</sup> Literally, the 1940 Act speaks of *not interested*. The 1970 amendment of the 1940 Act made the definition stricter.

<sup>39</sup> The 2001 amendment of the 1940 Act included changes to the Exemptive Rules.

shares of, any fund or account advised by the fund's investment adviser. The term "affiliated person" is broadly defined to include any officer, employee or 5% shareholder of the fund, its investment adviser or principal underwriter or any person controlling, controlled by or under common control with such fund, investment adviser or principal underwriter. ... In addition, the SEC has the authority to issue an order to declare a person an "interested person" of a fund if it finds that such person has or had, at any time during the prior two years, a "material business or professional relationship" with certain specified persons and entities, including some fund affiliates."

Following the late trading and market timing scandals in the U.S. in 2003, the SEC announced rule changes in June 2004, increasing the independence of the board by raising the minimum percentage of independent directors to 75% and by requiring the chairman to be an independent director. The new rules were to become effective 18 months after the announcement, but were controversial from the beginning. Fund management companies, such as Fidelity Investments, were vocal opponents in the press<sup>40</sup> and backed the U.S. Chamber of Commerce in a suit against the SEC to block implementation. Their argument was that the benefits of the increased independence were not proven, while they did impose a significant cost to the industry. In April 2006, the U.S. Court of Appeals for the District of Columbia vacated the new requirements of at least 75% independent directors and the independent chairman, on the basis that the SEC had not provided a robust cost-benefit analysis of the rule change. To date, the SEC has not re-proposed these or alternative adjustments to the regulations.

The responsibilities of the independent directors include the selection of the fund's auditor, the annual approval of the contract with the fund's principal underwriter and the annual approval of the fund's investment advisory contract, including the advisory fee. Phillips (2003, p. 8–9) describes the responsibility of the board with regard to fees as follows:

"While directors, particularly independent directors, have an important responsibility with respect to mutual fund advisory fees, nothing in the 1940 Act, the court decisions thereunder or basic concepts of fiduciary duty impose on the directors a continuing duty to negotiate the lowest possible fee. To the contrary, the fiduciary duty of the independent directors is and should be to approve reasonable fees. ... Mutual fund directors approach the contract renewal process with the knowledge that fund shareholders have had extensive disclosure concerning the fees and other costs incurred in connection with their investment. Clearly, the directors have no reason to believe that investors have purchased fund shares in the belief that the fees are unreasonable but in reliance on the efforts of the independent directors to reduce those fees and other costs. ... A determination of reasonableness generally focuses on an evaluation of changed circumstances, particularly, changes in management

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<sup>40</sup> See e.g. Joseph Checkler, *Fidelity Says Not So Fast' To Independent Chair Push*, Money Management Executive, 23 February 2004 and Amy Borrus and Paula Dwyer, *Who's Right, The SEC Or Ned Johnson?*; The agency says independent chairmen at mutual funds are better for shareholders, *Business Week*, 28 June 2004.

performance, fund growth or other changes in the factors affecting the economics of the management function. Directors cannot ignore such circumstances; each year they have a responsibility to approve an advisory fee that reflects a sharing of the economies of scale realized from fund growth or from other changed circumstances.”

This view is in line with remarks of the then SEC Chairman Arthur Levitt in his speech to the Investment Company Institute (1998):

“Fees have to be questioned. Directors don’t have to guarantee that a fund pays the lowest rates. But they do have to make sure that fees fall within a reasonable band. There are some who say fund directors need not be as strong as corporate directors -- that their role is different. That it requires less effort, less independence or less vigilance. Those who buy into this myth are making excuses for directors who don’t have the time or the interest to stand up for shareholders.”

Funds may use affiliated service providers, on the condition that the terms are reasonable and fair. In practice, many U.S. investment funds use an affiliated transfer agent. A fund can also have an affiliated custodian, but that is considered self-custody and therefore subject to significant conditions. Several regulatory requirements relate to transparency with regard to costs and the investment policy. The expense ratio and its components, as well as the sales load for U.S. mutual funds are displayed in the fee table in the prospectus, which is standardised across the industry on the basis of SEC rules. The table is to be placed near the beginning of a fund’s prospectus. When a fund manager wants to make changes to an existing U.S.-domiciled mutual fund, e.g. increasing the management fee or adjusting the investment policy, the fund’s board must approve the change. Increases in advisory fees, as well as changes to the investment objective of the fund must also be approved by the shareholders. A 60-days’ advance notice to shareholders is required before the change can be effected in the case of a change that creates a conflict with the so-called *names rule*. According to that rule, funds with, for example, *large cap* in their name are required to invest at least 80% of their assets in equity of large capitalisation companies.

### 2.2.3 Europe – UCITS Directive

In 1985, the European Economic Community (EEC) – the predecessor of the European Union (EU) – issued the original *Directive for Undertakings for Collective Investment in Transferable Securities* (Directive 85/611/EEC), in short *UCITS*. The aim of the Directive was to harmonise the domestic regulations regarding retail investment funds in each of the EEC Member States and to facilitate cross border activities, thereby contributing to the goal of a single market for financial services in Europe. With the larger market available, economies of scale were to reduce the investment manager costs, which were expected to be passed on to consumers in the form of a lower Total Expense Ratio (TER). The Directive laid down binding, harmonised rules for management companies and investment funds, which had to be and were transposed into national law of the Member States. The Directive specifies the key features of these funds, the

permitted legal forms of UCITS (common funds managed by management companies, unit trusts and investment companies), as well as investment and borrowing rules, liquidity requirements (regular valuation and redemption of units at the request of unit-holders), prospectus disclosure rules and rules relating to annual and semi-annual reporting. Also rules with regard to the role and duties of UCITS depositaries and management companies are included in the Directive. On the basis of this Directive, investment funds that meet the criteria can be offered throughout the EU – only a relatively light notification procedure needs to be followed – on the basis of the authorisation from the home state of the fund. This is often referred as the funds having a *European passport*.

In July 1998, the European Commission published a proposal to amend the 1985 Directive. These proposals were adopted in December 2001 and are known as UCITS III<sup>41</sup>. UCITS III consists of the following two directives:

- Directive 2001/107/EC (the Management Directive).
- Directive 2001/108/EC (the Product Directive).

UCITS III was a significant overhaul of UCITS on different aspects, such as how the funds are managed, what they can invest in and how they can be marketed and sold. One of the new elements of the Management Directive was the concept of a *simplified prospectus*, which was intended to provide consistent information about the funds that would be easier to understand for retail investors than the full prospectus. The Product Directive widened the investment possibilities of UCITS and, since it came into force, it is possible to set up money funds, derivatives funds, index-tracking funds and funds of funds as UCITS.

Following several rounds of consultations, the Committee of European Securities Regulators (CESR) issued its recommendations regarding eligible assets for investment by UCITS in January 2006. The *Eligible Assets Directive* (Directive 2007/16/EC) followed in March 2007. A further adjustment of the UCITS framework is the UCITS IV Directive of 13 July 2009 (Directive 2009/65/EC), aimed at increasing efficiency in the fund management industry, which should ultimately lead to lower costs for investors, and at improving investor information. Concretely, UCITS IV involves changes in the following areas:

- Simpler and faster notification procedure.
- Introduction of a framework for (cross-border) mergers of UCITS, irrespective of their legal form.
- Master-feeder structures with UCITS status are made possible.
- A standardised Key Investor Information document (KIID), which replaces the simplified prospectus.

Management companies are now permitted to manage funds on a cross-border basis. This implies that the fund and the management company may be domiciled and authorised in a different country. Except for the depository, the other service providers

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<sup>41</sup> In the early 1990s, the first UCITS Directive was to be updated. However, the draft UCITS II Directive was abandoned when the Council of Ministers could not reach a common position.



do not need to be domiciled in the same country as the fund. Member States were to transpose the provisions of the UCITS IV Directive into national law by 1 July 2011.

The UCITS Directive includes several articles that relate to the governance of investment funds authorised as UCITS. Table 2.3 provides the text of the articles that are most relevant to the central research question of this dissertation and concern governance, management of conflicts of interest, as well as costs and investment performance.

The general principle of a fiduciary duty of the management company towards fund investors can be found in Article 14, where it states that the management company is to act honestly and fairly in conducting its business activities in the best interests of the UCITS it manages. It is to exercise due skill, care and diligence. Conflicts of interest are to be avoided or, when that is not possible, there should be fair treatment of the UCITS managed, while the best interest of the investors is to be promoted.

The UCITS Directive requires funds with UCITS status to have a depositary, and on the basis of Article 25, the management company and the depositary are required to act independently and in the interest of the unit-holders. In addition to its responsibility for the safekeeping of the assets of the fund, the depositary has several oversight functions, which are included in Article 22–3. Of a more practical nature are Articles 7 and 12. Article 7 requires the persons who manage a fund management company to be of *sufficiently good repute* and be *sufficiently experienced*. On the basis of Article 12, management companies are required to have *sound administrative and accounting procedures and rules for personal transactions by its employees*. Furthermore, their structure and organisation should be such that the risk of investors suffering from conflicts of interest is minimised.

The KIID, referred to in Article 78, is to play an important role in ensuring that investors can make an informed investment decision. The standard KIID is two sheets of A4 paper. The description of the strategy and objectives of the fund should be combined in one section and be written in plain language that is comprehensible for the retail investor. In addition, the KIID is to provide information on past performance, costs and risks in a standardised fashion, which increases transparency and facilitates comparisons between funds.

The Implementing Directive of 1 July 2010 (Directive 2010/43/EU) contains organisational requirements to which management companies managing funds with UCITS status must conform, as well as rules related to conflicts of interest, conduct of business, risk management and the agreement between depositary and management company. The directive lays several criteria for the identification of conflicts of interest, such as situations where the management company makes a financial gain at the expense of the fund and where the management company has an incentive to favour the interest of another client. The management company is obliged to implement an effective policy concerning conflicts of interest. Potential conflicts of interest must be identified and when conflicts of interest occur, they must be handled in accordance with the policy. When the arrangements are insufficient to prevent risk of damaging the interests of the fund, senior management should be promptly informed in order to take action. In such cases, investors need to be informed of the situation and the decisions made.

**Table 2.3:** Selected articles in UCITS IV Directive on governance as well as costs and performance

Article 7 (1)	<p>Without prejudice to other conditions of general application laid down by national law, the competent authorities shall not grant authorisation to a management company unless the following conditions are met:</p> <p>...</p> <p>(b) the persons who effectively conduct the business of a management company are of sufficiently good repute and are sufficiently experienced also in relation to the type of UCITS managed by the management company, the names of those persons and of every person succeeding them in office being communicated forthwith to the competent authorities and the conduct of the business of a management company being decided by at least two persons meeting such conditions;</p>
Article 12 (1)	<p>Each Member State shall draw up prudential rules which management companies authorised in that Member State, with regard to the activity of management of UCITS authorised according to this Directive, shall observe at all times.</p> <p>In particular, the competent authorities of the management company's home Member State, having regard also to the nature of the UCITS managed by a management company, shall require that each such company:</p> <p>(a) has sound administrative and accounting procedures, control and safeguard arrangements for electronic data processing and adequate internal control mechanisms including, in particular, rules for personal transactions by its employees or for the holding or management of investments in financial instruments in order to invest on its own account and ensuring, at least, that each transaction involving the UCITS may be reconstructed according to its origin, the parties to it, its nature, and the time and place at which it was effected and that the assets of the UCITS managed by the management company are invested according to the fund rules or the instruments of incorporation and the legal provisions in force;</p> <p>(b) is structured and organised in such a way as to minimise the risk of UCITS' or clients' interests being prejudiced by conflicts of interest between the company and its clients, between two of its clients, between one of its clients and a UCITS, or between two UCITS.</p>
Article 14 (1)	<p>Each Member State shall draw up rules of conduct which management companies authorised in that Member State shall observe at all times. Such rules shall implement at least the principles set out in this paragraph. Those principles shall ensure that a management company:</p> <p>(a) acts honestly and fairly in conducting its business activities in the best interests of the UCITS it manages and the integrity of the market;</p> <p>(b) acts with due skill, care and diligence, in the best interests of the UCITS it manages and the integrity of the market;</p> <p>(c) has and employs effectively the resources and procedures that are necessary for the proper performance of its business activities;</p> <p>(d) tries to avoid conflicts of interests and, when they cannot be avoided, ensures that the UCITS it manages are fairly treated; and</p> <p>(e) complies with all regulatory requirements applicable to the conduct of its business activities so as to promote the best interests of its investors and the integrity of the market.</p>
Article 22 (1)	The assets of a common fund shall be entrusted to a depositary for safe-keeping.
Article 22 (2)	A depositary's liability as referred to in Article 24 shall not be affected by the fact that it has entrusted to a third party all or some of the assets in its safe-keeping.

Table continues on the next page

- Article 22 (3) A depositary shall:
- (a) ensure that the sale, issue, repurchase, redemption and cancellation of units effected on behalf of a common fund or by a management company are carried out in accordance with the applicable national law and the fund rules;
  - (b) ensure that the value of units is calculated in accordance with the applicable national law and the fund rules;
  - (c) carry out the instructions of the management company, unless they conflict with the applicable national law or the fund rules;
  - (d) ensure that in transactions involving a common fund's assets any consideration is remitted to it within the usual time limits;
  - (e) ensure that a common fund's income is applied in accordance with the applicable national law and the fund rules.
- Article 25 (1) No company shall act as both management company and depositary.
- Article 25 (2) In the context of their respective roles, the management company and the depositary shall act independently and solely in the interest of the unit-holders.
- Article 26 The law or the fund rules shall lay down the conditions for the replacement of the management company and the depositary and rules to ensure the protection of unit-holders in the event of such replacement.
- Article 78 (1) Member States shall require that an investment company and, for each of the common funds it manages, a management company draw up a short document containing key information for investors. That document shall be referred to as 'key investor information' in this Directive. The words 'key investor information' shall be clearly stated in that document, in one of the languages referred to in Article 94(1)(b).
- Article 78 (2) Key investor information shall include appropriate information about the essential characteristics of the UCITS concerned, which is to be provided to investors so that they are reasonably able to understand the nature and the risks of the investment product that is being offered to them and, consequently, to take investment decisions on an informed basis.
- Article 78 (3) Key investor information shall provide information on the following essential elements in respect of the UCITS concerned:
- (a) identification of the UCITS;
  - (b) a short description of its investment objectives and investment policy;
  - (c) past-performance presentation or, where relevant, performance scenarios;
  - (d) costs and associated charges; and
  - (e) risk/reward profile of the investment, including appropriate guidance and warnings in relation to the risks associated with investments in the relevant UCITS.
- Those essential elements shall be comprehensible to the investor without any reference to other documents.
- ...
- Article 78 (5) Key investor information shall be written in a concise manner and in non-technical language. It shall be drawn up in a common format, allowing for comparison, and shall be presented in a way that is likely to be understood by retail investors.

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In December 2010, as a response to the financial crisis and even before the UCITS IV became effective, the European Commission launched a consultation to adjust the UCITS Directive. The UCITS V consultation paper focuses on two areas, the depositary's role and fund manager remuneration. Through this consultation, the commission seeks views and input from UCITS industry stakeholders. The publication of the draft UCITS Directive was originally planned for July 2011, but has been delayed.

In the introductory section of the consultation paper, the Madoff fraud and the Lehman Brothers default are mentioned as reasons for updating the requirements relating to UCITS depositaries. These events revealed divergence in the interpretation by different EU Member States regarding the functions and responsibilities of deposi-

taries. The Alternative Investment Fund Managers Directive (AIFMD) is also a reason for the UCITS update. This directive came into law in July 2011 and Member States have a period of two years to transpose it into national law. The level of investor protection offered by the UCITS regime, which is aimed retail investors, should be equivalent to or higher than that offered to professional investors through AIFMD.

With the UCITS V Directive, both the oversight and safekeeping responsibilities of the depositary<sup>42</sup> are to be further strengthened and harmonised. With the new rules, the European Commission intends to extend the more onerous oversight duties of depositaries for UCITS with a contractual form to UCITS of the corporate form. With implementing measures, the oversight duties will be clarified further in due course. Consistent with the AIFMD, UCITS V would give the depositary oversight and responsibility over all the assets of the UCITS, including cash, in order to avoid fraudulent cash transfers. Consistent again with AIFMD, UCITS V would distinguish between safekeeping physical custody of financial instruments (for example, securities) and asset monitoring duties relating to assets that are not held physically (for example, over-the-counter derivatives), as well as restricting delegation of depositary tasks to safekeeping duties, and putting forward conditions and requirements for such delegation. Furthermore, the liability of the depositary will be increased under UCITS V and the burden of proof shifted onto the depositary for negligence or intentional failure to perform its duties. Specifically, the consultation paper differentiates between cases when a UCITS suffers a loss as a result of the depositary's negligence or intentional failure to perform its duties, so-called unjustifiable failures, and circumstances in which a failure to perform may be justifiable. In the case of unjustifiable failures, depositaries would be obliged to return the identical financial instruments or a corresponding amount of assets to the fund, even when safekeeping tasks have been delegated to a third party. In cases where negligence or intentional failure to perform its duties are alleged, the burden of proof is on the depositary to demonstrate that it has performed its duties to the required standard. It is envisioned to introduce an exhaustive list of entities that are eligible to act as UCITS depositaries, in order to give more clarity and certainty to investors that these institutions are capable of effectively fulfilling UCITS depositary functions.

As reasons to propose remuneration measures, the consultation paper refers to the financial crisis and specifically mentions that the crisis revealed that existing remuneration policies in the financial sector led to short-termism and excessive risk taking, thereby increasing levels of systemic risk. The measures proposed can be seen in light of commitments made at the G20 level to address systemic risk in the financial system and are consistent with similar measures being introduced in the AIFMD and other parts of the financial sector. The aim of the proposed remuneration measures is to align the interests of different players in the fund industry to those of investors. These measures address the types of conflicts of interest that are described in section 1.6 of this dissertation between investors and other parties involved in the management of investment funds, most notably, the fund management company and its staff. The consultation suggests that remuneration policies for UCITS managers should be designed to (EC, 2010, p. 28–29):

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<sup>42</sup> See section 1.6.

- “- Promote sound and effective risk management, and discourage any risk-taking which is inconsistent with the risk profiles, fund rules of instruments of incorporation of the managed UCITS;
- Prevent conflicts of interest;
- Ensure the protection of the interests of clients and investors in the course of collective portfolio management activities and other services provided.”

In scope for the remuneration policies would be fund management company staff, whose professional activities may have a material impact on the risk profile of the UCITS, including senior management and persons with supervisory or risk management functions. The consultation paper pays specific attention to bonuses. For example, the remuneration structures would be required to include criteria for calculating compensation for different categories of staff where remuneration is performance-related and there are rules for fixed and variable components of total remuneration. The manager’s board of directors would be required to adopt the remuneration policy and would be responsible for its implementation and periodic review. The consultation paper speaks of proportionate application, meaning that the commission recognises that the principles of sound remuneration policy may be applied differently by different fund management companies, depending on their size, internal organisation and the nature, scope and complexity of their activities.

#### 2.2.4 Luxembourg – 2010 Law

The first fund-specific regulation in Luxembourg dates from 1972, followed by more systematic regulation of the organisation, operation and supervision of funds in 1983 (Kremer and Lebbe, 2009, p. 6-7). In 1988, Luxembourg was the first EU Member State to transpose the UCITS Directive into national law. Regulated funds in Luxembourg can either be set up according to the corporate model (“Société d’Investissement à Capital Variable”, hereafter SICAV<sup>43</sup>) or the contractual model (“Fonds Commun de Placement”, hereafter FCP)<sup>44</sup>:

- SICAV, a limited liability company, which can be managed by its Board of Directors.
- FCP, a co-proprietorship whose joint owners are only liable up to the amount they have contributed. The FCP does not have a legal personality and must be managed by a Luxembourg management company.

Both these entities can be set up as an umbrella fund structure<sup>45</sup>, with different sub-funds that each has a different investment policy. The assets of a sub-fund are exclusively attributable to the investors in that sub-fund and, in that sense, each sub-fund can be considered as a separate entity, at least from an economic perspective. Since

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<sup>43</sup> Corporate model funds with a fixed capital (“Société d’Investissement à Capital Fixe”, SICAF) fall outside of the scope of this dissertation.

<sup>44</sup> For a comprehensive overview of the legal forms permitted under different regulatory regimes in Luxembourg, refer to Kremer and Lebbe (2009, p. 45-59).

<sup>45</sup> When Luxembourg transposed the UCITS Directive in national law as of 30 March 1988, the umbrella fund structure was also formally recognised. As early as 1985, the regulator had already allowed the creation of such structures (Kremer and Lebbe, 2009, p. 59-60).

the umbrella forms the legal entity, all sub-funds in the umbrella are overseen by definition by one board.

The “Commission de Surveillance du Secteur Financier” (Commission for the Supervision of the Financial Sector, hereafter CSSF) is the Luxembourg regulatory authority, which authorises and monitors all Luxembourg registered funds. Investment funds in Luxembourg are regulated on the basis of the *Law of December 17<sup>th</sup>, 2010* (hereafter the 2010 Law), which differentiates between:

- Undertakings for Collective Investment in Transferable Securities (UCITS, Part I of the 2010 Law).
- Undertakings for Collective Investment (UCIs, Part II of the 2010 Law).<sup>46</sup>

The UCITS law is based on the EU Directive and funds set up as UCITS benefit from the *European Passport*<sup>47</sup>. In Article 2 (2), a UCITS is defined following the UCITS Directive (Article 1) as an:

“undertaking

– with the sole object of collective investment in transferable securities or in other liquid financial assets referred to in Article 41<sup>48</sup>, paragraph (1) of this Law, of capital raised from the public and which operate on the principle of risk-spreading, and

– with units of which are, at the request of holders, repurchased, directly or indirectly, out of this undertakings’ assets. Action taken by a UCITS to ensure that the stock exchange value of its units does not significantly vary from their net asset value shall be regarded as equivalent to such repurchase.”

The investment possibilities of UCIs are broader than for UCITS and can include alternative investments, such as hedge funds strategies, fund of hedge fund strategies, private equity and real estate. UCIs established under Part II of the 2010 Law do not benefit from a *European Passport* and hence may only market their units in the EU and other countries outside of Luxembourg, subject to the legal and regulatory requirements of those countries. Figure 2.1 provides an overview of the different types of regulated fund structures available in Luxembourg.

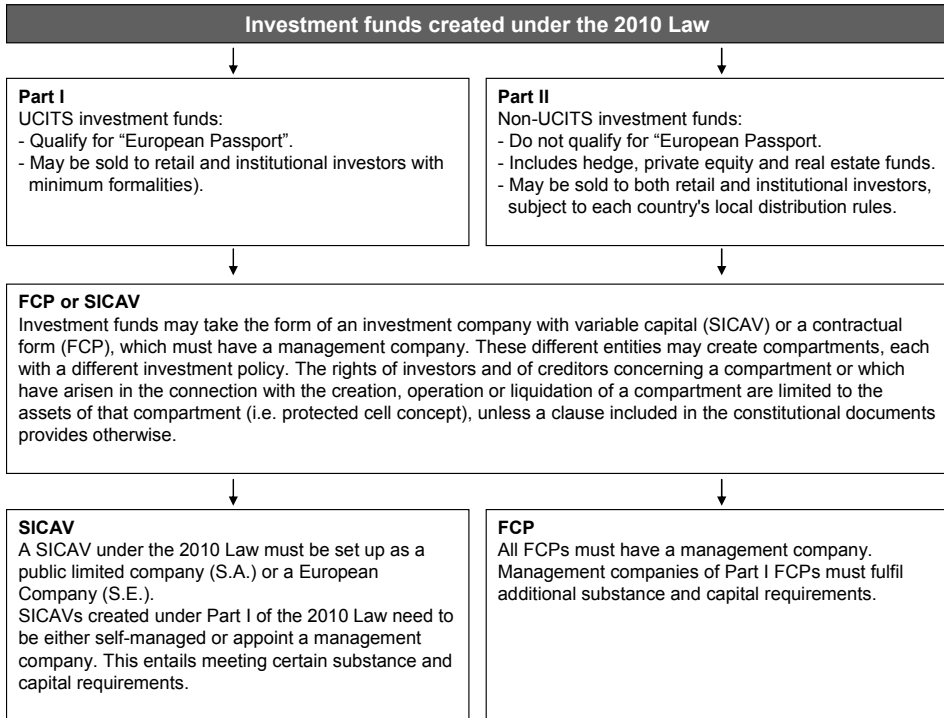
Funds with UCITS status are obliged to issue a prospectus and a KIID, containing information about the fund and its management company. This information allows the investors to make informed decisions about investing in the fund, taking the associated risks into consideration. Funds are also obliged to issue an annual report, audited by a Luxembourg-authorized independent auditor, and a semi-annual report, which describe the fund’s financial situation. Luxembourg regulations require that all changes qualified as material (i.e., substantial and/or not beneficial to the shareholders) must be published one month prior to the change becoming effective to allow dissenting shareholders to redeem free of charge. In line with the UCITS Directive, the 2010 Law

<sup>46</sup> In February 2007, the Law for Specialised Investment Funds (the “SIF Law”) was enacted, but these non-retail funds fall outside of the scope of this dissertation.

<sup>47</sup> All funds included in the sample for the empirical research of this dissertation are Luxembourg UCITS, which are marketed on a cross-border basis.

<sup>48</sup> Article 41 is the article in which the instruments that are eligible assets for UCITS are listed.

requires Luxembourg UCITS to appoint a depositary. The appointment of the depositary, as well as of the auditor, is subject to approval by the Luxembourg regulator CSSF.



**Figure 2.1:** Luxembourg regulated fund structures  
Based on: Ernst & Young (2010, p. 8).

The CSSF must also approve proposed directors of funds regulated as UCITS and UCIs, prior to their appointment. Boards of Luxembourg funds consist, in principle, of at least three private individuals, but corporate directors can be authorised as well. There are no conditions regarding nationality, residency or age. There is no legal or regulatory requirement to appoint independent directors. There are no specific qualifications required, but the CSSF will assess whether a proposed director is suitable to perform the required duties. Recently, the CSSF has paid particular attention to the number of mandates, in order to ensure that sufficient time can be allocated to each mandate.

In addition, there is the extra-legal concept of the *fund promoter*<sup>49</sup>, to which the regulator and investors can turn in case of issues. The policy of the CSSF has been to prefer fund boards to consist of a majority of representatives of the promoter. The director of the CSSF said in a speech in December 2008 (Delcourt, 2008, p. 3–4):

“The CSSF shares the view that investment fund governance must operate to act in the best interest of the investors. We are however of the opinion that

<sup>49</sup> The fund promoter, often shortened to promoter, can be defined as the fund management group of which the Management Company of a fund is part. The promoter initiates the fund, gives direction to its activities and benefits financially from its operations.

the presence of independent Board Members is not necessarily a guarantee to reach that goal. Our experience has shown that the specific requirement that the fund promoter has a majority representation in the Board of Directors of the Management Company or the Investment Company of the fund has worked out well until today.”

When asked, Jean-Marc Goy, Counsel for International Affairs of the CSSF clarified the position of the CSSF with regard to the proportion of representatives of the promoter on fund boards as follows<sup>50</sup>:

“In addition to the fulfilment of the requirements regarding the professional experience and the good reputation, the promoters must also dispose of sufficient financial resources in order to cope with claims of indemnification which may arise out of eventual irregularities, breaches of duty or insufficiencies in the administration or management of a fund.

In view of the potential financial implications for the promoter in the case of irregularities, breaches of duty or insufficiencies in the administration and management of an investment fund, the policy of the CSSF is to require that, in principle, the majority of the members of the decision-making bodies of an investment fund (Board of Directors of an investment company/management company) are representatives of the promoter. This requirement aims at making sure that the promoter is in a position to direct and control the decisions relating to the orientation of the activities and the organisation of the investment fund.

Notwithstanding this policy, the CSSF can accept that, as an exemption and based upon an adequate justification, the majority of the Board members are not representatives of the promoter. It has to be emphasized that the fact that the majority of the Board members are not representatives of the promoter cannot be used by the promoter as a discharge from the responsibilities implied by the role of promoter of an investment fund and in particular the obligation to be ultimately held responsible to cope with claims of indemnification which may arise out of eventual irregularities, breaches of duty or insufficiencies in the administration or management of a fund.

It follows from the above that, even if there is under the current Luxembourg legal and regulatory framework for investment funds no obligation to appoint independent Board members, there are no provisions that would prohibit the appointment of independent Board members.”

Directors are appointed at the general meeting of shareholders, generally after a proposal by the fund management company. When there is a vacancy on the board between meetings, a replacement may be co-opted by the remaining directors. The shareholders must approve such an appointment at the next meeting. The maximum term of a mandate is six years, but this may be extended with a re-election. General practice is to discharge and re-elect board members annually at the Annual General Meeting of Shareholders.

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<sup>50</sup> E-mail from Jean-Marc Goy to Jan Jaap Hazenberg, dated 25 August 2011.



## 2.2.5 The Netherlands: Act on Financial Supervision

Retail funds in the Netherlands can be divided into two main types according to their legal structure:

- Investment companies (“Beleggingsmaatschappijen”). These funds are set up according to the corporate model, with legal personality. These funds usually, but are not obliged to, have a separate management company.
- Mutual funds (“Beleggingsfondsen”). These funds are set up according to the contractual model, without legal personality. For this type of fund, the legal title to the assets must be held by a separate and independent legal entity as depository (“bewaarder”). Having a separate management company is obligatory.

Investment funds in the Netherlands are regulated on the basis of the “Wet op het financieel toezicht” (Act on Financial Supervision, hereafter Wft). On the basis of the Wft, detailed requirements have been laid down in the “Besluit gedragstoezicht financiële ondernemingen Wft” (Supervision of financial companies decree, hereafter Bgfo). As per 1 January 2007, the Wft replaced the “Wet toezicht beleggingsinstellingen” (Act on the Supervision of Collective Investment Schemes), as well as several other acts that were previously in force for different sectors within the financial industry. The Wft makes the distinction between conduct of business supervision, with the Autoriteit Financiële Markten (Netherlands Authority for the Financial Markets, hereafter AFM) as supervisory authority, and prudential supervision, which is exercised by the Dutch Central Bank.

Fund managers offering participation rights in their funds to the public need to comply with the provisions of the Wft in order to receive the required authorisation by the AFM. These provisions concern the trustworthiness and know-how of the fund manager, capital requirements, organisational and internal control requirements and transparency requirements. One of the requirements is that the board of directors needs to consist of at least two persons who are qualified and reliable.

Once the fund manager is authorised, the funds offered do not need to be authorised individually and the prospectus for open-ended retail funds is not subject to the AFM’s approval. However, the manager of such a fund must issue a prospectus with content requirements and that contains an auditor’s statement that the prospectus is compliant with the relevant legislation. When an investment fund is set up as an investment company and does not have a management company, i.e., is self-managed by the directors of the fund, then the fund requires an AFM license.

In addition to the prospectus, the fund manager must publish a financial information leaflet (“financiële bijsluiter”) that includes information about the nature and purpose of the fund, costs, performance, tax aspects and risks. A standardised risk indicator has to be used, the calculation and presentation of which have to be applied in a consistent way by the fund industry. With the implementation of UCITS IV in Dutch law, the information leaflet is being replaced by the KIID. Information provided by the manager must be correct, clear and not misleading. Regulated funds must publish audited annual financial statements, as well as semi-annual financial statements, which are not required to be audited. The Wft requires the annual financial statements to include the Total Expense Ratio (TER) of the fund, as well as the Portfolio Turnover

Ratio (PTR). There is a possible exemption to the requirement to obtain a license for the fund manager. For example, a licence is not required if units are offered solely to qualified investors, as defined in the Wft, and which includes pension funds, investment funds, banks and other institutional investors.

The fiduciary duty of those involved in the management of an investment fund is laid down in Bgfo Article 83 (1) and (2), on the basis of Article 4:25 Wft:

- “1. A management company, investment company or depositary acts in the interest of the participants in the investment fund.
2. A management company or investment company treats participants in comparable circumstances equally.”

The role of the depositary for Dutch retail funds (non-UCITS) is, in practice, limited to protecting the assets that are held for the investors in the fund, particularly against the consequences of bankruptcy or unlawful actions by the management company. Depositories in the Dutch model are not set up to perform a general supervisory role of an Independent Oversight Entity, as meant in the IOSCO Report.

The rules and regulations applicable to UCITS have also been incorporated in the Wft. For UCITS, a more extensive licensing regime applies than for Dutch retail funds that do not opt for UCITS status. UCITS are always obliged to appoint a depositary, which in that case, has the oversight responsibilities as prescribed by the UCITS Directive.

The rules and regulations that apply when a management company intends to change characteristics of the investment fund are included in Wft Article 4:47. The changes to the terms and conditions are to be announced in an advertisement in a national Dutch newspaper or to each unit holder individually, as well as on the website of the fund or fund management company. In the case of a change to the investment policy, an increase of fees or other changes that reduce the rights or security of unit holders, a one-month waiting period applies from the moment unit holders are informed, during which the investor may redeem according to the old terms and conditions.

### **2.3 Analysis of governance best practices: Industry associations**

Sections 2.3 and 2.4 analyse the governance codes and best practice recommendations as described and promoted by a number of organisations involved in the fund management industry. These organisations are either the industry associations of fund management companies in a certain country or region (ICI, EFAMA, ALFI and DUFAS, which are discussed in section 2.3) or consultancy firms advising market participants of the fund industry (KPMG and PwC, discussed in section 2.4). Given the central research question of this dissertation, the analysis of these governance best practices focuses on three aspects:

- Recommendations regarding the independence of boards of directors.

- Recommendations on how to achieve the alignment of interests of boards of directors and investors, and regarding the identification and management of conflicts of interest by boards of directors.
- Recommendations regarding the involvement of boards of directors in fee setting and monitoring, as well as in the monitoring and influencing of investment performance.

Several of the codes and recommendations analysed in this section also include advice on sound business practices in the asset management industry (e.g., best execution, independent valuation, internal controls and risk management), but these fall outside of the scope of this dissertation and are therefore not addressed in this section. Each section will start with a general introduction of the particular organisation, so that the governance best practices recommended by that organisation can be put in the right context.

### 2.3.1 U.S.: Investment Company Institute

The Investment Company Institute (ICI) is the U.S. association of investment companies. ICI members include SEC-registered investment companies (managing mutual funds, closed-end funds, exchange traded funds and/or unit investment trusts), their investment advisers and underwriters. According to the organisation's website<sup>51</sup>:

"ICI engages in three core missions: encouraging adherence to high ethical standards by all industry participants; advancing the interests of funds, their shareholders, directors, and investment advisers; and promoting public understanding of mutual funds and other investment companies."

In 1999, ICI published a report titled, "Enhancing a Culture of Independence and Effectiveness" (ICI, 1999; hereafter ICI Report), authored by an advisory group it had created and named the "Advisory Group on Best Practices for Fund Directors". This advisory group consisted of six members, three affiliated directors (at the same time senior executives of fund management companies) and three independent directors, who served on boards of funds that are part of some of the largest fund families in the U.S. The ICI Report states (1999, p. i-ii):

"The Advisory Group's mission was to identify the best practices used by fund boards to enhance the independence and effectiveness of investment company directors, and to recommend those practices that should be considered for adoption by all fund boards."

To come to their recommendations, the group consulted various other industry participants – fund management representatives, auditors and lawyers – as well as regulators, academics and representatives of consumer and investor organisations. The recommendations should also be seen in the context of U.S. regulations, more specifically the 1940 Act, which already then required funds to have a minimum proportion of independent directors on their boards, defined independence and assigned independ-

<sup>51</sup> Source: ICI website, [www.ici.org](http://www.ici.org), 5 December 2009.

ent directors with certain specific duties. Before providing its specific recommendations, the advisory group gives the following insight into the background to these recommendations (ICI, 1999, p. 9–10):

“Ultimately, the Advisory Group believes that the fundamental responsibility of fund directors is to ensure that the fund’s shareholders receive the benefits and services to which they are fairly entitled, both as a matter of law (e.g., resulting from the investment adviser’s fiduciary duties to the fund and specific requirements under the Act) and in accordance with investor expectations reasonably created by the fund’s prospectus and other disclosure documents. Within this context, it is the responsibility of the fund’s board to evaluate the performance of the fund’s investment adviser and that of its other service providers on the basis of what is best for shareholders and to apply that same standard in evaluating any proposals for change in fund operations or expenses. On those occasions where the interests of the adviser and fund shareholders diverge, the fund’s directors and, in particular, the independent directors must effectively represent the interests of the fund and its shareholders. The Advisory Group has drafted the recommendations in this Report with the foregoing in mind.”

With regard to board independence and alignment of interests, the ICI Report includes a number of very specific recommendations. When it comes to the proportion of independent directors on the board, it recommends having a super-majority of at least two-thirds of independent directors. This is to ensure that independent directors control the voting process, in particular in conflict of interest situations, also when related to matters that, on the basis of the 1940 Act, do not require an independent directors’ majority vote. Interestingly, without advising against it, ICI (1999, p. 11-12) does not recommend boards of independent directors only, stating:

“...as a general matter, the Advisory Group believes that fund boards can benefit from having affiliated directors on the board. Board membership by representatives of the adviser allows for more direct accountability on the adviser’s part and a better exchange of information with the adviser. In addition, representatives of the adviser may have greater expertise in many aspects of the operations of the fund. Thus, their participation may enhance the board’s effectiveness. Finally, as noted above, affiliated directors are subject to the same fiduciary standards as independent directors.”

The Advisory Group recommends not counting former officers and directors of a fund’s investment adviser and principal underwriter, as well as certain of their group companies, as independent directors, in order to ensure independence and enhance credibility. For existing independent directors, the recommendation is to reassess their affiliations annually, to make sure that their independent status has not changed.

With regard to the appointment of new independent directors, the recommendation is that incumbent directors take care of the nomination and selection process. One of the reasons given is that this avoids the impression that the directors are in fact selected by the fund adviser and cannot *act* independently. In practice, funds usually arrange this by having a nomination committee consisting of independent directors

only, which manages the nomination and selection process. It is also recommended that independent directors on the board set the appropriate level of compensation. Both in the case of board nominations and in the setting of the compensation, it is not discouraged to receive and consider input from the fund management company.

Sufficient insurance coverage is recommended in order to ensure that the independent directors can act independently, also towards the fund management company. The independent directors should control the retirement policy, finding the right balance between fresh perspectives and experience.

The Advisory Group encourages fund directors to invest in funds they oversee in order to align their interests with those of the shareholders and to experience the fund management company's shareholder services firsthand. A policy at the level of fund boards requiring fund directors to invest in one or more funds is recommended.

In order to mitigate conflicts of interest, the Advisory Group recommends that independent directors have counsel independent from the fund adviser and service providers, as well as have access to independent accountants, if needed. The fund's statutory papers should allow fund directors to retain such independent experts and to charge the expenses to the fund.

On the basis of the 1940 Act, the selection of the fund's auditor is a power given to the independent directors. The Advisory Group goes a step further, recommending the formation of an audit committee consisting of independent directors only, which can meet with the auditors without representatives of the fund management company. The audit committee is to also make sure that the auditor is sufficiently independent from the fund management company, considering any non-audit ties that may exist between the audit firm and the fund management company.

Furthermore, it is recommended by the Advisory Group that the independent directors meet separately from representatives of the fund management company, at least for the annual review of the advisory contract of the fund with the fund management company. A designated lead independent director can chair the meetings of independent directors, act as their spokesperson and be the first point of contact for the fund management company. The board should evaluate its effectiveness periodically and directors should stay up-to-date with industry and regulatory developments.

The Advisory Group believes that unitary boards – overseeing all the funds in a fund family – or cluster boards – overseeing groups of funds, e.g. according to investment objective, distribution channel or funds of the same former fund management company, after a merger or acquisition – can be more effective than separate boards for each individual fund. It can give the independent directors more leverage over and better access to the fund management company. Finding enough qualified board members could also be difficult if each director would serve on only one board.

### **2.3.2 Europe: European Fund and Asset Management Association (EFAMA)**

The European Fund and Asset Management Association (EFAMA), established in 2004, is the representative association for the investment management industry in Europe. Unlike its predecessor, the European Federation of Investment Funds and Companies (known as FEFSI, the acronym of the federation's name in French), EFAMA's membership is open to national associations, as well as corporate members. At the end of

2009, EFAMA had 24 member associations and 42 corporate members. According to the website<sup>52</sup>, the organisation's mission is:

“To support a high level of investor protection through the promotion of high ethical standards, integrity and professionalism in the industry  
 To promote the completion of an effective single market for investment management and the creation of a level playing field for competing savings and investment products  
 To strengthen the competitiveness of the industry in terms of cost & quality by seeking and obtaining improvements in the legal, fiscal and regulatory environment  
 To promote scientific research concerning the industry”.

In January 2006, EFAMA published a discussion paper, “A Code of Conduct for the European Investment Management Industry; High Level Principles & Best Practice Recommendations” (EFAMA, 2006a; hereafter EFAMA Code). Although the discussion paper was never upgraded to a final recommendation, it is still featured on EFAMA's website. It has also been an influential piece, since several national associations based their national codes at least partly on this EFAMA Code. In the introduction, the publication says that its aim is to serve as a starting point for discussion with the European Commission and the Committee of European Securities Regulators (CESR) and that the code applies to all types of investment management, segregated mandates, as well as collective investment schemes.

The EFAMA Code consists of fifteen high-level principles and several best-practice recommendations for each of these principles. The text starts with the fiduciary responsibility of the investment management company to always act in the best interest of the investor, as the first of fifteen principles. In the second principle, the EFAMA Code pays attention to the position of the board of the Investment Management Company. The fundamental role of the board, as described by EFAMA, is very close to the text of ICI, so that it seems that EFAMA took inspiration from the ICI Report (EFAMA, 2006a, p. 7):

“The Board, its members and the senior management of an Investment Management Company shall be accountable that the Investment Management Company acts in the best interest of investors. They shall ensure that investors receive the benefits and services to which they are entitled as a matter of law, in accordance with contracts and prospectuses or in accordance with specific instructions clients may give.”

In the absence of regulations in most European countries that require board members of a fund to be legally independent, EFAMA also does not go as far as to recommend legally independent board members, but they must be able to *act* independently (EFAMA, 2006a, p. 7):

“In order to fulfil efficiently its responsibility towards investors and to resolve any conflicts of interests that arise the Board and senior management must act

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<sup>52</sup> Source: EFAMA website, [www.efama.org](http://www.efama.org), 13 December 2009.

in sufficient autonomy and independence of shareholders, service providers and other related parties. The principles and rules for the governance of the Investment Management Company must provide safeguards that ensure this independence.”

How independence is to be achieved is clarified further in the best practice recommendations. Having independent directors on the board is only seen as one of the possibilities to ensure that there is independent oversight (EFAMA, 2006a, p. 7-8):

“The governance structure of the Fund Management Company and/or of the Fund shall provide for independent oversight of the management company and of fund operations through entities that can take different forms (i.e. auditor, depositary or a number of independent directors on the Board). Such entities can either be independent of management, shareholders of the Fund Management Company and service providers, or be related parties. In order to provide effective independent oversight and fulfil their fiduciary duty to protect investors’ interests, related parties shall take all necessary measures to minimize conflicts of interest and maintain a functional and economical separation of group entities.

The independent oversight shall ensure that the Fund Management Company and/or the Fund respect applicable rules, contractual obligations and duties and protect the interests of investors.

The Board and the compliance organization of the Fund Management Company and/or of the Fund shall closely cooperate with the independent entity and support it in the exercise of its functions.”

This approach is very similar to the views expressed in the OECD White Paper published less than a year before this EFAMA Code and in the IOSCO Report, published five months later.

The EFAMA Code also pays attention to conflicts of interest. Examples of areas where conflicts of interest can arise, which are mentioned in the EFAMA Code, are management of assets, order allocation and execution, relationships with service providers and distributors, pricing and incentive policies. The principle on conflicts of interest is phrased as follows (EFAMA, 2006a, p. 8):

“The Investment Management Company shall identify areas where the interests of investors may conflict with those of other parties such as the management company, its staff, the service providers, in particular related parties, or other investors. It shall define rules and procedures for such cases to avoid, manage or disclose such conflicts of interest and to assure that the interests of investors are protected and all investors are treated equally.”

In order to achieve this goal, the investment management company must have an appropriate conflicts policy, as well as organisational and administrative arrangements for identifying, preventing, managing or disclosing conflicts of interest. Areas that must be covered are a compensation policy (avoiding incentives to act against the interest of investors), a personal transactions policy, a confidentiality policy, a policy regarding inducements and a policy regarding dealings with related parties. The latter must be at

arms length and in line with market conditions. The compliance function, which is to be independent from operative functions, is to contribute to the management of conflicts of interest and to focus on the interests of investors. Delegation or outsourcing of functions does not relieve the investment management company from its responsibilities to the investor. The principle on delegation and outsourcing recognises that this is a delicate situation when the outsourcing is to a related party. One of the best practices is to disclose the outsourcing of critical functions to investors.

There are few recommendations on performance and costs. With regard to performance, the investment management company shall ensure that when the investment decisions are delegated, appropriate supervision and performance monitoring is in place. With regard to investor information, the management company (EFAMA, 2006a, p. 17):

“Shall refrain from promises of future returns (unless guaranteed) and misleading performance comparisons.

When referring to past performance, the IMC shall mention that historical results are no guarantee of future performance and whether the performance data takes costs into account.

Marketing materials shall be objective, avoid raising unreasonable performance expectations, and give a balanced picture of potential benefits and risks.”

Generally accepted professional standards are to be observed with regard to calculation methods and the selection of appropriate performance periods and benchmarks. The EFAMA Code does not give any direction on what the investment management company is to do in the case of unsatisfactory performance, nor does it provide guidance concerning the exact role of the board in relationship to investment performance. There are even fewer words about fees and other costs. The EFAMA Code only gives a best practice recommendation that investor information is to contain information on *all costs* and that the information must be *true, fair* and *not misleading*.

In October 2006, EFAMA published a response (EFAMA, 2006b) to the IOSCO Report. This response gives further insight into the EFAMA position. The association raises a number of interesting arguments against fully independent oversight, while also discussing how the oversight function could be organised. EFAMA concurs with the IOSCO position regarding the importance of independent oversight in the governance of funds. However, EFAMA’s position is that there is no single superior governance model (EFAMA, 2006b, p. 1):

“... each independent oversight entity has certain slight advantages and disadvantages in the accomplishment of specific functions: the Board of Directors might be considered by some as more independent (depending on its composition), but in EFAMA’s view it is less involved in the day-to-day business vs. the Depositary and Auditors, therefore has less direct access to crucial information and as a result might be less effective in its supervisory activity.

Since conflicts of interest may arise within different processes and at different levels, in EFAMA’s opinion a concentration of the oversight functions in one



specific entity is not an effective and efficient way forward. Such concentration would require extensive staff support for the Independent Oversight Entity, creating unnecessary costs and functional duplications.

On the other hand, the lack of such support would impair the effectiveness and reach of the Independent Oversight Entity to the detriment of CIS investors.”

EFAMA promotes internal compliance and control functions that are embedded in the fund management company carrying out daily supervision. Self-regulation by the fund management company is also mentioned as an effective way of dealing with fund governance. The independent oversight entity would be there for indirect oversight, overseeing and reviewing the control and compliance framework. The independent oversight function could be carried out by several parties, namely the board of directors, external auditors, the trustee and the regulator as well as the depositary, the latter especially for certain functions. EFAMA (2006b, p. 2) states:

“As an equally – or more – effective alternative to the Board of Directors model, comprehensive oversight can be achieved through:

- 1) the direct supervision of specific CIS Operator activities by the Depositary and/or the Auditors, and
- 2) an effective internal compliance structure, in turn subject to controls by an Independent Oversight Entity (external Auditors, CIS Regulator).”

EFAMA advocates the roles of the auditor and, in particular, that of the depositary as independent oversight entities. EFAMA does not agree with IOSCO’s preference for oversight by (an independent member of) the board of the fund (in the case of the corporate model) or board or supervisory board of the fund management company (in the case of the contractual or hybrid model), indicating that (EFAMA, 2006b, p. 5–6):

“the Depositary is ideally suited to oversee ... many of them (e.g. checking the compliance of the CIS portfolio with the applicable borrowing and investment limits and restrictions; controlling the appropriateness of the valuation process of the CIS assets and the proper calculation and disclosure of the CIS NAV<sup>53</sup> and of the CIS unit price; and checking the correct application of the principles and procedures for the exercise of shareholder’s rights attached to the securities portfolio) and the CIS Auditors could effectively oversee the other functions, as well as some of those above.”

EFAMA adds, with regard to the Depositary, that it finds it acceptable and not fundamentally incompatible with effective oversight that the depositary (or trustee) belongs to the same group as the CIS Operator, given that in the UCITS Directive sufficient distance is enforced between these entities by means of so called *Chinese walls*<sup>54</sup>.

Zurstrassen (2006) reports on a survey conducted by EFAMA in June-July 2006 among its then 22 national association members. Questions asked included whether these associations had adopted a code of conduct and, if so, whether that code was inspired

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<sup>53</sup> NAV stands for Net Asset Value.

<sup>54</sup> A Chinese Wall is an information barrier within a firm to separate persons in different functions, aimed at avoiding conflicts of interest.

by the EFAMA Code. Eighteen countries (82%), including the Netherlands, stated they had such a code, while two countries (9%) – Luxembourg and the U.K. – stated they had it partially, either in the form of a code of ethics or a set of guidances. Two countries (9%) did not have such a code at all, one of which had no plans to have a code in the future. Out of the countries having a code, 40.9% stated that it was inspired by the EFAMA Code, which indicates that it has been an influential piece, despite its status of being a discussion paper only. The main focus areas of the national codes of conduct are displayed in table 2.4.

**Table 2.4:** Main focus areas of national code of conduct (excludes countries not having a code)

Focus area	Average response
Fund governance	81.8%
Fiduciary duties	68.2%
Best execution	63.3%
Voting rights	59.1%
Anti-Money Laundering	36.4%
Other <sup>1</sup>	27.3%

1. Includes market timing/late trading, fair value pricing, information duties and disclosure code, distribution quality, avoidance and handling of conflicts of interest, outsourcing and market integrity.

Source: Zurstrassen (2006)

### 2.3.3 Luxembourg: Association of the Luxembourg Fund Industry (ALFI)

The Luxembourg national member of EFAMA is ALFI, the Association of the Luxembourg Fund Industry. According to its website<sup>55</sup>, ALFI's mission statement is as follows:

“Lead industry efforts to make Luxembourg the most attractive international center for investment funds”.

The same website mentions that one of ALFI's main objectives is to encourage professionalism, integrity and quality, which, among other means, it intends to do so by developing codes of conduct. In September 2009, ALFI published the “ALFI Code of Conduct for Luxembourg Investment Funds” (ALFI, 2009; hereafter ALFI Code), which is focused primarily on the role of fund boards. This is somewhat surprising, because in the Luxembourg model for fund governance, there are also oversight roles for e.g., the depositary and the auditor. The document refers to the implementation of the EU Directive 2006/46/EC on Company Reporting as the reason for introducing this ALFI Code. That is probably also the explanation for the focus on the role of the board, since the directive includes a mandatory corporate governance statement (EU Directive 2006/46, article 10):

“The corporate governance statement should make clear whether the company applies any provisions on corporate governance other than those provided for in national law, regardless of whether those provisions are directly laid down in a corporate governance code to which the company is subject or

<sup>55</sup> Source: ALFI website, [www.alfi.org](http://www.alfi.org), 13 December 2009.

in any corporate governance code which the company may have decided to apply.”

The purpose of the ALFI Code is to provide a framework of high-level principles and best practice recommendations for the governance of Luxembourg investment funds (ALFI, 2009, p.1). Although the EU Directive only applies to listed companies, including listed funds, ALFI extends the scope of the code to all Luxembourg funds regulated by the CSSF. The structure of the ALFI Code is such that there are eight principles, each detailed further with various recommendations.

With regard to the position of the board, the ALFI Code pays attention to independence, but this relates to how the board acts, not to a legal or regulatory definition of the term independence. Under the first principle – regarding the standard of governance – the ALFI Code (2009, p. 3) recommends as follows:

“The Board should provide independent review and oversight, including effective oversight of delegated functions.”

Under the third principle, in which the board should act fairly and independently in the best interests of the investors, one of the recommendations is that the interests of the investors should always come first. The ALFI Code clearly recognises the sensitivity of delegating to affiliated parties, by explicitly pointing to the attention that should be given by boards when such situations arise. The eighth and last principle is fully dedicated to conflicts of interest. The text of the principle and the associated recommendations is as follows (ALFI, 2009, p. 6):

“The Board should identify and manage fairly and effectively, to the best of its ability, any actual, potential or apparent conflict of interest and ensure appropriate disclosure

#### Recommendations

1. The Board should identify where its members’ interests (including related party interests) might conflict with the interests of the investors.
2. The Board should define the means to avoid, manage or disclose conflicts of interest, protecting the interests of the fund’s investors.
3. The Board should maintain sufficient autonomy to resolve conflicts of interest impartially.”

The guidance for boards on performance and costs is minimal. As part of a recommendation under the fourth principle, which mentions some of the duties of the board, the ALFI Code (2009, p. 4) mentions that the:

“Board should oversee the activities and the performance of investment managers ...”.

Furthermore, recommendations include that information with regard to investment objectives, risks and costs, is *true, fair, timely* and *not misleading*. Information with regard to the fund’s financial situation and performance should be compliant with relevant accounting standards, applicable laws and regulations.

### 2.3.4 The Netherlands – Dutch Fund and Asset Management Association (DUFAS)

The Dutch national member of EFAMA is DUFAS, the Dutch Fund and Asset Management Association. According to the association's website<sup>56</sup>, DUFAS:

“promotes the collective interests of asset managers operating on and from the Dutch market – both Dutch and foreign parties. Central to this (is) the promotion of an optimal business climate for asset managers in the Netherlands. A level playing field for free supply of investment products and asset management services within the European Union and a broadening of the market for investment products are the main starting points.”

In February 2008, DUFAS published the “DUFAS Principles of Fund Governance” (DUFAS, 2008; hereafter DUFAS Code). The publication of these principles relates directly to two reports about Dutch investment funds published in 2004. In the first report (AFM, 2004a), the Dutch regulator AFM identified a number of shortcomings in the organisational set-up and operations of the Dutch investment fund industry, including the way the funds were traded on the stock exchange, the transparency of costs and the calculation of the NAV. The shortcomings identified also raised concerns about two related subjects, which were not in scope for the investigation, namely fund governance and the role of the auditor. The general principle is that investment funds are to act in the interest of investors and are to avoid conflicts of interest. Dutch law imposes requirements on investment funds with regard to the expertise and reliability of the directors of the funds, as well as requirements with regard to capital, organisation and provision of information. Nevertheless, AFM concluded that the above general principle was not always sufficiently safeguarded.

The second report (AFM, 2004b) is that of a committee with the assignment to put forward proposals for improvement, installed by AFM after the publication of its initial report. This Winter Committee<sup>57</sup> recommended certain improvements to the Dutch trading system for investment funds in order to increase transparency and improve competitiveness, as well as with regard to cost transparency and the administrative organisation of funds. Most of these recommendations later found their way into law, regulations and practice. The committee also proposed measures to improve the governance of investment funds by proposing to introduce a mandatory, independent supervisory board at each fund management company. In the English summary of the Winter Report (AFM, 2004b, p. 16) it is mentioned that:

“In the organisational structure of CIS and their management companies, no-one is explicitly charged with the task of monitoring the activities to ensure that funds are invested in the interest of these investors. In other words, in the current organisational structure the ‘trustee’ function is lacking.

...

Each management company of a CIS (or the investment company itself if it is the management company) has to have a supervisory board whose composi-

<sup>56</sup> Source: DUFAS website, [www.dufas.nl](http://www.dufas.nl), 8 January 2010.

<sup>57</sup> Winter Committee is formally known as the “Commissie Moderniseren Beleggingsinstellingen” (Committee for Modernising Collective Investment Schemes).

tion and functioning is sufficiently independent of the management company and affiliated parties. This could be ensured by either having a supervisory board at least a majority of whose members are independent both of the management company and of parties affiliated to the management company, or by having a supervisory board that has set up a compliance committee containing only independent members with a minimum of two.”

Although AFM supported all of the committee recommendations to the Ministry of Finance, including the independent Supervisory Board, the Minister of Finance voiced concerns. The reasons for these concerns were the associated costs, on the one hand, and maintaining a level playing field vis-à-vis funds from other fund domiciles, on the other hand.

These concerns led to the Dutch investment funds sector, in consultation with the Ministry of Finance, taking the initiative to develop self-regulation in the area of investment fund governance as an alternative to the mandatory Supervisory Board as recommended by the committee. Under the leadership of DUFAS and with participation of representatives from several larger and smaller fund managers<sup>58</sup>, the sector developed a code of conduct for fund governance, the DUFAS Code. This code provides guidelines for the organisational set-up and procedures of management companies and independent investment funds and aims to safeguard the integrity of the sector for the benefit of investors. Members of DUFAS are obliged to adhere to the DUFAS Code and to publish their own governance code on the website (see DUFAS, 2008, p. 3). The DUFAS Code is therefore clearly a form of self-regulation. The introductory section to the DUFAS Code states (DUFAS, 2008, p. 1):

“The Principles are formulated in such a way that within their goal sufficient room is left for differences in Fund Governance that are related to differences in the type and size of the organisation of the management company. The development (as far as necessary) of the Principles requires tailoring. The Principles offer flexibility by using general formulations and offering several options, as the set-up of Fund Governance depends among others on existing governance structures and on choices made by the organisation itself.

This approach of using existing best practices leads to a clear documentation and implementation of good Fund Governance on the one hand, while on the other hand, an increase in the administrative and financial burden in the sector could be avoided. It is in the interest of the development of the Netherlands as an attractive domicile for funds that the integrity of the funds sector is safeguarded, while a level playing field vis-à-vis other domiciles and other financial sectors is maintained.”<sup>59</sup>

The DUFAS Code does introduce the requirement of an (independent) oversight entity, but provides various ways in which such oversight can be implemented (DUFAS, 2008, p. 2):

<sup>58</sup> The author of this dissertation was a member of this Fund Governance working group representing an industry participant, ABN AMRO Asset Management.

<sup>59</sup> Translation from the original text in Dutch.

“An entity which is able to act sufficiently critically and independently of the management company and affiliated parties will be appointed to fulfil the role as oversight entity with regard to fund governance. This oversight entity has the task to check if the management company fulfils its duty to act in the interest of the investors in its fund(s). Such oversight can be designed in various ways, as shown in the annex.

In order to fulfil this task, the oversight entity has access to all relevant information, e.g. reviews and additional requested information (if any).”

The examples mentioned in the annex are the following (DUFAS, 2008, Annex p. 1):

- Supervisory board management company/funds
- Non-executive board members management company
- Supervisory board at the level of the overarching financial group
- Independent depositary
- External auditor

The oversight entity is to be provided with periodic reviews by a body within the management company (e.g., a compliance department) of the application of the governance principles in the fund manager’s operations.

With regard to conflicts of interest, the DUFAS Code states that these should be avoided and that the management company should have a conflicts of interest policy. The principles mentioned are to act in the interest of investors and to treat investors equally in comparable situations (DUFAS, 2008, p. 2–3). The management company should be transparent, providing information that is relevant, clear and understandable, including (DUFAS, 2008, p. 4):

“just, timely and fair information on investment policy, investments, risks, costs and management fees, affiliated parties and outsourcing. The characteristics of a fund shall be clear, the risks shall be explained and there shall be no ambiguous conditions. All fees charged by the fund and their connection to services rendered shall be clear. The maximum subscription and minimum redemption prices in relation to the net asset value (NAV) shall be clear.”

In the case of changes to the fund conditions – specifically mentioned are fee increases and changes to the investment policy – investors are to be informed in a way that is timely, easily accessible, clear and understandable for all investors. A notification period is also to be respected.

With the DUFAS Code on the table, the Minister of Finance decided not to opt for the direction of a mandatory independent supervisory board. The argument used by the Minister was, in particular, that the model of a mandatory supervisory board is not common in Europe. By imposing an obligatory supervisory board, the Netherlands would be out-of-line with Europe and the attractiveness of the Netherlands as domicile for investment funds would be diminished<sup>60</sup>. The effectiveness of independent boards for investors was not raised and is the topic of this dissertation.

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<sup>60</sup> See letter of the Minister of Finance to the House of Representatives dated 29 February 2008; reference FM 2008-499M.

## 2.4 Analysis of governance best practices: Consultancy firms

### 2.4.1 KMPG International and CREATE: Towards enhanced business governance

In 2006, audit and consultancy firm KPMG International, together with research and consultancy company CREATE, published the report “Towards enhanced business governance; Causes and consequences in global investment” (KPMG, 2006; hereafter KPMG Report). In the introduction of the KPMG Report, failures of governance in the U.S. – the market timing and late trading scandals – are brought forward as a reason to choose governance as the topic for the report and for governance to be put higher on the agenda of asset management companies. The KPMG Report was based on a global survey of 192 investment managers based in 25 countries and some 50 follow-up interviews with CEOs, CIOs and Compliance Directors. The vast majority of respondents in all regions indicated that they give a high priority to the adoption of sound governance practices in their business. According to the KPMG Report, governance principles in the industry have developed with the following aims in three years before the publication (KPMG, 2006, p. 5):

“promoting and protecting client interests  
providing greater investment transparency  
adopting day-to-day business conduct that meet obligations to clients.”

Based on this outcome, KPMG (2006, p. 6) provides an *industry good practice governance model*, which is shown below as figure 2.2. Each of the three aims is developed further with various recommendations and principles. Points to mention in relationship to the central research question of this dissertation are that:

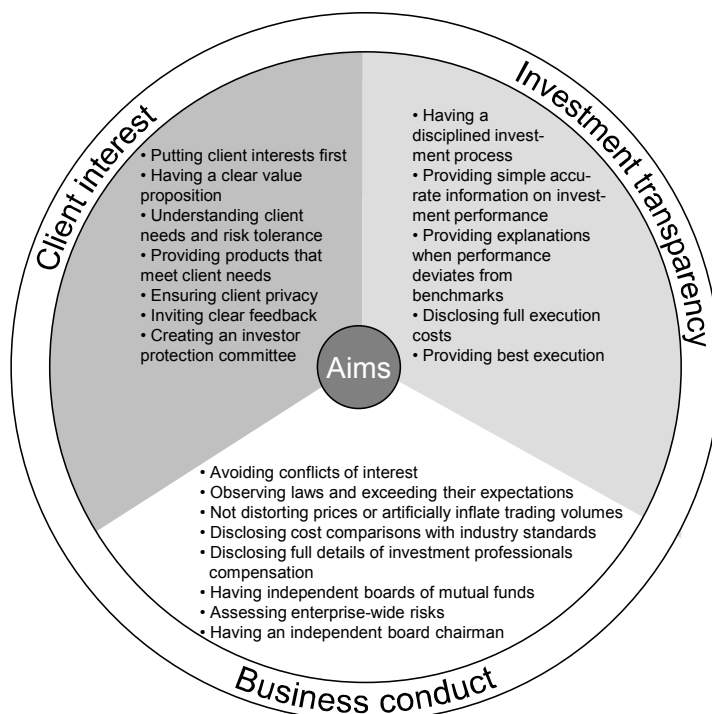
- Fund managers are implementing processes to provide explanations when performance deviates from the benchmark and disclosure of execution costs, in order to improve transparency.
- Fund managers take measures to minimise conflicts of interest, e.g. by providing more transparency on the compensation of investment managers, in order to align interests of managers and investors.

According to the KPMG Report, the best-practice governance examples set by partnerships and independent houses can be taken as an example for other fund management companies. Such firms have been able to better serve client interests, in absence of quarterly sales targets which investment subsidiaries of large banks and insurance companies typically have. Recommendations to CEOs include (KPMG, 2006, p. 14):

“Core principles – Investment houses need to articulate governance principles which should be incorporated into the day-to-day conduct of their businesses. They should focus on promoting client interests, improving investment transparency and adopting business practices that are fit and proper for meeting obligations to clients.

Governance architecture – This should have three distinct layers: structures that comprise systems and controls that reflect the espoused principles, staff

behaviors that are consistent with the principles and a business culture that provides an environment that is conducive to the principles.”



**Figure 2.2:** Industry good practice governance model

Source: KPMG (2006, p. 6).

#### 2.4.2 PricewaterhouseCoopers and Caceis Investor Services: Ideal Fund

In June 2009, audit and consultancy firm PricewaterhouseCoopers (PwC), together with custodian and services company Caceis Investor Services, published a paper titled “Ideal Fund; Reengineering the fund value proposition” (PwC, 2009; hereafter PwC Paper). The PwC Paper addresses some of the shortcomings and challenges of the European fund management industry and aims to give recommendations for governments and the industry. In the introduction, PwC (2009, p. 9) states:

“In order to ensure the sustainability of the industry’s value proposition, we need well-educated investors who receive appropriate advice, with access to an industry with a sound governance framework and which provides them the right product at the right price and with the right level of transparency.

Although the UCITS Directive already provides a sound regime for the regulation and transparency of funds, there is a need for labelling and defining the characteristics of long-term investment products, as well as creating a level



playing field for all products designed to cater for the long-term investment needs of the investor.”

The PwC Paper makes the distinction between three basic needs for long-term investors, namely retirement planning, liability management and wealth accumulation. The focus is on retirement planning and five dimensions of improvement to the value proposition are identified, namely education, advice, governance, fund cost and product design (PwC, 2009, p. 10-11). Given the central research question of this dissertation, only governance and fund cost are elaborated on here. With regard to governance, the paper states that there is no harmonised governance model for funds. Even within UCITS, governance models vary in the different regulatory regimes and on top of that, there are several codes of conduct, both at a European level and a national level. The paper recommends (PwC, 2009, p. 13):

“As part of long-term savings vehicles, there should be a basic governance model which is established and consistently applied across all member states. The components of such a model require two basic features:

- The product provider needs to assume legally an institutional responsibility for the proper operation of the vehicle within the best interests of the long-term investor in accordance with the vehicles objectives;
- A clear framework outlining proper conduct of business rules and inherent conflicts of interest which exist should be created and parties independent of the promoter should be legally tasked with monitoring adherence to such a framework. Responsibility for such monitoring may fall to parties such as the depository, independent directors or even the auditor. However, the framework should be clear enough to ensure that the inherent conflict which exists in appointment of the independent party minimizes the risk of “oversight arbitrage” which may arise. ... ”

According to the PwC Paper, the governance framework to be developed should not be left to EU Member States’ discretion, but should be consistently applied across Europe and must apply to all long-term savings products. On the other hand, the oversight function should not diminish the product *ownership* of the promoter.

With regard to costs, the paper recommends an industry-wide aligned definition of total fees (including transaction fees) as well as investor-friendly reporting. Contrary to the U.S., there is no single definition of the Total Expense Ratio (TER)<sup>61</sup>. This results in a lack of transparency, which makes fee comparisons by investors difficult. For retirement products the recommendation is to have a fee structure that consists of a fee covering operational costs and an *objective fee*. Such an objective fee is to align the goals of the investor and the asset manager by linking the manager’s fee to achieving the investor’s final and intermediate risk-return objectives. Unfortunately, the paper does not specify how such a fee structure would exactly work.

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<sup>61</sup> With the KIID, which is required under UCITS IV, there is a standard definition of the Total Expense Ratio. Note however that this figure is called the *Ongoing Charges*.

## 2.5 Summary and conclusions

This chapter analysed the legal and regulatory framework as well as governance best practices in the U.S. and Europe (in particular Luxembourg and the Netherlands). This analysis is to provide the relevant background to chapters 3 to 7, which are dedicated to empirical research of board effectiveness. Table 2.5 provides a summary of the findings of the analysis by country or region, for each making the distinction between the legal and regulatory situation and what is recommended on top of that on the basis of governance best practices and self regulation. Given the central research question of this dissertation, the table focuses on three aspects, each in a separate column:

- Requirements and recommendations regarding the independence of fund boards.
- Requirements and recommendations to achieve better alignment of interests of fund management companies and boards of directors with investors' interests and regarding the identification and management of conflicts of interest by funds boards.
- Requirements and recommendations regarding fees and fee setting as well as (monitoring of) investment performance.

In all markets analysed, transparency of costs, performance and risks is an important principle. On the basis of this information, investors should be able to make an informed investment decision. Furthermore, it should allow market forces to do their work, restraining fund managers wishing to increase their revenues by increasing costs. With the introduction of the KIID for funds with UCITS status, Europe will make a significant step forward in providing this information in a standardised fashion, mandatory across the fund management industry, thereby reducing the information advantage of the fund management company versus the investor. With the KIID, Europe in effect follows one of the recommendations in the OECD White Paper (OECD, 2005) as well as the example of the U.S., where fee information in the prospectus has already been standardised on the basis of SEC rules. An important question from the viewpoint of investors as well as regulators is whether transparent, standardised information for investors is enough for market forces to be able to do their work, aligning interests of investors and fund managers. If not, oversight by independent board members, either voluntarily (self-regulation) or enforced by stricter regulation, could have significant benefits for investors. This question will be approached from an empirical angle in chapters 3 to 7.

With regard to the legal set-up of a fund family by a fund management company, there is a notable difference between the U.S. and Luxembourg. In the U.S., each fund has a separate, legally empowered board. It is however customary that a single group of independent directors sits on all or most of the boards of the funds managed by a certain fund management company. In Luxembourg, as well as the Netherlands, investment funds are generally set-up as *sub-funds* in an *umbrella fund*. As a result, by definition, all investment funds in that umbrella have the same board. Note that fund management companies can have multiple umbrellas, with not necessarily the same board composition.

The fiduciary responsibility to act in the interest of the investors is a concept found in both the U.S. and Europe. Nevertheless, the governance frameworks for investment

funds in the U.S. and Europe differ significantly. In the U.S., the investment fund's board of directors is the primary body to ensure that effective governance is in place. Independent oversight is to be ensured by requiring a certain portion of the board members to be legally independent. Most funds are required to have a majority of independent directors. These independent board members have been assigned specific responsibilities, for example in the area of fees, where there is potentially a conflict of interest between the fund management company and the investor. The independent fund directors must approve all advisory contracts and distribution contracts, including their fees, at least annually, as well as other contracts with the management company, the distributor and other service providers that carry out day-to-day activities of the fund. Expected of the directors is at least that they assess the reasonableness of the fees. Fee increases require shareholder approval. In their best-practice recommendations, ICI goes a step further, by recommending a *super-majority* of independent directors. However, ICI does specifically mention the advantages of a mixture of independent and affiliated directors on a board. It is also typical for the U.S. situation that, after the market timing and late trading scandals in 2003, the SEC proposed to increase the minimum proportion of independent board members and the requirement to have an independent chair, as measures to avoid the problems discovered in the future. Clearly, the reliance in U.S. investment funds regulations is on legally independent oversight to ensure effective governance and avoid conflicts of interest. In Europe, the situation is different in that independent board members are generally not mandatory. Oversight responsibilities are spread over different entities. For funds with UCITS status, the appointment of a depositary is mandatory and the depositary has been assigned specific oversight responsibilities. The Winter Committee in the Netherlands recommended a legal and regulatory framework with an independent board at the level of the fund management company, however the Minister of Finance decided not to follow that recommendation. Instead, the Dutch industry association DUFAS has developed a code, mandatory for its members, requiring a form of independent oversight, but it leaves it to the market participants which body is assigned those independent oversight responsibilities.

Opinions whether the effectiveness of boards improves with independent board members differ. EFAMA is a strong advocate of the model where oversight responsibilities are assigned to different entities, including the depositary and auditor, as these entities are more involved in the day-to-day activities than an independent board can be. In their view, having one independent oversight entity, such as a board with independent board members, would lead to functional duplications and as a result be ineffective, inefficient and costly. In practice, this seems also the approach the Luxembourg regulator, CSSF, takes on the basis of Luxembourg laws and regulations. In the Luxembourg governance model, there are important and distinct roles for the board, the depositary and the auditor. In addition, Luxembourg has extra-legal concept of the promoter, as sort of a *lender of last resort* to which the regulator and investors could and would turn in case of issues at the level of the Luxembourg Management Company of a fund. The ALFI Code is fully dedicated to the role of the board and gives the board an important oversight role. With regard to independence, ALFI stresses that the board should *act* independently, but does not define independence in a legal or practical manner. A difficulty of EFAMA and ALFI is that they need to *serve many masters*.

EFAMA, as a pan-European association, represents the fund management industry from over twenty jurisdictions, with a variety of legal and regulatory frameworks and governance cultures. ALFI is in a similar situation, as the body of the fund industry in Luxembourg, which is the primary domicile for cross-border fund distribution, with fund management companies that have their roots across the globe. As a result, EFAMA and ALFI are clearly in favour of a governance regime that is flexible and more principles than rules based. However, whether boards with independent members are more effective for investors is also an empirical question. Therefore, an empirical approach will be followed in the next chapters of this dissertation.

**Table 2.5:** Summary of the analysis of governance framework and best practice recommendations

Country or region (law or industry association)	Board independence	Conflicts of interest / Alignment of interests	Fees / Performance
U.S. (1940 Act)	≥ 40% independent (> 50% in case fund relies on Exemption Rules).	Fiduciary duty (board legally charged with protecting the interests of fund's shareholders).	Board to assure that level of fees and expenses are in the best interest of investors. Fee increases to be approved by board and shareholders.
U.S. (ICI)	≥ 2/3 independent (former officers/directors of investment adviser not to be counted as such). Unitary or clustered boards recommended. Independent directors to control the nomination process, retirement policy and board compensation, to also have meetings among each other and to have insurance coverage.	Independent directors to have independent counsel and to form Audit Committee. Investment in funds overseen. Periodic evaluation of the board's effectiveness.	Fees to be reasonable in light of relevant facts and circumstances (including taking account of economies of scale). Performance: Not addressed.
Europe (UCITS IV Directive)	No requirement (depository has been assigned certain oversight roles).	Management company and the depository to act independently and solely in the interest of the unit-holders.	KIID includes information on past-performance and costs in a comprehensible and standardised format.
Europe (EFAMA)	Board must <i>act</i> in sufficient autonomy and independence, which is to be safeguarded in the principles and rules for the governance of the Investment Management Company. Independent oversight for fund management.	Have conflict policy in place. Constantly monitor compliance with law, regulation and other rules. Areas where investors' interests conflict to be identified and rules and procedures to avoid, manage or disclose conflicts of interest to be defined.	Pricing mentioned as conflict of interest area. Investor information to contain information on all costs, which must be true, fair and not misleading. Appropriate supervision and performance monitoring. Information regarding past performance transparent (clear if costs are taken into account, appropriate period, suitable benchmark).
Luxembourg UCITS (2010 Law, part I)	No requirement (depository has been assigned certain oversight roles).	Management company and the depository to act independently and solely in the interest of the unit-holders.	KIID includes information on past-performance and costs in a comprehensible and standardised format. Notice period of 1 month for fee increases during which redemption free of charge.
Luxembourg (ALFI)	Board to provide independent review and oversight (no recommendation of legal independence).	Board to identify and manage conflicts of interest and ensure disclosure. Board to maintain sufficient autonomy to resolve conflicts of interest impartially.	Investor information with regard to costs must be true, fair, timely and not misleading and with regard to performance must be in accordance with relevant accounting standards and legal and regulatory requirements. Board to oversee the activities and performance of investment managers.
Netherlands (Wft)	No requirement. In case of UCITS, depository has been assigned certain oversight roles.	Management company, investment company and depository to act in the interest of the participants in the fund.	Mandatory financial information leaflet with information on costs and performance that is correct, clear and not misleading. Notice period of 1 month for fee increases during which redemptions on old terms.
Netherlands (DUFAS)	Independent oversight entity. Different bodies can play that role (required for DUFAS members on the basis of self regulation).	Conflicts of interest to be avoided. Conflict of interest policy to be in place. Interest of the investors is leading.	Information correct, clear and timely. For fee changes, a notice period is to be respected.



## Chapter 3

# Earlier empirical research

*“Having boards with independent chairmen might be ideal but does not automatically create a fair deal to clients”<sup>62</sup>*

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<sup>62</sup> Quote from an anonymous senior manager of fund management company in KPMG International and CREATE, 2006, Towards enhanced business governance; Causes and consequences in global investment, p. 26.

### 3.1 Introduction

This chapter analyses earlier empirical studies into the effectiveness of governance by fund boards. The published studies and working papers that are reviewed in this chapter investigate the relationship between governance characteristics on the one hand, and fund costs, performance and aspects of fund management company behaviour on the other hand. The late trading and market timing scandals formed a trigger for academics to study whether boards can play a positive role in avoiding conflicts of interest. All but one of the studies of open-end funds reviewed in this chapter are dated after 2003, the year in which the scandals were uncovered. Except for one study on U.K. closed-end funds and one on U.S. closed-end funds, all studies analyse data of U.S.-domiciled open-end funds.

Effective governance should manifest itself in a fair level of fees, as well as in avoiding conflicts of interests and preventing misbehaviour by the fund management company. With fees, in particular, management fees, there is a potential conflict of interest between fund investors and fund management company. For the fund management company, higher fees imply greater profitability. For the fund investor, management fees and other expenses charged are the price paid for the service received. *Ceteris paribus*, higher expenses imply lower returns. Some might argue that higher management fees and other expenses do not matter to the investor, as long as they are associated with superior investment performance, after expenses. However, an economically and statistically significant negative relationship between expense ratios and performance is found for open-end funds by e.g., Jensen (1968), Malkiel (1995) and Carhart (1997). Therefore, a fund investor will prefer lower expenses to higher expenses. Since good performance attracts inflows and is an effective way to increase fund size, good performance is in the interest of both the fund investors and the fund management company. This is, indeed, a mitigating factor against the conflicts of interest between fund investors and fund management companies.

Although boards are not directly responsible for achieving good performance, one could argue that they should take action against continued poor performance. Good governance by boards is probably not a source for outperformance, but it may help to create the circumstances in which fund managers can thrive and outperform. Additionally, good governance can potentially mitigate conflicts of interest and avoid or stop certain value-destroying activities, such as late trading, market timing and tournament, which negatively impact performance. Therefore, performance is ultimately where all effects come together, making performance a relevant variable to consider when analysing board effectiveness. Ferris and Yan (2009, p. 620) state in this context:

“Our final measure of agency costs is fund performance, which directly relates to the fundamental interest of fund shareholders. Fund performance might be the most comprehensive measure of agency costs since any such cost is ultimately charged against performance.”

Meschke (2007, p. 16–17) is somewhat more critical as to whether differences in board characteristics will result in performance differences:



“Other than through negotiating fees, there is no strong theoretical argument that links actions of mutual fund directors to performance of funds they oversee. ... To the extent (sic) that more independent and better incentivised boards are less tolerant of underperformance, one might expect a relation between fund performance and governance characteristics. In addition, one cannot rule out that certain boards of directors are able to identify talented portfolio managers. In that case, evaluating boards solely on how low they negotiate fund expenses may result in an incomplete picture of their activity since one would expect that in equilibrium more talented portfolio managers charge higher fees. Hence, this section examines the relation between mutual fund governance characteristics and fund performance, albeit with a high degree of scepticism.”

Section 3.3 analyses the results of several empirical studies into the effectiveness of board governance, which are relevant for the empirical study of Luxembourg funds in the subsequent chapters. Since the central research question of this dissertation concerns fund costs and performance, results from earlier studies related to these aspects will receive the most attention. Section 3.2 is a general section about the methodologies that are applied (3.2.1) and the variables that are typically considered (3.2.2, 3.2.3 and 3.2.4) in the empirical studies analysed in section 3.3. Section 3.4 summarises and concludes this chapter.

## 3.2 Methodology and variables

### 3.2.1 Methodology

The empirical studies analysed in section 3.3 typically apply a multiple regression analysis to investigate the effectiveness of the fund governance. In a multiple regression analysis, two or more independent variables are analysed simultaneously in relationship to the dependent variable. Dependent variables considered in most studies are fund costs and fund performance (see section 3.2.2.). In addition to one or more governance characteristics (see section 3.2.3) as explanatory variables, several control variables are taken into account that might have an influence on the dependent variable (see section 3.2.4).

Because fund sponsors generally offer a range of funds, a fund family, most studies reviewed in section 3.3 face the issue of either analysing the data at the level of individual funds or at the level of the fund families. An individual fund model treats each fund as a separate and independent observation. This approach is consistent with the fact that from a regulatory perspective, each U.S.-domiciled fund is a separate legal entity. In theory, each fund can have a different board and fees can be set for each fund independently. Additionally, many of the control variables are fund-specific, such as fund size, fund age and investment objective. On the other hand, many of the explanatory variables are identical across funds of the same fund management company, resulting in a possible *family effect*. In practice, the boards' composition is similar or the same across the fund range of a fund management company. Other tangible char-

acteristics, such as fund management company size, are also identical across the range, as well as less tangible characteristics, such as the corporate culture, the distribution approach and the pricing strategy of the fund management company. Therefore, a drawback to the individual fund model is that standard errors for variables that are the same across funds of the same family in the sample might be underestimated, and that the statistical significance of these variables could be overstated. The family-average model treats each fund management company as a separate and independent observation. Both the dependent and independent variables are aggregated at the level of the fund management company and measured as the average of fund-level variables. While this approach analyses fund management company characteristics at the proper level and clearly avoids the individual fund model pitfall of overstating statistical significance, the price is that valuable variation at the fund level is not used and thus coefficients are estimated inefficiently.

A second distinction that can be made between the multiple regression analyses applied is whether the available dataset is a cross-section or a panel dataset. In the case of a cross-sectional dataset, there are observations of certain variables at a certain point in time. An example is Tufano and Sevick (1997), analysing cost and governance data for 1992. A panel dataset consists of repeated observations over time on the dependent and independent variables for the sample of funds. Examples of such studies are Meschke (2007) and Adams, Mansi and Nishikawa (2010). Both studies use a panel regression model with fixed effects per period. With such a panel regression model, the intercepts are permitted to vary per period, but the slope parameters are not. In an extension of such a panel regression, fixed effects can be allowed per sponsor as well, by including dummy variables for each fund management company. The drawback to this latter approach is that with this model specification, fund management company-specific variables (such as fund management company size) need to be dropped. In effect, with this approach, variation within fund management companies is examined. An alternative approach to analysing a panel dataset is a model specification, which is referred to as the Fama-McBeth approach (see Fama and McBeth, 1973). With this approach, a cross-sectional regression is first estimated for each period. Subsequently, time-series averages are calculated for the various coefficients.

### 3.2.2 Dependent variables: Costs and performance

#### *Costs*

Most studies analysed in section 3.3, investigating the relationship between board characteristics and costs, consider the so-called expense ratio or total annual fund operating expenses. This is the ratio of a fund's total annual operating expenses and its average net assets, expressed as a percentage. In the U.S., the operating expenses consist of the management fee, the 12b-1 fee and the other expenses. Management fees are paid out of fund assets to the fund's investment adviser for managing the fund's investment portfolio. The 12b-1 fee is the annual marketing and distribution fee. The other expenses consist of custody expenses, legal expenses, fund accounting expenses, transfer agent expenses and other administrative expenses.

In addition to costs included in the expense ratio, investors can be charged a sales load when purchasing (the so called front-end sales load) or redeeming fund shares (back-end or deferred sales load) through a broker. To capture these loads in the analysis, several studies analyse board characteristics in relationship to a total shareholders fee. This is the expense ratio plus a portion of the total load charges (e.g., one-fifth or one-seventh), depending on the holding period assumed. For U.S. funds, the expense ratio and its components, as well as the sales load, are displayed in the Fee Table in the prospectus and are available from the CRSP Survivor-Bias Free U.S. Mutual Fund Database.

### *Performance*

Analysing fund performance in relationship to board characteristics requires some form of adjustment for the performance of similar funds or for risk. In the various empirical studies analysed in section 3.3, a number of approaches are used. Most studies actually apply more than one performance measure, in order to check the robustness of the results. The main approaches applied are:

- **Investment objective adjusted return.** This is the fund return minus the mean or median return of funds with the same investment objective.
- **Jensen's alpha.** Jensen's alpha is the fund return over and above what is predicted by the Capital Asset Pricing Model (CAPM). The CAPM is a single-index model that takes into account a fund's systematic risk (beta).
- **Fama-French alpha.** The Fama-French 3-factor model (see Fama and French, 1993) is an empirical extension of the CAPM. The factors added are a market capitalisation factor and a book-to-market factor.
- **Carhart alpha.** The Carhart 4-factor model (see Carhart, 1997) is a further extension of the CAPM, adding a momentum factor to the Fama-French model.

All studies in section 3.3, analysing a sample of U.S.-domiciled funds, use the CRSP Survivor-Bias Free U.S. Mutual Fund Database for fund return data. This database also provides a fund's investment objective according to various definitions. The return on one-month U.S. Treasury bills is generally taken as the risk-free rate.

### **3.2.3 Governance variables**

The various governance characteristics that are typically considered by the empirical studies analysed in section 3.3 are discussed below. For U.S. funds, the source for this data, except for the Morningstar stewardship grades, is the Statement of Additional Information, a document that U.S. mutual funds are required to file with the SEC and that is available to shareholders upon request.

#### *Board independence*

Board independence is measured as the percentage of independent directors or whether or not the board has an independent chairman (dummy variable). The assumption is that when it matters, dependent directors on the board will prioritise the interests of the fund management company with which they are associated as employee or as employee of a service provider (e.g., law firm or fund administrator) over

the interests of the investors. Obviously, this would render dependent board members less effective in their duties towards investors. On the other hand, dependent board members might have better information and specialised knowledge, for example with regard to aspects of the fund management organisation, with which to perform their function. The lesser ability of independent boards to monitor the fund manager might lead to such boards putting on more constraints, which could work counter-productively. Critics have cast doubts about effectiveness of independent board members for other reasons as well. For example, Cremers et al. (2009, p. 1350) state:

“...mutual fund boards have been captured by their funds’ sponsors: Directors typically serve on the boards of many funds within a family and often earn significant compensation; therefore, they may wish to develop a reputation for not rocking the boat and thus take actions aimed at protecting their compensation, as opposed to maximizing the fund’s returns to its shareholders.”

#### *Board size*

Larger boards might suffer from the problems of managing and coordinating bigger teams, along with an increased risk of *free riding*, i.e., board members not putting in their fair share of effort, leading to less effective decision-making. Ding and Wermers (2005, p. 22) state:

“On the one hand, it would be hard for fund managers to control larger boards, and therefore larger boards may be related to better performance by monitoring the managers better. On the other hand, when the board size is large, the coordination among board members may be more difficult and the board may lack efficiency in taking actions to monitor managers.”

Some studies use the total number of board members as a measure for board size, whereas others take the total number of independent directors.

#### *Number of funds overseen*

Fund directors usually have that role for more than one fund. Overseeing many funds of one fund management company or even of multiple fund management companies could lead to a board member being too busy to provide effective oversight. Alternatively, it could be a sign that such a board member has superior skills, knowledge and/or experience. Some studies consider the number of funds overseen by any director as a governance variable in their analysis, while others only consider the number of funds overseen by independent directors.

#### *Board concentration*

Board concentration is a measure for the relative span of a director’s or a board’s oversight responsibility. At one extreme, each fund in a fund family can have a different board, whereas at the other extreme, all funds in a fund family can have boards of the same composition. Tufano and Sevick (1997) calculate director share, board concentration and sponsor concentration as follows:

- Director's share is the assets under management that a certain independent director oversees, expressed as the percentage of the total fund assets under management of the fund management company.
- Board concentration is the average of the director shares of the directors on that particular board.
- Sponsor concentration is calculated by averaging the directors' shares at the level of the fund management company.

A unitary board is in place when all funds of a fund management company are overseen by boards of identical composition. In that case, director share, board concentration and sponsor concentration are all 100%. In case of a clustered board, funds belonging to the same fund family do not all have the same composition, resulting in a board concentration and sponsor concentration of less than 100%. Several studies use a unitary board dummy variable, rather than the board or sponsor concentration.

Unitary boards could have the advantage that such a board structure can result in more power and leverage in negotiations with the fund management company and other service providers. Unitary boards could also be more efficient using information and knowledge regarding the fund management company and the fund industry across the whole fund family. Boards overseeing all funds in a fund family might be better monitors against *family strategies*, where one fund benefits at the expense of others. Unitary boards might be better able to evaluate the benefits from economies of scale and make sure that they are reflected in the expenses charged. Furthermore, unitary boards might have a better balance between oversight and micro-management. Finally, for the fund management company, having to deal with only one group of directors might be more efficient.

Disadvantages of a unitary board could result from the board members acting less independently from the fund management company. Their larger financial compensation, due to serving on more boards, might make them less critical monitors. Finally, the workload from overseeing a large fund family might be too large to be effective as a monitor for investors.

#### *Director compensation*

Several studies include *unexplained compensation* as a measure for how well a director is paid in relative terms. It is defined as the part of the total compensation that cannot be explained by factors such as the number of funds and assets overseen by directors. Higher compensation might result from a board member's superior skills, knowledge and experience in that role. However, high compensation might also create a financial dependency for the director on his position, which can lead to a lesser alignment of interests between that board member and investors. For example, a higher compensation is a disincentive to initiate or approve a merger when it could potentially lead to loss of that board seat and its associated compensation.

In the Statements of Additional Information, remuneration data is reported for independent directors only, since dependent directors are paid by the fund management company, not by the fund.

*Director ownership*

Even a legally independent director might not act independently without the right incentive. The hypothesis in several studies is that the directors' interests are better aligned with investors and that directors are more incentivised to act in investors' interests when directors invest in the funds they oversee. *Independent* directors, who are only interested in the remuneration and status of their board position and in being asked to serve on the board of the next fund set up by the same fund management company, still might not *act* independently from the fund management company and would be ineffective in their duties towards the investors. A significant investment by directors in the funds they oversee might create the incentive to act independently, ultimately leading to a disciplining of the fund management company to the benefit of investors.

In the U.S., as of 31 January 2002, ownership by fund directors in the funds that they oversee is disclosed in the Statement of Additional Information. It lists the dollar value, in specific ranges<sup>63</sup>, of all funds in the fund family owned by each director. Ownership can be measured as the absolute amount invested. Alternatively, Kong and Tang (2008) use a ratio of ownership and compensation as a measure for the relative significance of the investment. The measure used by Ferris and Yan (2007b) is the percentage of independent directors not holding any shares in the fund.

*Independent directors' tenure*

Over time, board members might lose their ability to act independently from the fund management company and therefore become less effective in serving the interests of the fund investors. On the other hand, a longer tenure might be a sign of greater experience and might also lead to a greater reputation at risk, which could align the interests of board members and investors.

*Board committee structure*

Forming committees within a board could ensure that board members specialise in and focus on certain areas, which could be an effective way to perform their duties to investors. Committees typically seen in U.S. mutual fund boards are nominating<sup>64</sup>, governance<sup>65</sup>, audit and pricing committees. Ferris and Yan (2007b, p. 399) comment with regard to these committees:

"The nominating and governance committees are typically restricted to independent directors and reflect the board's efforts at monitoring its own activities. The audit committee represents another dimension of fund governance and reviews the methods of financial reporting, the system of internal controls, and the audit process. The pricing committee monitors and establishes policies concerning the pricing of new shares, suggesting that the presence of such a committee discourages market timing abuses."

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<sup>63</sup> These ranges are US\$0, US\$0-25,000, US\$25-50,000, US\$50-100,000 and US\$100,000 and above.

<sup>64</sup> The nominating committee selects and nominates directors on the board.

<sup>65</sup> The governance committee oversees matters related to the governance exercised by the board, including the evaluation of board's processes and performance.

*Morningstar Stewardship Grade*

Several studies make use of the Morningstar stewardship grade, which was introduced by Morningstar in August 2004 (Morningstar, 2004). It is the assessment by Morningstar analysts of how well the interests of the fund management company are aligned with those of the fund investors. The stewardship grade is constructed from the scores given in five equally weighted categories:

- **Regulatory Issues:** Funds with no regulatory concerns receive the highest score, while those with serious breaches have points subtracted.
- **Board Quality.** For this component, Morningstar assesses various aspects of board quality, such as the board's independence and whether the board members are invested in the fund. With regard to the factors that Morningstar assesses for the Board Quality, Morningstar (2004, p. 2) says:
  - “• Has the board taken action in cases where the fund clearly hasn't served investors well?
  - Do the independent directors have meaningful investments in the fund? To earn the maximum score, at least 75 percent of a board's independent directors must have more money invested in the funds they oversee than they receive in aggregate annual compensation for serving on the board. However, the Securities and Exchange Commission requires directors to report investments in dollar ranges with the top range being “more than \$100,000.” As a result, we will assume that directors with more than \$100,000 invested in the funds they oversee meet the above criterion.
  - Is the board overseeing so many funds that it may compromise the ability to diligently protect the interests of shareholders at this specific fund?
  - Does the fund meet the maximum SEC requirement for the proportion of independent directors, regardless of whether or not it is subject to the requirement? (Former fund company employees, family members, and current or former employees of fund service providers are not considered independent by Morningstar.)”
- **Manager Incentives.** Morningstar looks favourably at funds where the portfolio manager has a significant investment in the fund he manages and where the compensation structure rewards long-term performance as opposed to short-term performance or asset growth.
- **Fees.** In this category, Morningstar assesses whether a fund's expense ratio is below the average of its peers and whether the fund's expense ratio declined meaningfully as assets have grown.
- **Corporate Culture.** For this component, Morningstar looks at a wide range of factors to assess how seriously a firm takes its fiduciary duty.

For the overall grade, Morningstar uses the American academic grading system, from A (highest) to F (lowest), where E is not used. The categories of Regulatory Issues and Fees can be observed and analysed more or less objectively. The categories of Board Quality, Manager Incentives and Corporate Culture are more subjective and therefore, the assessment by Morningstar analysts plays an important role. This also implies that the overall stewardship grade is, to some extent, a subjective measure, contrary to

other board characteristics listed in this section, such as, for example, board size, which is an observable variable.

### 3.2.4 Control variables

This section lists the various control variables that are included in several of the empirical studies analysed in section 3.3.

#### *Fund size and fund management company size*

The variables for fund and fund management company size are to capture possible economies of scale that exist in the management of funds. On the other hand, too large funds might face capacity constraints, leading to lower performance. In the regression analyses, the natural logarithm of the fund size is generally taken as control variable.

#### *Fund age*

The variable for the fund age is included because young funds might have start-up costs, leading to higher costs. Alternatively, young funds might be subsidised by the fund management company, leading to lower costs, while older funds might have higher fees, justified on the basis of established reputations. In the regression analyses, the natural logarithm of the fund age is generally included as control variable.

#### *Past performance*

Past performance is included in order to capture that better past performance might justify or lead to higher fees. Past performance can be measured in various ways, such as the difference between a fund's return and medium return of funds within the same investment objective or as the percentile ranking within a relevant peer group.

#### *Fund investment objective (fund sector)*

When funds in the sample have different investment objectives, for example, domestic equity, money market or municipal bonds, these differences can be captured by means of dummy variables by objective.

## 3.3 Results of earlier empirical research into governance characteristics

### 3.3.1 Costs and performance of open-end funds

Section 3.3.1 covers empirical studies that are similar in their methodological approaches to the study of Luxembourg funds in chapters 5 and 6. This section starts with the first study of this kind, that of Tufano and Sevick, published in 1997, which analyses board characteristics and fees. Next are the studies by Meschke (2007), Ferris and Yan (2007b) and Kong and Tang (2008), which are similar in their approaches, but also analyse the relationship of board characteristics and performance, as well as whether or not the funds were involved in the late trading and market timing scandals.



The study by Cremers et al. (2009) is dedicated to investments by directors in the funds they oversee in relationship to performance. The study by Ferris and Yan (2009) looks into the organisational form – public or private – of the fund management company. Adams et al. (2010) analyse index funds. Given that the empirical research on a sample of Luxembourg funds, presented in chapters 5 and 6, regards the relationship between governance characteristics and costs and performance respectively, the focus in this section is also on the results of these measures for board effectiveness.

*Tufano and Sevick (1997): Board independence and costs*

Tufano and Sevick (1997) is the first empirical study examining mutual fund board characteristics. They examine the relationship between the composition and compensation of boards of directors of U.S. open-end mutual funds and the fees charged by these funds to their investors. Tufano and Sevick (1997, p. 322) state:

“...certain board characteristics, such as the size of the board and the percentage of outsiders, are observable features that can affect a board’s independence, its skill at deliberation and decision making, and ultimately its effectiveness as a fiduciary.”

The study examines this relationship using 1992 data for a sample consisting of the funds offered by the largest 50 sponsors in the U.S. This sample includes 1587 open-end funds with US\$ 1.1 trillion of assets under management, which is 37% of the number of funds available and 69% of the U.S. open-end mutual fund assets under management at the time. Three different definitions of fees are used as dependent variable:

- Total fees, including front and back-end fees amortised over a 5-year holding period.
- Marketing fees, consisting of 12b-1 fees and front and back-end fees amortised over a 5-year holding period.
- Other fees, defined as total fees minus marketing fees.

The size of the board, measured as the number of independent directors, the percentage of independent directors, board concentration and unexplained director compensation are included as governance variables. The authors use four specifications of a multiple regression model to estimate the relationship between board characteristics and the fees charged, including two versions of the individual fund model (one without and one with fixed effects per sponsor) and a family-average model. The fourth model specification is a variation on the approach by Fama-McBeth, whereby Tufano and Sevick (1997) divide the sample into sub-samples by investment objective, estimate coefficients for each investment objective and then average these as if concerning a time-series. The authors control for fund and sponsor scale, fund age, fund objective, distribution method and past performance. Whether a fund is targeted at a retail public or high-net-worth and institutional clients is also taken into account with a control variable.

One conclusion of the study is that smaller fund boards and a higher percentage of independent directors are associated with lower fees. These variables are better able

to explain fee differences across sponsors than within them. A higher board concentration is associated with lower fees. Tufano and Sevick (1997, p. 348–349) state:

“While critics have contended that board members sitting on all or virtually all of a sponsor’s boards might become captured by the complex, the empirical evidence does not support this assertion. Funds whose independent board members sit on a larger fraction of the sponsor’s assets tend to have lower, and not higher, shareholder fees. ... This finding is consistent with breadth of oversight allowing independent directors to develop greater expertise, or exert greater bargaining leverage in negotiations with the fund sponsor”.

In addition, there is some evidence that higher directors’ fees go hand-in-hand with higher fees for the shareholders, but this result is not statistically significant in all model specifications. The impact is much greater than only the direct effect of the director’s fees on the expense ratio. This result is consistent with the *rent-sharing* hypothesis (Tufano and Sevick, 1997, p. 335):

“... directors who receive *relatively large* compensation might be less inclined to jeopardize this compensation by disagreeing with the fund sponsor, such as by forcefully insisting on lower fees for the sponsor. Under this view, high directors’ compensation can be thought of as a form of rent-sharing. Under an opposing view, higher director’s fees indicate payment for superior oversight, given a knowledgeable market for board members.”

Table 3.1 shows the sensitivity of the fees charged for variations in the four board characteristics distinguished in the study.

**Table 3.1:** Summary of the results of Tufano and Sevick (1997)

Board structure variable	Delta	Effect on total fees p.a.
Board size	One additional independent board member	+7bp
Percentage of Independent directors	10 percentage points	-11 – -10bp
Director concentration	100% versus 50%	-17 – -12bp
Unexplained compensation	+US\$ 33k	+5bp

The conclusion for the control variables is that there is evidence of economies of scale at the fund level, but only limited evidence of economies of scale at the sponsor level. Older funds charge higher fees. Furthermore, there is a significant variation in fees between funds with different objectives and different distribution models. There is no evidence that fee differences are related to differences in past performance.

After providing their empirical results, Tufano and Sevick (1997, p. 349) state with regard to endogeneity:

“It is tempting to interpret these statistical relationships as causal, implying that board structure affects fees. However, it is important to remember the earlier discussion in this paper about endogeneity. ... However, while other elements of board structure are partially constrained by laws and history, the fund sponsor plays an important role in determining board makeup. Sponsors

seeking to charge higher fees to capture rents may select different types of boards than other sponsors, thus the causality can run in reverse.”

In order to investigate the causality of the relationships, in other words, whether the differences in fees are the result of differences in board structure, Tufano and Sevick (1997) analyse the relationship between board characteristics and fees paid to the fund sponsor versus fees paid to third parties. Potential conflicts of interest are larger when setting fees paid to the sponsor than when setting fees for third parties. They use marketing fees, as defined above, as the category of fees that is paid to third parties, whereas other fees are the category of fees that is paid primarily to the sponsor. Particularly, more effective boards should be able to affect fees paid to the sponsor. The results are statistically insignificant for the variables for board size and the percentage of independent directors, and inconsistent for the variables for director concentration and compensation. Therefore, these results do not support the hypothesis that different types of boards have a causal effect on fee levels.

*Meschke (2007): Board characteristics, costs and performance*

Meschke (2007) examines the relationship between board independence and director incentives on the one hand, and fund costs, performance and the likelihood of being indicted for late trading and/or market timing on the other hand. He investigates a randomly selected sample of 400 investment companies from 91 sponsors in the U.S. in the period 1995–2004. This sample covers approximately one third of the funds on the CRSP mutual fund database, representing about 60% of assets under management. The position of the chairman – either independent from or affiliated with the fund management company (dummy variable) – and the percentage of independent directors are used as measures for board independence. Unexplained compensation is calculated following Tufano and Sevick (1997).

The cost measure used includes the annual expenses and the loads. For the latter, a holding period of seven years is assumed, therefore adding one-seventh of the total load to the annual expenses. The study uses two panel regression model specifications to analyse the panel dataset of fund expenses on the one hand, and governance characteristics on the other hand, namely one with, and one without, fixed effects per fund. Furthermore, the Fama-MacBeth methodology is followed. The control variables are other board structure variables, several fund and sponsor characteristics, fund investment style and distribution type.

Funds with boards that have an independent chairman charge lower fees. With the panel regression without fixed effects per fund, the difference is almost 13 basis points per annum for the entire sample and research period. The percentage of independent directors does not explain fee differences in a statistically significant manner, at least for the entire period. The percentage of independent directors is associated with higher fees during the first two sub periods (1995–1998 and 1999–2001) and with lower fees during the last sub period (2002–2004). Performing the regression analysis by asset class, the study finds that the negative association between an independent chair and fund expenses is more pronounced for equity funds than for bond funds, while there is no such relationship for money market funds.

The measure for unexplained director compensation is positively related to fees. Funds with independent directors who receive high unexplained compensation charge higher fees, in line with the hypothesis that the interests of such directors are less aligned with those of investors. The coefficient is statistically significant at a level of 1%, but hardly economically significant, since in none of the model specifications is the difference more than 0.2 basis points per annum.

Funds with independent directors with a higher average tenure charge lower fees. This result is statistically significant at a level of 1% for the whole period, but not significant for all sub-periods. With approximately 0.9 basis points, the economical significance for this variable is also limited. The result for board size is not statistically significant for any of the sub-periods.

Directors' investment in the funds is negatively associated with fees. Funds with a larger fraction of independent directors holding at least US\$ 100,000 in the funds they oversee charge lower fees, but this result is only significant at a level of 10%. This board characteristic was only investigated for the 2002–2004 period, since this data was not a reporting requirement before 2002. With regard to the control variables, the study finds that older funds, larger funds and funds from larger sponsors, as well as funds with a higher redemption sensitivity<sup>66</sup>, charge lower fees. Funds with better past performance, high turnover, high number of holdings and from sponsors with a large number of funds charge higher fees.

For the analysis of the relationship between governance characteristics and performance, only the panel regression without fixed effects per fund is used. The study uses several measures for excess returns, including the Carhart alpha for equity funds. No evidence is found that board independence – measured both as percentage of independent directors on the board and with a dummy for the position of chairman – is associated with better performance. On the contrary, the Carhart alpha of equity funds overseen by an independent chair is 74 basis points per annum lower. Having relatively more independent directors also goes hand-in-hand with lower returns. These results are surprising, given the lower fees charged by funds with independent chairs and the results of studies on performance persistence that attribute performance persistence of funds at least partly to differences in fees (see e.g. Carhart, 1997). These seemingly inconsistent results between board independence and fees on the one hand, and board independence and performance on the other hand, might be explained by better portfolio managers wanting to work for more expensive funds with less independent boards, where they can earn higher salaries.

There is a negative relationship between unexplained compensation and risk-adjusted fund performance, both for equity and bond funds. However, the magnitude of the effect is small. The coefficient for average director tenure was not statistically significant for most performance measures. The coefficient for board size was statistically significant negatively for most performance measures, but not for the Carhart alpha. As mentioned above, the information about directors' holdings was only avail-

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<sup>66</sup> Meschke (2007) argues that both external market discipline and internal board oversight are expected to affect the level of fees, and therefore wants to control for the degree of investor-imposed market discipline when estimating the effects of board characteristics on fees. The negative sign and level of significance of this redemption sensitivity measure in the regression analysis suggest that funds, with a client base that is more likely to redeem in response to negative performance, charge lower fees.

able for the 2002–2004 period. The regression coefficient for directors' holdings was not statistically significant for any of the risk-adjusted performance measures, including Carhart alpha. Larger funds have a better risk-adjusted performance, but the results suggest that the relationship is hump-shaped, meaning that from some point, increased size is associated with lower performance. Fund age has a statistically significant negative relationship with risk-adjusted performance. Table 3.2 summarises the results regarding fees and performance.

The study finds no evidence that boards with a higher percentage of independent directors or independent chairs are less likely to be involved in litigation for late trading or market timing in the 2003–2005 period. However, greater unexplained compensation and a larger fraction of sponsor assets distributed through brokers are both associated with a higher likelihood of being charged in the late trading and market timing scandal.

**Table 3.2:** Summary of the results of Meschke (2007)<sup>1</sup>

Board structure variable	Delta	Effect on total fees <sup>2</sup>	Effect on performance <sup>3</sup>
Percentage of independent directors	Plus 10%	-	-25bp
Independent chair	(dummy)	-13bp	-74bp
Board size		-	-
Unexplained compensation		Plus <sup>4</sup>	Minus <sup>4</sup>
Average director tenure	Plus 1 year	-0.9bp	-
Director ownership (percentage of directors holding ≥ US\$ 100k)	Plus 50%	-3bp	-

1. Results that are statistically insignificant or inconsistent are indicated with a dash (-).

2. Results shown are for the individual fund regression model specification for the entire period, except for director ownership, which is only available for the period 2002–2004.

3. Results shown are for equity funds, using Carhart alpha as the performance measure, for the entire period, except for director ownership, which is only available for the period 2002–2004.

4. Size of the effect not possible to provide based on results included in the study.

#### *Ferris and Yan (2007b): Independent directors and chairmen*

Similar to Meschke (2007), Ferris and Yan (2007b) investigate whether chair and board independence are related to fund fees, fund performance and the probability of being involved in the late trading and market timing scandal. Their sample is bigger than that of Meschke (2007), but concerns a cross-sectional analysis of 2002 data only. The sample includes the 448 fund families for which board data could be obtained, out of the 531 fund families in the CRSP database as per the end of that year. These families managed 97.1% of the assets under management of the fund management industry at that point in time.

The board characteristics considered are the chairman's position, the percentage of independent directors, board size, fund ownership by independent directors (measured as a proportion of independent directors holding zero shares), unexplained independent director compensation, number of funds overseen by the independent directors, independent directors' tenure and board committee structure. The latter is included in the regression analysis by using dummy variables for the presence of a nominating, a governance and a pricing committee, respectively. A dummy for audit com-

mittees was considered as well, but not included, because nearly all fund boards in the sample had such a committee.

Out of the fund families in the sample, 28 were indicted for late trading or market timing. The study finds that the probability of a fund management company being indicted is not related to the fund board having an independent chair or to the percentage of independent board members. There is also no statistically significant relationship between the likelihood of being indicated and the percentage of independent directors not invested in the fund, the independent directors' tenure and the existence of a nominating or a governance committee.

The results are statistically significant for several other board characteristics. Unexplained independent director compensation, as well as the number of funds overseen by independent directors, is associated with a higher likelihood of being indicted. The presence of a pricing committee is negatively related to the likelihood of being indicted. A fund management company that does not have a pricing committee is approximately five times more likely to be indicted. Larger fund management companies are more likely to be indicted as well. Ferris and Yan (2007b, p. 405) provide three possible reasons for this result:

"First, larger fund families might be more difficult to monitor due to organizational complexity and diseconomy. Second, larger fund families might be more attractive to market timers and other professional traders because they offer the potential for greater trading profits. Third, federal and state regulators might have a stronger incentive to uncover violations in larger fund companies because large fund families impact a greater number of investors."

The study applies four model specifications for the regression analysis of fund fees and performance, including an individual fund model and two variations of the family-average model. The fourth specification is the same as that used by Tufano and Sevick (1997), whereby the Fama-McBeth approach is applied to sub-samples by investment objective. In addition to the annual expense ratio and the total shareholder fee (expense ratio plus one-seventh of total load), the study uses the operating expense ratio (expense ratio minus 12b-1 fee) as a third cost measure. These operating expenses are the costs directly related to the management of the fund, excluding the compensation for distributors.

There is no evidence that a higher percentage of independent directors or an independent chair is associated with lower fees. The coefficients are insignificant in most model specifications and the sign is inconsistent. In the model specifications where the coefficient is statistically significant, the sign is actually positive. The coefficients for board ownership are inconsistent and mostly insignificant as well. The study does find that funds with larger boards charge higher fees, especially when analysing expense ratios and total shareholder fees. An increase in the number of board members by five is associated with a 9 to 11 basis points higher expense ratio.

There is weak evidence that high unexplained independent director compensation, a high number of funds overseen and long tenures are associated with higher expenses. For these variables, in several model specifications there are statistically significant coefficients, in particular, for costs measured as the annual expense ratio and

total shareholder fee. However, the economic significance is small. The results for the board variables are summarised in table 3.3.

Larger funds and larger fund families tend to charge lower fees, consistent with the existence of economies of scale, whereas younger funds tend to charge higher fees (expense ratio only). Furthermore, there is a statistically significant negative relation between the expenses and the performance in the previous period. When the analysis is repeated per performance quintile, among the poorest performers, there is also no statistically significant negative relationship between the percentage of independent directors and the dummy for the chair and expense ratios. Therefore, it cannot be concluded that board independence is more important for poor performing funds.

To investigate the relationship between board characteristics and performance, Ferris and Yan (2007b) use a measure calculated as the fund's return minus the average return of funds with the same investment objective, normalised by dividing this return difference by the cross-sectional standard deviation of the fund's return within an investment objective. Only performance data for 2002 is used. Few coefficients for governance variables are statistically significant and none is significant in more than one out of four model specifications for governance variables. For the percentage of independent directors and the dummy variable for an independent chair, none of the coefficients are statistically significant. It can be concluded that there is no evidence that board independence as measured by these variables is associated with better performance.

Of the control variables, there is a statistically significant positive relationship between performance and the previous period performance. For two out of four model specifications, there is also a positive relationship between fund size and performance.

**Table 3.3:** Summary of the results of Ferris and Yan (2007b)<sup>1</sup>

Board structure variable	Delta	Effect on expense ratio	Effect on total fees	Effect on performance
Percentage of independent directors		-	-	-
Independent chair		-	-	-
Board size	+5 board members	+9–11bp	+19–22bp	-
Unexplained compensation		Plus <sup>2</sup>	Plus <sup>2</sup>	-
Number of funds overseen	+3 (from median of 6)	+2bp <sup>3</sup>	+4bp <sup>3</sup>	-
Average director tenure (in years)	+3 (from median of 7.59)	+1bp <sup>3</sup>	+3bp <sup>3</sup>	-
Director ownership (percentage of directors holding zero shares)		-	-	-

1. Results that are statistically insignificant or inconsistent are indicated with a dash (-).

2. Size of the effect not possible to provide based on results included in the study.

3. Not statistically significant in all model specifications.

On the basis of the above results, Ferris and Yan (2007b, p. 417) write in their conclusion:

“Overall, our results suggest that board design and director compensation influence the quality of governance provided to a mutual fund. They question, however, the usefulness of recent SEC proposals for mutual funds to have in-

dependent chairmen accompanied by a board that is at least 75% independent.”

*Kong and Tang (2008): Unitary boards*

Kong and Tang (2008) analyse mutual fund fees, performance, fund manager misbehaviour and Morningstar stewardship grades in relationship to board characteristics, in particular, unitary versus clustered boards. Their sample consists of all 969 U.S. mutual funds that had a Morningstar stewardship grade in 2004–2005, based on 2003 year-end information. These funds were from 126 fund families and had US\$ 2.6 trillion of assets under management, which was 35% of the assets under management of the U.S. open-end mutual fund industry at the time.

Other board characteristics included in the analysis are board size, board independence, both the percentage of independent directors and the independence of the chair, and directors’ ownership. As a measure for the latter, the director ownership as such is not taken, but rather the percentage of independent directors whose investment in the fund complex is greater than his compensation for serving as a director, or US\$ 100,000, whichever is smaller. With this measure, the authors try to capture the relative size of the directors’ investment, rather than the absolute amount, which could be a better measure of the board’s willingness to discipline the fund management company. As measures for costs, the study uses the annual expense ratio, broken down into management fee and 12b-1 fee, as well as the total fees. Assuming an average holding period of seven years, total fees are defined as the annual expense ratio plus one-seventh of the front-end and back-end loads.

The results of the multiple regression analysis at the fund level for all four cost measures show that larger boards are associated with higher costs, whereas funds with a unitary board have lower costs. Funds with more than 75% independent directors have higher total costs, in particular, due to higher 12b-1 fees and loads and not due to higher management fees. The coefficients for the chair independence are not statistically significant. Funds with higher director ownership relative to their compensation have lower costs, mainly due to lower 12b-1 fees. Larger funds and funds from larger families are associated with lower fees, which can be explained by economies of scale.

The results of the analysis of objective-adjusted returns in 2003 show that funds with more independent boards and larger boards underperform. The relationships between the dummy variables for a unitary board and the chair position, as well as the director ownership variable and the funds’ performance, are not statistically significant. The results are summarised in table 3.4 below. The analysis is repeated with the family-average model and the Fama-McBeth approach applied to investment objectives and the results are found to be robust.



**Table 3.4:** Summary of the results of Kong and Tang (2008)<sup>1</sup>

Board structure variable	Delta	Effect on expense ratio	Effect on total fees	Effect on performance
Independent directors	>75% versus <75% (dummy)	-	+19bp	-1.43%
Independent chair	(dummy)	-	-	-
Director concentration	Unitary versus clustered board (dummy)	-10bp	-23bp	-
Director ownership	>75% independent directors have significant investment in fund family (dummy)	-	-39bp	-
Board size	+1 board member	+2bp	+5bp	-0.29%

1. Results that are statistically insignificant or inconsistent are indicated with a dash (-).

In general, better governance might control or avoid agency problems and specifically, fund manager misbehaviour. After analysing fund fees and performance in the context of fund governance characteristics, Kong and Tang (2008) examine fund manager misbehaviour, considering Morningstar stewardship grades and whether firms were involved in the late trading and market timing scandals.

The study focuses on three of the five components of the Morningstar stewardship rating – Regulatory Issues, Fee Setting and Corporate Culture – which they expect effective governance to influence positively. They find that board independence, both the percentage of independent board members and the chair position, as well as board size, are associated with lower ratings for all three of these areas. However, funds with unitary boards score significantly better on Regulatory Issues and Corporate Culture. Higher director ownership is associated with fewer Regulatory Issues, but the impact on the scores for Fee Setting and Corporate Culture is not statistically significant.

The Fee Setting component in the Morningstar stewardship grade consists of two aspects: expense ratio versus category average and the setting of breakpoints. Upon further analysis of the fee setting score, the study shows that unitary boards set more effective breakpoints, whereas more independent boards and larger boards score poorly in this respect. Economies of scale seem to occur mainly at fund family level and not at fund level, since large fund families set more effective breakpoints, whereas larger funds do not. From the Board Quality rating in the Morningstar stewardship grade, which consists of four aspects, they consider one: *has the board taken action in cases where the fund clearly has not served investors well?* Unitary boards are found to be more likely to take action, whereas more independent boards and larger boards are less likely to take action.

In the sample of 126 fund families, 23 were involved in the late trading and market timing scandal. Board independence – either in the form of an independent chair or more than 75% of the board members independent – and director investment have no statistically significant relationship with the firm being involved in these scandals. However, families with unitary boards were less likely to be involved.

On the basis of their analysis of fees and performance, as well as Morningstar stewardship grades and board actions, the authors conclude that unitary boards and small boards are more effective for shareholders. The reverse is true for more independent boards.

*Cremers, Driessen, Maenhout and Weinbaum (2009): Director ownership*

Cremers et al. (2009) investigate fund performance in relationship to ownership, by both independent and dependent directors, as a measure of directors' incentive. They examine a sample of 134 U.S.-domiciled actively managed equity funds that belonged to the top 25 equity mutual fund families in January 1996 and could be matched to governance data. Performance is measured in the period from January 2002 to June 2004. The ownership variables included are:

- Average fund family ownership by independent directors.
- Average individual fund ownership by independent directors.
- Average individual fund ownership by non-independent directors.

Average fund family ownership by non-independent directors is not included, because most non-independent directors have family ownership in the highest bracket.

The study applies a methodology whereby long/short portfolios of funds are formed and the performance of these portfolios is evaluated using the Carhart 4-factor model. The long position is in funds with a high value for a particular governance variable (first quartile) and the short position is in funds with a low value for that governance variable (fourth quartile).

Both at an individual fund level and a fund family level, higher independent directors' ownership is associated with better performance. Higher non-independent director ownership at the level of individual funds is also associated with better performance. The relationship between director ownership and performance is not linear, but is the result of the fund underperformance where director ownership is low or even zero. A higher proportion of independent directors is not associated with a statistically higher or lower performance. With regard to their finding for non-independent directors, Cremers et al. (2009, p. 1360) state:

"This is an important finding in light of the emphasis that regulators and researchers have placed on the role of independent directors. This finding makes good economic sense, since nonindependent directors are, by the very nature of their legal classification, strongly involved in the life of the fund and perhaps more likely to need incentives to act in the interest of fund shareholders. Our results point to an important role for nonindependent directors, as long as the incentives are in place to make their interests align with those of the shareholders of the funds they oversee."

The main results are summarised in table 3.5.

**Table 3.5:** Summary of the results of Cremers et al. (2009)<sup>1</sup>

Board structure variable	Effect on expense ratio	Effect on performance <sup>2</sup>
Average ownership in fund family shares by independent directors	-	+2.30%
Average ownership in individual fund shares by non-independent directors	-9.8bp (for a one standard deviation increase in ownership)	+2.11%
Average ownership in individual fund shares by independent directors	-	+1.42%
Proportion of independent directors	-	-
Board size	+3–5bp (for each additional director)	N.A.

1. Results that are statistically insignificant or inconsistent are indicated with a dash (-).

2. Not estimated with multiple regression analysis, but as the highest quartile minus lowest quartile funds in long/short portfolio.

The study provides two hypotheses that can explain, in theory, the superior performance of funds with director ownership:

- Private information mechanism. Directors may have superior, private information on the basis of which they decide whether or not to invest in a specific fund they oversee. In this case, the choice of directors in which funds to invest would be correlated, so that directors' investments would, on average, be directed to the same, superiorly performing funds. At a director level, this would lead to the funds of choice outperforming the funds they choose not to invest in.
- Monitoring mechanism. Directors without ownership in the fund might be less active monitors, leading to higher agency costs. In this case, the choice of directors in which funds to invest would be based on other considerations and would be uncorrelated. At a director level, funds they invest in would not perform better or worse than the funds they do not invest in.

By analysing performance of funds at director level, the study investigates empirically which of the two hypotheses explains the phenomenon in practice. At the director level, the study finds no relationship between a lack of ownership and underperformance, which is evidence against the private information mechanism and in support of the monitoring mechanism. The non-linearity of the effect at fund level – low ownership funds underperform, but no performance distinction between medium and high ownership funds – is also consistent with the monitoring mechanism. Further exploring the monitoring mechanism, the study finds that the underperformance of low ownership funds is largest in those cases where monitoring is the most difficult or the most important, specifically:

- Funds with risky investment strategies, as measured by their idiosyncratic volatility.
- Funds that are very actively managed, as measured by their turnover.
- Large funds that might suffer from liquidity issues and organisational diseconomies.
- Funds with less independent boards.

Subsequently, the study investigates the relationship between directors' ownership and the expense ratio, using a multiple regression analysis, in order to determine whether or not the relationship between ownership and performance is, in fact, driven by fees. They find that higher non-independent director ownership in an individual

fund is associated with lower fees, whereas the results for independent director ownership in either the fund or family are not statistically significant. A larger board is associated with higher fees, whereas the result for the proportion of independent directors is not statistically significant.

Higher turnover is associated with higher fees and larger fund family assets are associated with lower fees. More assets at the individual fund level are associated with higher expenses, but that is not consistently the case across the different model specifications. On the basis of a further analysis of fund performance gross of fees and director ownership, they find that fees explain only a small part of the net performance difference between high and low director ownership funds. Cremer et al. (2009, p. 1371) conclude that:

“These results are consistent with the view that directors have roles that extend beyond negotiating advisory fees with the fund sponsor.”

*Ferris and Yan (2009 and 2007a): Organisational form*

Ferris and Yan (2009) and Ferris and Yan (2007a) analyse the impact of a fund management company's organisational form, whether it is publicly or privately owned, on the magnitude of the agency conflict between fund investors and the fund management company. Their hypothesis is that public funds suffer from greater agency costs than private funds, because public fund management companies have a shorter-term focus. Whereas public companies are faced with the continuous pressure to produce satisfactory results each quarter, private companies are in a position to have a longer-term horizon, bringing their interests more in line with those of the fund investors. Although strictly speaking, a fund management company's organisational form is not a board characteristic, this study is still included in this section, because it uses various board characteristics as control variables<sup>67</sup>.

The study examines three different measures of agency costs. In addition to fund fees and fund performance, it also takes the number of funds acquired by a fund management company as a measure for agency costs. An acquisition strategy is a way to increase fee income for the fund management company, whereas earlier research has shown that fund mergers lead to inferior post-merger performance for the acquiring fund. The study uses a sample that includes all 750 fund management companies that existed at some point in time in the 1992–2004 period. They use fee and performance data for that same period. When a fund management company or its parent company is publicly traded, the fund family it manages is classified as public.

Using a family-average and a Fama-McBeth regression model, the study finds that, on average, funds of public fund management companies charge higher fees. The difference is 15.2 basis points, estimated with the family-average model. This dummy variable for a public versus a private fund management company is both statistically and economically significant. The study also finds that fees are inversely related to fund size and performance.

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<sup>67</sup> The results for these board variables are referred to in the 2009 article, but not tabulated and discussed in detail. The details are available in the more extensive working paper by the same authors (Ferris and Yen, 2007a), which was also used for this summary.

The board characteristics data collected concerns the year 2002 and for 448 fund management companies, this data could be retrieved successfully. The board characteristics included as control variables are board size, the percentage of independent directors, whether or not the chairman of the board is independent (dummy variable) and the average ownership of independent and inside directors (only used for the analysis of fund performance). The regression analyses mentioned earlier for the whole period are repeated for the 2002-2004 period, with these board characteristics as control variables. The conclusion remains that funds of public firms charge higher fees, so this is not due to their board structure. The results presented in Ferris and Yan (2007a) show that fund fees are positively related to board size (i.e., larger boards are associated with higher fees). Coefficients are also positive for the percentage of independent directors and the independent chairmen dummy; hence, funds with more independent boards charge higher fees, however these results are only statistically significant in 2002, and not in 2003 or 2004.

For the analysis of the relationship between organisational form and performance, three methodologies are used:

- Comparison of the average return for public and private company funds for each investment objective.
- Regression analysis (Fama-McBeth model) of the objective adjusted returns against various fund characteristics.
- Regression analysis of the risk-adjusted performance (using three different asset pricing models, including the Carhart 4-factor model) against various fund characteristics (for equity funds in the sample only).

On the basis of the first methodology, the results are that for 19 of the 22 fund sectors analysed, private funds outperform public funds. In 13 cases, the difference is statistically significant. Controlling for fund size, fund family size, expense ratio, fund age, fund load, lagged fund flow and lagged fund return, the multiple regression results are in favour of private funds as well. The result of private fund management company funds significantly outperforming those of public fund families is robust for adding board characteristics (including director ownership) to the analysis for the 2002-2004 period. Independent, and especially interested, director ownership is positively related to fund performance, whereas the other board characteristics are not statistically significant.

The result that private funds outperform public funds is also robust for risk adjustment. Using the Carhart 4-factor model, the risk-adjusted outperformance of private fund management company equity funds over those of public fund management companies, amounts to 4.3 basis points per month. Fund performance is negatively related to fund size, but positively related to fund family size and lagged fund returns. The latter implies that there is persistence in performance. The results for the other control variables are not statistically significant.

Public fund management companies are more active in acquiring funds than private fund families. Public fund management companies acquired almost seven times more funds than private fund management companies. This continues to hold, controlling for the three board characteristics in the 2002-2004 period. The coefficients for these board characteristics, board size, the percentage of independent directors and

the independent chairman dummy, are not statistically significant (see Ferris and Yan, 2007a).

In the concluding section of their article, Ferris and Yan (2009, p. 626) write:

“We find that public funds charge higher fees than private funds, even after controlling for various fund characteristics and board governance variables. We find that public fund families are more likely to pursue fund proliferation strategies that are consistent with revenue rather than performance maximization efforts. Finally, we observe that public funds underperform relative to private funds. Overall, these findings are consistent with our hypothesis that the agency conflict is more acute in those mutual funds managed by public fund families.”

*Adams, Mansi and Nishikawa (2010): Index funds*

Adams et al. (2010) investigate the relationship between board characteristics and costs and performance of index funds. An interesting aspect of index funds is that these form a more homogeneous group than actively managed funds. Index funds have identical investment strategies and therefore, return differences versus their benchmarks are attributable to operational aspects, which in turn are negotiated and governed by the funds' boards. Adams et al. (2010, p. 1262) argue that:

“...by isolating operational performance from investment performance, index funds permit us to minimize measurement error and allow us to effectively examine the board-performance relation.”

The sample analysed consists of 148 U.S.-domiciled funds from 78 fund management companies, with the analysis covering the 1998–2007 period, leading to 976 fund-year observations. The study examines the funds' expense ratio, return differential (return of the fund versus the return of the index) and 1-factor alpha in relationship to board structure and director characteristics. The board structure characteristics include board size, a unitary board dummy, the percentage of independent directors, a dummy indicating whether all directors are independent, a dummy indicating whether the chairman is independent and a dummy for whether there is any director on the board who is an executive officer of the fund management company (referred to as sponsor officer dummy).

The study also analyses several director attributes: average number of outside directorships, average age, average tenure, average number of funds overseen, proportion of directors who are retired, average yearly compensation a director receives from all funds supervised and percentage of directors who have ownership in funds in the family. Control variables include fund management company size, fund size, fund age and institutional ownership, as well as several dummy variables for e.g., a fund's benchmark index and for whether or not the fund employs a performance enhancement strategy. The authors use a panel regression methodology with year fixed effects. They first present the results of the analysis with the board structure characteristics only, and then with board structure characteristics as well as director attributes.

Larger boards are associated with higher expense ratios and lower performance. In the analysis with board structure characteristics only, the study finds that there is a

statistically significant positive relationship between board size and expense ratio in all model specifications. Consistent with that result, the relationship between board size and return differential and alpha is negative and statistically significant. In the analysis where director attributes are added, board size is significantly related only to alpha. The results for the percentage of independent board members and the independent chair dummy are not statistically significant. The coefficient for the unitary board dummy is negative and marginally significant for expense ratios, and positive and significant for differential returns in the model specification with director attributes. For alpha, the result is not statistically significant.

In the model specification without the director attributes, none of the coefficients for unitary board is statistically significant. The dummy for sponsor officer is negative for expense ratio and positive for return differential and alpha. The results are statistically significant in all model specifications. This result suggests that insiders have a favourable impact on costs and performance. A fund with an executive officer of the sponsor on its board has an expense ratio that is approximately 8 basis points lower, compared to the median expense ratio of 40 basis points. Interestingly, the funds with only independent board members have lower costs and better performance as well. The all-independent director dummy is statistically significant negatively for the expense ratio and positively for the return differential in all model specifications. The coefficient for alpha is consistently positive, but not statistically significant each time. From the result that both the sponsor officer dummy and the all-independent dummy are associated with lower expenses, Adams et al. (2010, p. 1279) conclude:

“These mixed results, where less independent boards (those with sponsor officer representation) and more independent boards (those comprising all independent directors) are both associated with improved performance, suggest that the optimal board structure varies from fund to fund.”

For the director attributes, there are few statistically significant results. The number of funds per director and the number of outside directorships, as well as average tenure, director ownership and unexplained compensation are all statistically insignificant. Only the coefficient for retired directors is significant and is positively related to expense ratios. For this variable, the results for return differential and alpha are inconsistent. Fund size has a negative relationship with expense ratio and a positive relationship with alpha. The coefficients for family size are not statistically significant. Of the other control variables, few have statistically significant coefficients. Institutional ownership is negatively related to expense ratio and positively related to return differential and alpha. Note, however, that this is the result of the fact that fund expenses are defined by the authors as the net asset value weighted average of the share class-level expenses. This result merely shows that institutional share classes are indeed cheaper, reflecting better bargaining power and economies of scale. The results are summarised in table 3.6.

**Table 3.6:** Summary of the results of Adams et al. (2010)<sup>1</sup>

Board structure variable	Delta	Effect on expense ratio	Effect on performance <sup>2</sup>
Independent directors		-	-
- 100% independent	(dummy)	-16 – -12bp	+14bp
- Sponsor executive	(dummy)	-13 – -8bp	+11–14bp
Independent chair	(dummy)	-	-
Director concentration	Unitary versus clustered board (dummy)	-9 – -8bp <sup>3</sup>	-
Board size	+3 (from median 8)	+4–5bp	-7 – -6bp
Unexplained compensation		-	-
Director ownership		-	-
Director tenure		-	-

1. Results that are statistically insignificant or inconsistent are indicated with a dash (-).

2. Measured as 1-factor alpha.

3. Marginally significant negative.

Segmenting the sample into funds of private versus public fund management companies, the study finds that the positive results for smaller boards, boards with executives from the sponsor and fully independent boards occur primarily in the sub-sample of public firms. From these different results depending on the management companies' organisational form, Adams et al. (2010, p. 1280, 1283) conclude:

“Public sponsor status is associated with significantly lower differential returns. This finding is consistent with the idea that boards have a greater impact on operating performance where agency costs are expected to be higher (for public sponsors) and less impact on performance where agency costs are lower (private sponsors)”.

### 3.3.2 Costs and performance of closed-end funds

This section is dedicated to two studies examining the effectiveness of closed-end fund boards, one with a sample of U.S.-domiciled funds (Del Guercio, Dann and Partch, 2003) and the other with a sample of funds listed in London (Gemmill and Thomas, 2006). Unlike open-end funds, closed-end funds do not have the continuous obligation to redeem or issue shares for cash. Typically, the shares of closed-end funds are listed on an exchange so that investors can buy or sell shares on a secondary market. The fund can trade at a premium, when the market price is higher than the net asset value, or at a discount, when the market price is lower than the net asset value. This possible deviation of the market price from the net asset value is an interesting aspect of closed-end funds in light of the funds' governance. The analysis of these funds can provide insights that cannot be deduced from the analysis of open-end funds. The two studies in this section examine fees and the discount or premium in relationship to board characteristics, as well as actions that boards take to restructure funds when it is in the interest of shareholders, for example, by means of a liquidation, open-ending or the appointment of a different manager.



*Del Guercio, Dann and Partch (2003): U.S. closed-end funds*

In a sample of closed-end funds, Del Guercio et al. (2003) investigate the relationship between board characteristics and shareholder interests, in particular, whether the outcome for shareholders is consistent with boards being effective monitors. They use three measures of board effectiveness, two under recurring circumstances and the third in special situations. The first is the expense ratio for shareholders. This measure reflects recurring involvement of the board, overseeing and negotiating with the fund management company. The second is the discount level. This measure also reflects shareholder interests and potential restructuring decisions by the board, although the discount, as such, is not directly controlled by the board. The third concerns decisions where funds consider structural changes with significant wealth implications for shareholders, such open-endings, liquidations, share repurchases and rights offerings.

The sample consists of all 476 U.S.-domiciled closed-end funds, out of a total of 507 (94%) in existence in 1996, for which the required data could be retrieved. These funds were offered by 105 fund management companies. The number of closed-end funds offered by these fund management companies ranges from one to 57 per company, with many offering open-end funds as well. Three model specifications of a multiple regression analysis are applied: an individual fund model, a model with fund family fixed effects and a family-average model. In addition to board characteristics also used in several other studies, such as board size, proportion of independent directors, a unitary board dummy and a dummy for the existence of a nominating committee, the model includes the following board characteristics:

- Capitalised director compensation. For each director, the present value of the total annual director's fee is calculated over his expected tenure. The expected tenure is until age 72 (the median retirement age for directors) or, if already 72, until the end of the current term on the board. The value for the board as a whole is the median of the values of the directors on the board. These anticipated director fees are a measure of how much value the directors have to lose and therefore, of their incentive to act in the interest of the fund management company, rather than in the interest of the shareholders.
- Proportion of independent directors who have been on the board since the fund's inception. Since the fund management company appoints these directors, they might be less independent from the fund management company.
- Dummy variable for whether the fund has a staggered election of directors<sup>68</sup> in its bylaws. This is seen as an anti-takeover measure because this potentially hampers outsiders from taking control of the fund.
- Dummy variable for whether the fund has some form of an open-ending provision in its bylaws, e.g., on a certain date or conditional on the discount.
- Proportion of common shares held by insiders and outside blockholders, since such shareholders can potentially influence the fund's governance. The influence of blockholders on the market price of the fund is not obvious up front and depends on the type of investor and his motive. When directors of the fund management company, the fund management company itself or long-term investors friendly to

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<sup>68</sup> In the case of a staggered election, only a portion of the board members is elected in a given year. This prevents outsiders from replacing a majority of board members in one election.

existing management have a substantial stake in the fund that might align the interests of other shareholders and the fund management company, leading to a smaller discount. However, a blockholding by these parties might be put in place to make sure that the fund management company can continue its mandate and thus form a hurdle for restructuring initiatives, leading to a bigger discount. When short-term arbitrageurs hold a significant block, the prospect of a restructuring might limit the discount at which the fund trades.

The study finds a statistically significant positive relationship between board size and expense ratio in two of the three model specifications, individual funds and family-average, but not in the fixed effects model. This finding suggests that the relationship is due more to variation across fund families than within them. There is a statistically significant negative relationship between the proportion of independent directors and expense ratio in two of the model specifications. The coefficients for the nominating committee dummy are not statistically significant, which also holds when that committee consists of independent directors only.

Higher director compensation is associated with higher expense ratios in a statistically significant manner in two of the model specifications. This result holds when different measures of compensation are used, such as unexplained compensation calculated following Tufano and Sevick (1997). This result is consistent with the notion that higher compensation implies less independence and less alignment between the interests of independent directors and investors.

A higher proportion of independent directors who have been on the board since the fund's inception is associated with a lower expense ratio. This association is statistically significant in both the individual funds model and fixed effects model. This result is not in line with the hypothesis that the directors appointed by the fund management company do not act independently, but is rather a sign that long-standing directors are valuable to investors.

The results for a unitary board are inconsistent. The results for insider and blockholder ownership are not statistically significant in most model specifications. An open-ending provision is associated with lower expenses in a statistically significant manner in two of the three model specifications.

Control variables included are fund size, fund complex size and fund age, as well as dummies for the different investment objectives. There is a significant negative relationship between costs and size, both at the level of the fund and the fund complex, consistent with the existence of economies of scale.

The results for the relationship between board characteristics and fund premium are weaker. The average premium in the sample is -7.0%. There is no statistically significant relationship between the proportion of independent directors or insider and blockholder ownership and the fund's premium. The coefficient for capitalised director compensation is also not statistically significant. However, the authors note that for some alternative measures for compensation, a statistically negative relationship with the fund premium is found.

The study finds few statistically significant relationships between other board characteristics and the fund premium with the following exceptions: there is a significant negative relation between board size and fund premium, and a significant positive

relationship between the presence of a nominating committee and the fund premium, but not in all model specifications. Furthermore, staggered boards are positively related to fund premium in a statistically significant manner in all model specifications. This finding contradicts the expected outcome that staggered boards are a blocking force to value-increasing restructuring, leading to a bigger discount.

Subsequently, Del Guercio et al. (2003) analyse board characteristics in relationship fund restructurings by means of open-ending or liquidation, repurchases of shares and rights offerings for new equity. Such proposals must be considered by the board and recommended to shareholders. The sample consists of 125 such events in the 1996-1999 period. They argue that these actions are related to the discount of the fund, and that if boards do not act in the face of a large discount, they are less effective for shareholders. Decisions are classified as follows (the number of events of each type in the sample is listed between brackets):

- Favourable to shareholders. Funds that open-end or liquidate (25) and share repurchases (45).
- Unfavourable to shareholders. Funds that reject a proposal to open-end or liquidate (17) and rights offerings<sup>69</sup> (38).

In this sample, as expected, share repurchases and restructurings are more likely to occur following a period of large discounts, while rights offerings occur when there is a premium. With regard to board characteristics, the study finds that larger boards are significantly more likely to make decisions that are unfavourable to shareholders, including recommending against a fund restructuring and approving a rights offering. Boards with a higher percentage of independents are more likely to make decisions that are favourable to shareholders, including not pursuing a rights offering and authorising a share repurchase or fund restructuring. Staggered boards are significantly less likely to make decisions that are favourable to shareholders. The measure for capitalised director compensation is not related to the likelihood of the events mentioned.

*Gemmill and Thomas (2006): U.K. closed-end funds*

Gemmill and Thomas (2006) investigate board characteristics and blockholdings of shareholders in relationship to fund costs and the discount or premium on closed-end funds in the U.K. At the end of 1996, 331 closed-end equity funds traded on the London Stock Exchange. These funds were managed by 90 different fund managers, with each managing between one and 22 funds. The funds were invested in different sectors, such as U.K. equity, but also, for example, in emerging markets and venture capital. The sample consisted of the 246 funds for which all required data was available and that had assets under management in excess of GBP 30 million. Expenses are measured for the year 1996, governance variables at the end of 1996 and fund returns for the period 1995-1998.

The authors calculate both the net asset value return and the share price return of these funds and find a direct link between fund expenses and returns. A one-

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<sup>69</sup> Rights offerings are assumed to be unfavourable for shareholders, because funds issue rights when they are selling at a premium and the premium declines after (the announcement of) the rights offering.

percentage point increase in expenses is associated with a 0.50% lower net asset value return and a 0.63% lower share price return. Subsequently, they analyse the relationship between governance characteristics and the expense ratio, using a multiple regression analysis. Among the board characteristics included are two measures for board independence: the *board-insider* index and the *board-outsider* index. The board-insider index is calculated as the average number of other boards within the fund family on which the fund directors sit. The authors argue that when this index is high, the directors could become too closely related to the fund management group. They might not be so critical because of the risk of losing several directorships. The board-outsider index is calculated as the average number of fund directorships held by members of a board that are outside the fund family. Outside directorships could provide outside influence, which might provide a downward pressure on fees. Also the board size, the percentage ownership by the manager, the notice period for the manager and the number of board members of the fund management company are included as governance variables. Control variables taken into account are fund size, fund age and a fund sector dummy.

The study finds that larger boards, boards with a lower board-outsider index and boards with a higher board-insider index are associated with higher expense ratios. Funds with more manager ownership have lower expense ratios. The results are statistically, as well as economically, significant. If one is added to a median board of five directors, the expense ratio rises by 4.3 basis points from the median of 1.09%. A change to the board-outsider index from zero to one is associated with a 10% increase in fees, while the same increase to the board-insider index is associated with a 10% reduction in fees. An increase in manager ownership from zero to 10% coincides with an 8% reduction in fees. Older funds and larger funds have lower expense ratios, consistent with new funds being launched with a higher fee level and with economies of scale. The results for the notice period and the number of board members from the management company are not statistically significant.

A similar approach is followed to investigate the relationship between governance characteristics and the funds' discount or premium, which was -12.8% on average in the 1995–1998 period. Of the governance variables, the total blockholding in the fund replaces the number of board members from the management company. Control variables included are fund age, expense ratio, past performance and sentiment. The latter is measured as retail flows into open-end funds of the same fund sector. The results for the various board characteristics and for the notice period, age, expense ratio and past performance are not statistically significant. The coefficient for fund manager ownership is statistically significantly negative. Higher retail flows to the fund sector and lower blockholdings by outsiders have a statistically significant positive relationship with the premium. Contrary to the findings of Del Guercio et al. (2003), this indicates that the market sees block holders as a negative factor supporting incumbent management, rather than as a force enabling value-increasing restructurings.

### 3.3.3 Other empirical studies into board characteristics

This section summarises the results of other empirical studies analysing board characteristics. The study of Ding and Wermers (2005) is an analysis of the relationship be-

tween board characteristics and the replacement of portfolio managers. Wellman and Zhou (2007) analyse performance and governance, using the Morningstar stewardship grades. Chou et al. (2007) analyse the relationship between the quality of governance of the funds and that of the companies in which they invest. Qian (2011) investigates the effectiveness of monitoring by investors *voting with their feet* and monitoring by the board, in relationship to late trading and market timing. Khorana, Tufano and Wedge (2007) study fund mergers in relationship to board characteristics.

*Ding and Wermers (2005): Manager replacement*

Ding and Wermers (2005) analyse the relationship between the governance structure and the performance of U.S. open-end, domestic equity funds. They analyse whether the portfolio manager's experience and track record predict future fund performance. In addition, they investigate whether the structure of the fund board of directors impacts performance, both in business-as-usual circumstances and when replacing underperforming managers. To answer these questions, they follow portfolio managers' entire careers and examine stockholdings and net returns.

The fund performance database covers the 1985–2002 period and includes a manager's name, start and end date of each fund managed in his career, age and CFA designation<sup>70</sup>. This data is combined with data regarding fund stockholdings in order to assess other manager characteristics, such as the stock picking track record on all funds managed over an entire career. The sample includes the fund categories Aggressive Growth, Growth and Growth & Income or Income. In order to assess the independence of the board, the above data was combined with data regarding fund boards for each fund during the fiscal year 2002–2003, including name, affiliation and compensation of each fund director.

In a multiple regression analysis, controlling for investment style and size, the authors find that for growth funds, the following year's performance is negatively related to managerial experience, but positively related to the stock picking track record. For larger funds, however, they find that there is a positive relationship between experience and performance and a negative relationship between track record and performance. Ding and Wermers (2005, p. 3–4) explain these relationships as follows:

“...experience is a positive influence only for managers who are promoted to larger funds; those who are not promoted appear to have no particular stock-picking skills—indicating, in turn, evidence of entrenchment of these managers in smaller funds. The opposite result holds for managers of large funds with good track records—the track record of these managers has a negative influence on future performance, indicating that they find it difficult to match their past performance when they are promoted to a larger fund”.

To analyse the relationship between board characteristics and net return, a regression analysis is performed using data for 2002. They find that larger boards are associated with significantly higher net returns. Adding one board member to a board of nine would result in an approximate 0.3 percentage point increase in the annual net return.

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<sup>70</sup> The Chartered Financial Analyst (CFA) designation is a qualification offered by the CFA Institute to finance and investment professionals who complete a series of three examinations.

The relationship with the percentage of independent directors is not statistically significant. Performance is associated negatively with fund size, but positively with the previous year's performance, both in a statistically significant manner. With regard to manager replacement, Ding and Wermers (2005, p. 21) state:

"Although a manager replacement decision is made by the fund management company, board of directors may exert direct influence to the fund management company in regard to the decision of retaining and hiring fund managers. For example, when a fund underperforms relative to market or peer funds, board directors may directly show dissatisfaction with the fund management company, and pressure the company to replace the incumbent manager with a new manager having a better track record. We expect to see that funds with more effective boards are more likely to replace underperforming managers and are associated with better fund performance."

The empirical results indicate that managers are replaced by managers with a better track record and that these skills persist. Larger boards and boards with more outside directors are more likely to replace managers with poor performance. No relationship is found between director compensation and the replacement of managers.

*Wellman and Zhou (2007): Stewardship*

Wellman and Zhou (2007) investigate the relationship between fund governance and fund performance, using the Morningstar stewardship grades released in August 2004. In this first release, Morningstar rated 653 funds on the U.S. market and prioritised larger funds. The study investigates the 367 U.S. domestic, diversified equity funds and excludes money market, bond, sector and international funds. The average fund size in the sample is US\$ 4.0 billion of assets under management, which would rank number 140 out of the 7,857 equity funds available on the U.S. market as per December 2003. Out of the 367 funds in the sample, 210 received grades of either A or B, considered as *good* for this study, and 64 funds received grades of either D or F, considered as *bad*. The remaining 93 received a grade of C, which can be interpreted as *average*.

The study analyses the risk-adjusted performance of these funds graded by Morningstar, using the Carhart 4-factor model, both in the period before the release of the grades and thereafter. The reason for analysing both of these periods is the following: since the overall grade includes subjective elements, in particular, the rating for Board Quality, Manager Incentives and Corporate Culture, the grade given by Morningstar in August 2004 could be biased, awarding good performance in the period up to the rating moment and punishing bad performance. The study shows that funds receiving good grades outperformed funds with bad grades in a statistically significant manner, both in the period before, and in the period after, the release of the grades. *Good* funds outperformed *bad* funds by, on average, 23 basis points per month in the period before the release of the stewardship grades and by, on average, 10 basis points in the period thereafter. With an annualised difference of 1.2% (ex post) to 2.8% (ex ante), these results seem to indicate that fund governance has a highly economically significant impact on performance.

Morningstar uses five variables to compute the stewardship grades: Regulatory Issues, Board Quality, Manager Incentives, Fees and Corporate Culture<sup>71</sup>. The measures for Board Quality and Fees have the most explanatory power for the funds' 4-factor alpha. Constructing a grade out of just these two measures would have similar explanatory power as the overall stewardship grade, while the measures for Regulatory Issues, Manager Incentives and Corporate Culture do not add explanatory power. Daily fund flows in the period from the release of the grades on 24 August to 30 September 2004 indicate that investors appear to trade on this new information, awarding good stewardship and punishing poor stewardship. Investors apparently use the stewardship grades as a valuable source of fund information.

*Chou, Ng and Wang (2007): Fund governance and corporate governance*

Chou et al. (2007) examine the relationship between the quality of fund governance, using the Morningstar stewardship grade as proxy, and the quality of the corporate governance of the companies in which they invest, using the governance index (G-index) of the Investor Responsibility Research Center (IRRC) and the Bebchuk E-index as proxies. The study also examines the proxy voting behaviour of funds. Since 31 August 2003, the SEC requires mutual funds in the U.S. to disclose their proxy voting policies and procedures, as well as actual voting behaviour. Chou et al. (2007, p. 2) state:

"The importance of proxy voting disclosure by mutual funds is to ensure that their fiduciary obligations are performed in the best interests of their shareholders. Hence how mutual funds vote is particularly important, as their voting decisions can facilitate effective monitoring of corporate activities, thereby supporting shareholder activism."

The sample consists of 1,137 mutual funds that have both a Morningstar stewardship grade and portfolios consisting of stocks that are rated for corporate governance. Analysing data for 2004, the authors find that the average G and E-indices do not differ significantly for funds with different Morningstar stewardship grades. Since their regression analysis also shows that a large majority of fund portfolios, regardless of their stewardship grade, do not have an overexposure to firms with either a good or poor governance index, it is surprising that the authors state in their concluding remarks that funds with good governance tilt their portfolios to companies with better corporate governance. This conclusion does not seem to be supported by the data presented.

On the basis of the ISS Proxy Voting Analytics database, the authors analyse the proxy voting behaviour of the same sample of mutual funds in 2004. The 1,137 funds with Morningstar stewardship grades form only a subset of the total market, and only a part of these funds could be matched to the voting data. In order to increase the sample size, the family average stewardship grade of all rated funds in each fund family is determined and assigned to all non-rated funds in the same family. With this approach, 58 fund families can be included in the sample. The analysis concerns 54 corporate proposals, of which 32 are initiated by management and 22 by shareholders.

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<sup>71</sup> See section 3.2.3.

The proposals are divided into two groups: monitoring (consisting of the categories anti-takeover, board quality and director election) and incentives-related proposals (consisting of the categories executive incentive, employee incentive and director incentive). The funds' voting behaviour is investigated within each group, in particular, whether the funds vote in line with management and/or with ISS recommendations. With regard to ISS recommendations, Chou et al. (2007, p. 21) state:

"One of ISS's commitments is to make recommendations for the benefits of their institutional clients, and hence their recommendations ought to be viewed as consistent with increasing shareholders' wealth. Therefore, voting against ISS 'negative' recommendations would imply that mutual funds place little or no emphasis on the governance issues of corporations whose stock they own."

The main conclusions of the study are that with monitoring-related proposals put forward by either management or shareholders, funds with good governance (Morningstar stewardship grade A or B) vote significantly less often with management, thereby following ISS's negative recommendations, than funds with poor governance (grades D or F). With incentives-related proposals, there is no statistically significant different voting behaviour between well-governed and poorly-governed funds in situations where the ISS recommendation is not in line with management. Exceptions are proposals in the Employee Incentives category, where funds with poor stewardship grades actually vote less often with management than funds with good grades. With a regression analysis, the study finds that funds with bad governance vote more in line with management than funds with good governance, which is supportive of the hypothesis that funds with good governance pay more attention to their shareholders rights and monitoring role.

#### *Qian (2011): Investor vigilance*

In the context of the late trading and market timing issues in the U.S. in 2003, Qian (2011) examines whether investors withdrawing or adding assets to a fund, in this study referred to as *investor vigilance*, is an effective monitoring mechanism. She argues that fund investors are heterogeneous in their vigilance and that different funds attract a different clientele. Funds with more vigilant investors have a strong positive performance-flow relationship or *flow sensitivity*, whereas for other funds, this relationship is weak or even negative. Flow sensitivity is estimated as the time-series regression coefficients between flows and past performance, whereby flows in the fund industry as a whole and in the particular fund sector, are controlled for. The hypothesis is that a fund's flow sensitivity influences its actions. Three variables are used as measures for such fund actions:

- The amount of *stale pricing*<sup>72</sup> as a proxy for whether there are arbitrage possibilities. Funds can adopt *fair-value-pricing* methods to reduce the staleness of their NAVs and avoid the risk of arbitrageurs taking advantage.

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<sup>72</sup> A stale price is a NAV that does not reflect the most recent information, i.e., a current value of the underlying securities. Arbitrageurs can benefit from this discrepancy at the expense of the long-term shareholders in the fund.



- The scale of actual arbitrage activities, which is measured as the volatility of abnormal fund flows. These are the flows unrelated to past performance, industry-wide flows, style-wide flows and fund-specific long-term flows.
- Whether or not a fund is indicted for late trading or market timing.

A multiple regression analysis is used to analyse the relationships between these measures for fiduciary failure and flow sensitivity. Several board variables, such as a unitary board dummy, board size, board independence (both a dummy for the chair position and the percentage of independent directors), *gray ratio*<sup>73</sup> and board compensation are taken into account. The ownership of the firm is captured with a dummy variable for whether or not the fund management company is a subsidiary of a large financial service group. Furthermore, there are control variables for the fund management company's charge record with the SEC and the fund family's size and age. Finally, there are control variables for fund characteristics, such as size, age and fee level.

The sample consists of 3,717 funds from 92 fund families in the U.S., of which 25 families were implicated in the scandal and 269 specific funds have been accused of allowing market timing or late trading. The analyses were performed for the January 2001-August 2003 period in which the abuses took place. The flow sensitivity of a fund is estimated in the prior three years. Some funds could not be included in the analysis because of specific missing data or because the funds were not active throughout the 6-year period.

The study finds that funds' flow sensitivity to performance is persistent over time, which is consistent with funds having different clienteles with differing levels of vigilance. Flow sensitivity is negatively related in a statistically significant manner to:

- Stale pricing, which measures arbitrage potential.
- Abnormal flows, which measures actual arbitrage.
- Involvement in the late trading and market timing scandals.

Funds with a negative flow sensitivity were 13% to 20% more likely to be involved in the scandals than funds with a positive flow sensitivity. Analysing board composition, structure and compensation, the study indicates that unitary boards are less likely to be indicted. The relationship of unitary boards with stale pricing and abnormal flows is not statistically significant. There is no indication that larger, less independent or *gray*-er boards are less likely to be involved in scandals. In fact, the relationship between board independence and involvement in the scandals is positive. Funds with board members who are excessively compensated are more likely to be indicted, while funds with boards invested in the funds they oversee are less likely to be indicted. Financial conglomerate subsidiaries are also less likely to be involved in the scandal. Overall, the results suggest that the possibility for investors to vote with their feet is an effective monitoring mechanism. For funds with low or negative flow sensitivity, other mechanisms, such as the governance exercised by the board, are more important.

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<sup>73</sup> A board member is classified as *gray* when he is independent according to the SEC definition, but was associated with the fund management company in the past or is currently on the board of an affiliated firm.

*Khorana, Tufano and Wedge (2007): Fund mergers*

Khorana et al. (2007) investigate board characteristics in relationship to fund mergers. They make the distinction between in-family mergers and across-family mergers, focusing on the latter. Whereas in-family mergers typically reflect an optimisation of the fund management company's product range, and involve at least partly overlapping boards, across-family mergers have more far-reaching consequences. Such mergers tend to be value-enhancing for target fund shareholders, but are costly for the target fund directors, who lose their board seats and the associated compensation. Given this conflict of interest, Khorana et al. (2007) investigate whether boards with certain characteristics take action more promptly. The authors recognise that, in addition to remedying the underperformance of the target fund, across-family mergers can also be motivated by other considerations, such as optimising the product range and increasing economies of scale.

The sample studied consists of 470 in-family and 199 across-family mergers of U.S.-domiciled funds in the 1999–2001 period. Board data is available for 614 of the 669 funds. The data from this sample confirms that independent board members of target funds typically lose compensation and board seats. With 54% of the across-family mergers, none of the target fund's independent directors serve on the board of any fund in either of the two fund families involved after the merger. This finding indicates that it is clearly not in their personal interests to initiate or approve such mergers. Target funds underperform in the period before the merger. Mergers lead to substantial improvements in performance, both measured on the basis of the objective-adjusted returns and the CAPM alpha. After the merger, the performance matches the median performance of funds with the same investment objective. The expenses for the target fund shareholders also decline after the merger.

The study estimates the probability of a merger as a function of fund characteristics (performance, fund size, objective adjusted asset flows, objective adjusted expense ratio, fund age), fund family characteristics (fund family size and number of objectives covered by funds in the family) and board characteristics (board size, proportion of independent directors, independent chair dummy, board compensation, number of outside directorships, board industry expertise, presence of retirement benefits and deferred compensation plans and director age). Mergers are more likely when the target fund's performance is poor, the fund is small and young, and its costs are high. For fund size and costs, the higher likelihood of mergers is attributable to in-family mergers. For fund age, it is statistically significant only for across-family mergers. Families active in more investment objectives are more likely to implement in-family mergers. The proportion of independent board members on the target fund has a statistically significant positive impact on the likelihood of an across-family merger. Fund boards that are fully independent seem to tolerate less underperformance before initiating a merger. For in-family mergers, the relationship for the proportion of independence board members is not statistically significant. For the independent chair dummy, none of the results is statistically significant, neither for in-family nor for across-family mergers. There is an inverse relationship between director compensation and the likelihood of an across-family merger. The results for the other board characteristics are not statistically significant.

### 3.4 Summary and conclusions

Section 3.3 reviewed earlier empirical studies one by one. This section analyses the results of those studies in combination. In order to consider the consistency of the results, the analysis will be done by board characteristic and control variable. Thereafter, the consequences of a number of methodological issues that are inherent to this type of study will be addressed. Table 3.7 shows the main results of the empirical studies analysing the relationship between board characteristics and fund fees and performance of open-end funds.

#### *Board independence*

With regard to the relationship between board independence – measured either as the proportion of independent directors or as a dummy variable for the chair position – and fees and performance, there is little consistency across the various studies. Tufano and Sevick (1997) find that funds with a larger proportion of independent directors charge lower fees, but do not include the chair position in the analysis. The study investigates only costs in relationship to board characteristics, not performance. Meschke (2007) does not find a statistically significant relationship for the percentage of independent board members and fees for the entire period analysed (1995–2004); however, he does find that a higher percentage of independents is associated with higher fees in the first and second part of the period analysed, but with lower fees in the third part of the period. Chair independence is associated with lower fees for the entire period. Surprisingly, Meschke (2007) finds that both measures of board independence are associated with lower performance. Ferris and Yan (2007b) find a statistically significant positive relationship between the percentage of independents and fees, but only in the individual fund model specification, which implies that the significance might be overstated. Inconsistent and insignificant results are found with the other model specifications. For the percentage of independents and performance, the relationship is not statistically significant. For the chair position, none of the relationships is statistically significant. Kong and Tang (2008) find that a higher percentage of independence is related to higher fees and lower performance. Their results for the chair position are not statistically significant. Cremers et al. (2009) find no statistically significant relationship between the proportion of independent directors and fees or performance. They do not include the chair position as a variable in their analysis. Ding and Wermers (2005) analyse fund performance, not costs, and find no statistically significant relationship with the percentage of independent directors.

Analysing index funds, Adams et al. (2010) do not find a statistically significant relationship for the percentage of independent board members and the chair position with fees or performance. They also include dummy variables for whether all directors are independent and for whether there is a sponsor executive on the board. Interestingly, both of these variables seem to be negatively associated with fees and positively associated with performance. This finding suggests that insiders have a favourable impact on costs and performance, but also that boards with independents only are

associated with lower fees and better performance<sup>74</sup>. Analysing closed-end funds, Gemmill and Thomas (2006) find that boards with less outside influence are associated with higher costs, but they do not find a statistically significant relationship with the price discount or premium. Del Guercio et al. (2003) find that boards with a higher percentage of independent directors have lower costs and are more likely to approve a share repurchase programme when discounts are large.

Other noteworthy empirical results for board independence are:

- Qian (2011), Meschke (2007) and Ferris and Yan (2007b) find no evidence that boards with a higher percentage of independent directors or independent chairs are less likely to be involved in litigation for late trading or market timing.
- Ding and Wermers (2005) find that boards with more outside directors are more likely to replace managers with poor performance, which has a positive effect on subsequent returns.
- Khorana et al. (2007) find that boards with a higher proportion of independent directors tolerate less underperformance before engaging in across-family mergers, relative to other funds with the same investment objective. They are more likely to act and to act more quickly.

An inherent weakness in all of the studies above is that independence is defined in a legal manner, on the basis of the existing regulations. More relevant for investors than this regulatory distinction between independent and dependent directors might be whether or not directors act independently. Unfortunately, an independent attitude is impossible to observe from the outside, which in reality, might drive differences in costs and performance.

#### *Span of control*

Most studies use *span of control* type variables in their regression analyses, such as board size (i.e., with how many directors responsibility is shared), board concentration (whether there is a unitary board overseeing all funds or a clustered board overseeing only part of the range) and the number of funds overseen (a high number of funds might lead to directors being too busy).

The results for board size and board concentration are relatively consistent across the various studies. Kong and Tang (2008) and Adams et al. (2010) find that larger boards are associated with higher costs and lower performance. Tufano and Sevik (1997) and Cremers et al. (2009) find the same relationship for board size and costs, but do not investigate board size and performance. Ferris and Yan (2007b) find a positive relationship for board size and costs, but the result for performance is not statistically significant. Meschke (2007) does not find statistically significant results for board size and costs or performance.

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<sup>74</sup> Note that there is also a category of non-independent directors who are not officers of the fund management company.

**Table 3.7:** Main results of earlier empirical studies analysing open-end funds<sup>1</sup>

	Study	Tufano-Sevick (1997)	Meschke (2007)	Ferris-Yan (2007a, 2007b, 2009)	Kong-Tang (2008)	Cremers et al. (2009)	Adams et al. (2010)
	Dependent variable	Fees <sup>2</sup>	Fees <sup>2</sup> Perf.	Fees Perf.	Fees Perf.	Fees Perf. <sup>9</sup>	Fees Perf.
<b>Sample</b>							
Market Selection	U.S. 50 largest sponsors	U.S. 91 sponsors (random selection)	U.S. 448 fund families <sup>7</sup>	U.S. Funds with Morningstar of Stewardship Grade	U.S. Equity funds of 25 largest families	U.S. Index funds	
Period	1992	1995-2004	2002	2003	2002-2004	1998-2007	
Number of funds	1,430	>2,200 <sup>4</sup>	6,228	969	134 <sup>10</sup>	148	
<b>Governance variables</b>							
Independent directors (%)	-	0 <sup>5</sup>	-	0	0	+	-
- 100% independent (dummy)							0
- sponsor executive (dummy)							0
Independent chair	NA	-	-	0	0	0	0
Board size	+	0	0	+	0	+	+
Director concentration	-	NA	NA	NA	NA	-	0
Unexplained compensation	+	+	-	+0 <sup>3</sup>	0	NA	NA
Number of funds overseen	NA	NA	NA	+0 <sup>3</sup>	0	NA	NA
Average tenure	NA	-	0	+0 <sup>3</sup>	0	NA	NA
Fund ownership	NA						
- Independent directors		-	0	0	0	-	0 <sup>8</sup>
- Dependent directors		NA	NA	NA	NA	NA	NA
<b>Control variables</b>							
Fund size	-	-	+/- <sup>6</sup>	-	+0 <sup>3</sup>	-	-
Sponsor size	0/- <sup>3</sup>	-	NA	-	0	-	-
Fund age	+	-	-	-	0	0	0
Past performance	0	+	NA	-	+	0	0

1. Only statistically significant results (confidence level at least 5%) are shown as + or -. Results that are not statistically significant or inconsistent are shown as 0. NA (Not Applicable) is shown if a variable was not included as a variable in the particular study.

In the Fees columns, the results are shown for the expense ratio, unless mentioned otherwise. In the Perf. columns, performance is shown using a risk-adjusted performance measure.

2. Concerns Total Fees, including amortised front-end and back-end loads.

3. Not statistically significant in all model specifications.

4. 400 investment companies were randomly selected from 91 sponsors. The number of funds in the sample is not mentioned, but estimated on the basis of the number of fund years in the study (21,944) and the 10-year period covered.

5. Not statistically significant for the whole period, but positive for the periods 1995–1998 and 1999–2001 and negative for the period 2002–2004.

6. Hump-shaped relationship, meaning that after an initial positive relationship, the relationship becomes negative.

7. All fund families out of a total of 531 for which board characteristics could be obtained.

8. Measures ownership in fund family funds relative to director compensation.

9. Not based on a multiple regression type analysis.

10. 134 actively managed equity funds belonging to the top 25 equity mutual fund families in January 1996, which could be matched to governance data.

For closed-end funds in the U.K., Gemmill and Thomas (2006) also find that larger boards go hand-in-hand with higher costs. For U.S. closed-end funds, Del Guercio et al. (2003) find that larger boards are associated with both higher costs and bigger discounts from net asset value. The same study finds that larger boards are significantly more likely to make decisions that are not favourable to shareholders, such as recommending against open-ending or liquidation. The only contradictory result is that of Ding and Wermers (2005), who find that funds with larger boards perform better. Furthermore, they find that larger boards are less tolerant of poor performance and are more likely to replace poor performing managers, which is good for subsequent performance. Overall, these results seem to indicate that larger boards are weaker monitors and suffer from less effective decision-making, possibly due to an increased risk of *free riding*.

With regard to board concentration, Tufano and Sevick (1997) find that more concentration is associated with lower fees. Several other studies use a dummy variable to distinguish between unitary (100% concentration) and clustered boards (less than 100% concentration). Kong and Tang (2008) find that unitary boards charge lower fees, but the result for performance is not statistically significant. Adams et al. (2010) find for index funds in some model specifications that unitary boards are associated with lower fees and higher performance, but this finding is not consistent across all model specifications. The results of Del Guercio et al. (2003) for unitary boards in a sample of U.S. closed-end funds are also inconsistent. Kong and Tang (2008) find that unitary boards are more effective in setting fee break-points, score better on Regulatory Issues and Corporate Culture (components of Morningstar stewardship grade) and are less likely to be indicted for late trading and/or market timing. The latter is consistent with Qian (2011). Although the results are not overwhelmingly convincing, unitary boards seem to be better for fund investors than less concentrated boards.

Where included, the coefficients for the number of funds overseen are generally not statistically significant, either for costs or performance. However, Ferris and Yan (2007b) find a statistically significant positive relationship between the number of funds overseen by independent directors and costs in some of their model specifications. In the same study, this variable is also positively associated with the likelihood of being indicted for late trading and/or market timing.

### *Compensation and ownership*

The various studies that include measures for director compensation and director ownership generally find that a higher investment by directors in the funds overseen is a positive factor for investors and that higher compensation is a negative factor.

Tufano and Sevick (1997) pay significant attention to defining relative compensation in relationship to the number of funds and assets under management overseen. Their measure for unexplained compensation is also used by Meschke (2007) and Ferris and Yan (2007b). These three studies all find that greater unexplained compensation is associated with higher costs, although in the case of Ferris and Yan (2007b), the relationship is not statistically significant in all model specifications. Meschke (2007) finds that higher unexplained compensation is associated with lower performance, but in the case of Ferris and Yan (2007b), that relationship is not statistically significant. Meschke (2007), Ferris and Yan (2007b) and Qian (2011) all find that higher relative

compensation is associated with a higher likelihood of being charged in the late trading and market timing scandal. Khorana et al. (2007) show that in across-family mergers, target fund directors are more likely to lose their seat and compensation and that when target fund directors have a higher compensation, across-family mergers are less likely. For U.S. closed-end funds, Del Guercio et al. (2003) find a positive relation between director compensation and fund expense ratio. However, for board decisions regarding restructurings, their results are mixed.

For U.S. mutual funds, data on director ownership is only available as of 2002. Different studies use different measures for director ownership and come to different results. Meschke (2007) finds that funds charge lower fees when a larger fraction of independent directors hold at least US\$ 100,000 in the funds they oversee. For performance, the coefficient is not statistically significant. Ferris and Yan (2007b) find that the percentage of independent directors not invested in the fund has no statistically significant relationship with costs in practically all model specifications and with various cost definitions. For performance, the coefficient is also not statistically significant.

Ferris and Yan (2009) find that the average equity ownership in the funds of independent and especially interested directors is positively related to fund performance. They do not investigate the relationship to fees. Cremers et al. (2009) analyse average fund family and individual fund ownership by independent directors, as well as the average individual fund ownership by non-independent directors in relationship to fees and performance. They find that all these variables are positively related to performance. The average ownership in individual fund shares by non-independent directors has a statistically negative relationship to fees.

In order to measure the relative size of the director investment, Kong and Tang (2008) use the percentage of independent directors whose investment in the fund complex is greater than his compensation for serving as a director, or US\$ 100,000, whichever is smaller. This variable has a statistically significant negative relationship with fees, but the relationship with performance is not statistically significant. For a sample of index funds, Adams et al. (2010) analyse the percentage of directors who have ownership in funds in the fund family and find no statistically significant relationship with the funds' expense ratio, return differential (return of fund minus return of index) or alpha. Furthermore, Meschke (2007) and Ferris and Yan (2007b) find no statistically significant relationship between their ownership variables and the likelihood of being indicted for late trading or market timing.

#### *Control variables and other variables*

Most studies discussed find statistically significant results for the relationship between fund size and fees, and also sometimes between fund family size and fees. This finding is consistent with the notion that economies of scale in the fund management business exist and are passed on to investors. Cremers et al. (2009) find that larger fund families charge lower fees, but their results for fund size are inconsistent. Depending on the model specification, the relationship between fund size and costs is either insignificantly negative or significantly positive. Kong and Tang (2008) find that large fund families set more effective breakpoints, but larger funds do not.

The relationship between fund size and performance is less consistent across different studies. Ferris and Yan (2007b) find a positive and statistically significant rela-

tionship in two out of four model specifications, but this finding is only based on one year of performance data. In Ferris and Yan (2009), the same authors report a negative relationship between fund performance and fund size based on analysing 13 years of performance data. Kong and Tang (2008) also find a statistically significant negative relationship, analysing only one year of performance data. The results of Meschke (2007) suggest that there is a hump-shaped relationship between fund size and performance, whereby increasing size is positive for performance at first, but at some point the relationship turns negative. This is consistent with the existence of economies of scale, but also with diseconomies at some point, perhaps as a result of capacity constraints or liquidity issues. Both Ferris and Yan (2007b) and Ferris and Yan (2009) find that larger fund families perform better. Adams et al. (2010) – analysing index funds – and Kong and Tang (2008) do not find a statistically significant relationship.

The results for fund age are not consistent. Tufano and Sevvick (1997) find that older funds charge higher fees. Meschke (2007) finds that older funds charge lower fees and that they perform worse. Ferris and Yan (2007b) also find that older funds have lower expense ratios, but do not find a statistically significant relationship between age and total fees (including part of the load) or between age and performance. Analysing fees and performance, Kong and Tang (2008) and Adams et al. (2010) find that the results for fund age are not statistically significant.

Results vary also with regard to past performance. Tufano and Sevvick (1997) find little to no evidence that fee differences are related to differences in past performance. However, Meschke (2007) finds that funds with better past performance charge higher fees, whereas Ferris and Yan (2007b and 2009) find that funds with better performance charge lower fees. Kong and Tang (2008) find no statistically significant relationship between previous period raw returns and expense ratios, although there is a negative relationship with 12b-1 fees. Adams et al. (2010) do not include past performance in their analysis.

Ferris and Yan (2009) find that public fund management companies charge higher fees than private fund management companies and also underperform their private counterparts.

### *Causality and endogeneity*

Although several of the studies discussed in this chapter find one or more statistically significant relationships between certain board characteristics on the one hand, and fund fees and performance on the other hand, these findings are not enough to conclude that fee levels and performance are *caused* by the board characteristics in question. These studies merely show that there is an association between the variables in question, not necessarily causality.

These empirical studies all suffer, to a certain extent, from what is often called the problem of endogeneity. One source of endogeneity could be omitted variables. In that case, board characteristics and fees and performance are driven by the same underlying determinants not included in the regression analysis. For example, it is possible that low fees are the result of a corporate culture at the fund management company that encourages behaving in the interest of shareholders. That same culture can be a stimulus to having more independent boards. The opposite can also happen. Fund management companies that want to charge high fees could install less inde-



pendent boards. In that case as well, it is not the level of independence causing the high level of fees.

In studies analysing board independence and fees or performance, reverse causality is generally not to be expected. Fees and performance do not result in an independent chairman or higher percentage of independent directors on the board. However, low fees might, for example, be a reason for directors to invest more in the funds they oversee, resulting in higher director ownership. Ferris and Yan (2007b, p. 412) state in this context:

“The presence of this sort of endogeneity, however, tends to produce statistically significant relations. For example, Tufano and Sevick (1997) argue that if funds that are more likely to seek higher fees also tend to select less effective boards, then one would observe a statistically significant relation between board structure and fees. Such a statistical relation, however, cannot be interpreted as causal. The fact that we fail to find a statistically significant relation between board independence and fund fees suggests that our results are not substantially plagued by this sort of endogeneity.”

#### *Power and significance*

Spatt (2006a) and Spatt (2006b) are studies by the SEC's Office of Economic Analysis (OEA). Although it is not stated explicitly, these studies were performed to support the SEC's 2004 proposal to require at least 75% independent directors on any U.S. fund board and an independent chairman. Spatt (2006a) reviews several empirical studies on fund governance in relationship to fees, performance and compliance. In this study and the related study, Spatt (2006b), he especially pays attention to the question of why there is little consistent evidence that board independence is related to lower fees and higher returns. In the Executive Summary, Spatt (2006a, p. 1–2) states:

“The lack of consistent evidence that board composition leads to better fund performance may be attributed to several factors.

First, there is no sound structural model that enables researchers to isolate the effect of a given board decision on performance from all other factors that affect performance.

Second, inherent limitations to data and statistical tools as applied in the particular context may render it difficult for research to identify relations that exist and that may be economically significant. ...

Third, and finally, the nature of the conflicts of interest in mutual funds is such that there may not be a unique relation between governance and performance. That is, poor governance can at times be associated with higher returns through excessive, nontransparent risk taking by fund managers; although, with a proper risk-adjustment, fund performance could be lower.”

The first of Spatt's points is that there is no fundamental model that correctly describes the relationship between board characteristics and fees and performance. As a result, it is not certain whether studies have taken into account all relevant factors that determine fees and performance. This point is related to the omitted variables issue described under endogeneity.

The second point is that the data analysed could be so *noisy* that it is hard to isolate the impact of the board characteristics, even if it indeed exists, due to the possible lack of power of the statistical tests applied. The issue is that when performance is compared across a broad cross-section of funds, the effect of governance, even if it is of economical significance, might remain statistically insignificant and therefore go unnoticed if performance is, to a larger extent, driven by random factors. This lack of power of a statistical test can be mitigated by increasing the number of observations.

## Chapter 4

# Development of governance

*“Mutual funds with independent boards can cause an earthquake, if directors are genuinely independent”<sup>75</sup>*

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<sup>75</sup> Quote from an anonymous senior manager of fund management company in KPMG International and CREATE, 2006, Towards enhanced business governance; Causes and consequences in global investment, p. 29.

## 4.1 Introduction

As far as could be determined, this dissertation is the first empirical study into the relationship between fund governance characteristics and fund costs and performance, performed on a sample of open-ended funds domiciled in Europe. Related earlier studies analysed samples of U.S. open-ended funds. Unlike in the U.S., there is no academic-quality fund database readily available in Europe that is comparable to the CRSP Survivor-Bias Free U.S. Mutual Fund Database. For U.S.-domiciled funds, this database contains, among other things, performance, cost and assets under management data of investment funds. There is also no central, publicly available source for governance data in Europe that is comparable to the Statements of Additional Information, which U.S. investment funds are required to file with the SEC, and which holds data on, for example, directors' dependent or independent status, as well as their remuneration and investments in funds overseen.

The lack of data sources for European-domiciled funds required much effort in the collection and processing of data so that it could be used for the analysis at hand. This effort also meant that the right balance had to be made between having a sample of sufficient size, in order to come to meaningful and ideally statistically significant results, and determining the appropriate number of funds so that it would be possible to look up data manually and perform manual checks on data quality.

The funds selected for the analyses are all Luxembourg-domiciled UCITS. Section 4.2 describes why and how funds in the sample were selected for the empirical study and how the required governance data was obtained. Section 4.3 defines the concept of independent directors for the purpose of this study and analyses the development of independence in the sample of Luxembourg UCITS. The same sample and definition will be used for the analyses presented in chapters 5 (relationship between governance characteristics and costs), 6 (relationship between governance characteristics and performance) and 7 (survey into the role of fund boards). Whereas individual board seats are the unit of analysis in section 4.3, the analysis in section 4.4 is performed at the fund board level of the umbrellas in the sample. Section 4.5 makes the comparison with the U.S. and splits the sample on the basis of the cultural background of the fund promoters. Section 4.6 presents the conclusions.

## 4.2 Description of the population and sample

### 4.2.1 Selection criteria

The funds included in the sample for the empirical part of this dissertation are Luxembourg-domiciled funds offered internationally, benefiting from the distribution possibilities of the UCITS status. The study covers the 10-year period from 1 January 2000 to 31 December 2009. Concretely, the sample of fund management companies, umbrellas, sub-funds and share classes for this study was selected based on the following eight criteria:

*Criterion 1: Regulatory status – UCITS*

The sample for the empirical part of this dissertation includes funds with UCITS status only. Funds that are regulated as UCITS have distribution possibilities across the European Union, as well as in several markets in the rest of Europe, Asia and Latin America. Retail funds without UCITS status can generally be distributed only in the country of the fund domicile. The UCITS segment of the global fund market has gained importance in the last decade in terms of assets under management and market share<sup>76</sup>.

*Criterion 2: Domicile – Luxembourg*

Only Luxembourg-domiciled funds are included in the sample. Hence, the comparison in this study is between funds with different governance characteristics set up in the same domicile, within the same legal and regulatory framework, rather than between funds of different domiciles. Although UCITS can be established in any country of the European Economic Area, Luxembourg is the fund domicile that dominates the market segment of cross-border funds. Out of the 50 leading cross-border management groups at the end of 2009, as ranked and published by PwC (PwC, 2010; hereafter PwC top-50), 37 have Luxembourg as their primary fund domicile and another five have Luxembourg as either their second or third domicile.

*Criterion 3: Promoters – Cross-border players*

In order to have funds that are offered on a truly cross-border basis, fund promoters on the PwC top-50 leading cross-border fund promoters are selected. This ranking, which is based on the number of distribution countries on 31 December of the preceding year, has been published annually since 2003. PwC published a top-20 in 2002. From 2003 to 2008, this publication provided the top-50, while in 2009 and 2010, a top-100 was published. In order to be selected for the sample, a fund promoter needed to have been included in the top-50 of PwC's ranking at least once in the period from 2003 to 2010. The number of countries in which the funds were offered increased throughout the period of analysis. The fund promoters included on the PwC top-50 offered their Luxembourg funds in 8 (promoter ranked number 50) to 26 (number 1) countries at the end of December 2002. By the end of December 2009, that number had increased to between 17 and 48 individual countries. Note that this does not only include EU-countries, since UCITS are also distributed in several markets outside of the EU.

*Criterion 4: Umbrellas – Flagships*

Most Luxembourg funds are set up as sub-funds in an umbrella structure, sharing the same legal structure with other sub-funds. Practically all fund promoters in the sample have more than one such umbrella. In order to prevent double counting of fund promoters by including more than one of their umbrellas, only the *flagship umbrella* of each of the fund promoters in the sample is selected. This flagship is the umbrella that includes the fund promoter's core fund offering and is usually the umbrella with the largest number of funds and most assets under management. Some fund promoters

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<sup>76</sup> See sections 1.3 and 1.4 for statistics regarding the development of UCITS and sections 2.2.3 and 2.2.4 for regulatory aspects of UCITS and Luxembourg funds.

have more than one flagship umbrella, for example, because they use different umbrellas for different asset classes. In that case, the umbrella with the promoter's equity funds is selected<sup>77</sup>. Fund promoters that do not structure their funds as part of an umbrella, but as stand-alone funds, are not included in the sample<sup>78</sup>.

In the period of analysis, there have been several acquisitions and mergers of fund promoters in the sample. If a fund promoter is acquired by or merges with a company not in the sample, the combined fund promoter and the associated umbrella are simply maintained in the sample. However, in the case where the promoter is acquired by or merges with a promoter already in the sample, only the umbrella that is the combined promoter's flagship umbrella after the integration between the two promoters is maintained in the sample<sup>79</sup>. The umbrella that is not chosen as flagship for the combined firm is removed from the sample at the end of the financial year in which there is evidence of the integration at the umbrella level, e.g. by the appointment of board members from the acquiring company or by the appointment of a management company belonging to the acquiring group. Often this is followed by a full integration of the flagship umbrellas of the two groups at a later stage.

Studies in which the performance of investment funds is analysed can suffer from survivorship bias. This is the case when a sample of funds selected to measure performance in a certain period only includes funds that still existed at a point in time after the measurement period (the *survivors*). Such a sample excludes funds that existed in the measurement period, but have closed down in the meantime. Because poor performing funds are more likely to be liquidated or merged, a sample of surviving funds will be biased towards the better performing funds. In this study, survivorship bias at the level of the fund promoters and umbrellas is avoided by not only selecting umbrellas of promoters on the latest PwC top-50 and tracing them back in time. Promoters included in any of the earlier PwC top-50s are also included in the sample, even if those promoters were acquired and/or their umbrellas closed later<sup>80</sup>. The drawback to the approach of including fund promoters featured in any of the issues of the PwC top-50 in the whole period of analysis is that it implies a forward-looking bias. Promoters who are new entrants on the top-50 in one of the later years are already included in the sample in the preceding period. Excluding those fund promoters, however, would have the disadvantage that the sample size is reduced.

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<sup>77</sup> Examples of *equity flagship umbrellas* included in the sample are ING (L) Invest SICAV and UBS (Lux) Equity Fund FCP. The reason for selecting equity umbrellas is elaborated under criterion 6.

<sup>78</sup> There is one example of this among the fund management companies on the PwC top-50, namely Union Investment.

<sup>79</sup> An example is ABN AMRO Asset Management being acquired by Fortis Investments, with Fortis (L) Fund SICAV being selected as flagship umbrella for the combined firm. ABN AMRO Funds SICAV was therefore dropped from the sample.

<sup>80</sup> One fund promoter and umbrella, Crédit Lyonnais Asset Management and their Lion Fortune SICAV, could not be included in the sample, despite being in the PwC top-50 of 2003. Crédit Lyonnais Asset Management merged with Crédit Agricole Asset Management on 1 July 2004. It was not possible to obtain the annual reports for Lion Fortune SICAV and therefore it was not possible to reconstruct its governance characteristics. It should be noted, however, that the Lion Fortune SICAV would have been dropped from the sample already in 2004, on the basis of the Crédit Agricole flagship umbrella being selected as the flagship umbrella for the combined entity. Crédit Agricole Funds SICAV and Lion Fortune SICAV merged formally on 17 December 2004, after the merger proposal was published on 11 October 2004.

*Criterion 5: Asset class – Equity*

Several of the umbrellas in the sample contain more than 50 funds in a variety of asset classes and fund sectors. At the fund level, the sample for this study is restricted to include actively-managed equity funds only, in order to keep the number of fund sectors and funds to be analysed manageable and to compare funds that are indeed comparable. The primary reason for selecting only equity funds is because it allows the use of one model to determine the risk-adjusted performance of the funds, rather than having to work with various models for funds in different asset classes. This type of modelling is not the primary focus of the dissertation, but merely a requirement for chapter 6, in which fund performance is to be analysed in relationship to governance characteristics. A secondary reason for selecting only funds in one asset class, e.g., equity, is because, as discussed in Criterion 4, several fund promoters have different flagship umbrellas for investments in different asset classes. In order to avoid double counting these in the sample, only the umbrellas for equity funds were selected in these cases.

*Criterion 6: Sectors – Global, Europe, U.S., Japan and Emerging Markets*

In order to further limit the number of funds in the sample, a selection of funds was made on the basis of the investment area or fund sector. The selected sectors are Global equity, Europe equity (split in Pan-European and Euroland equity), U.S. equity, Japan equity and Emerging Markets equity. Global equity, Pan-European equity and Euroland equity are the largest equity sectors within the equity asset class on the European fund market. For many European-based fund investors, these funds form a core holding in their portfolios. U.S. equity and Japan equity are often used as regional building blocks for internationally diversified portfolios. Emerging Markets equity is also among the largest asset classes, but it is a more specialist area. Fund promoters usually price their products in this area higher than in the developed markets sectors<sup>81</sup>.

The Asset Class and Investment Area of Lipper (former Fitzrovia) was used as a starting point for selecting funds for the sample based on fund sector. Lipper defines the Investment Area relatively broadly. Europe equity, for example, includes funds investing on a Pan-European basis, as well as funds investing in Euroland countries only. The funds that are in the Europe equity sector are divided into these two categories. Excluded from the sample altogether are funds that have a more narrow focus than their sector as whole, either in terms of market capitalisation, industry sectors or geographically. Examples are small cap and mid cap funds, as well as funds that only focus on certain selected countries (e.g., BRIC [Brazil, Russia, India and China] in the case of Emerging Markets equity) or funds that exclude certain countries or regions (e.g., Europe excluding U.K. in the case of Europe equity and EAFE [Europe, Australasia, Far East, i.e., excluding U.S. and Canada] in the case of Global equity). Balanced funds with a large allocation to equities that have the flexibility to allocate to fixed income are also excluded from the sample. The same applies to Theme and Sector SRI funds that invest in equities globally, but only in certain industries. Lipper includes SRI funds (So-

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<sup>81</sup> Promoters that are on the PwC top-50, but that do not offer any fund within the selected sectors, are excluded from the sample. For this reason, e.g., BlueBay (offering only fixed income funds) and East Capital Asset Management (only offering funds investing in Central and Eastern Europe) are excluded from the sample.

cially Responsible Investments) in a separate Investment Area, the Ethical/SR sector. This category of funds is not included in the sample. The fund promoters selected for the sample have funds in several or all of these fund sectors. By selecting these larger sectors and by excluding funds that have a more narrow focus than the sector as a whole, a sample is formed that is homogeneous with respect to the fund's investment sectors, but that is still relatively large.

*Criterion 7: Funds – Selected from the Luxembourg Funds Encyclopaedia*

At the sub-fund level, survivorship bias was avoided by gathering data on funds in the umbrellas that existed at some point in the 2000-2009 period, even when they no longer exist today. The funds were selected from the annual publication, the Lipper Luxembourg Funds Encyclopaedia<sup>82</sup>. This publication includes all Luxembourg-domiciled funds by fund promoter and umbrella, with net assets and cost data per share class of each fund. Because all issues of this publication in the 2000-2010 period were available for analysis, it was possible to ensure that all funds offered at any point in time in the period of analysis are indeed included in the sample, thus avoiding survivorship bias.

*Criterion 8: Share classes – Retail*

Cost and performance data was collected for the standard retail share class of each fund in the sample, again for reasons of homogeneity. The reason for taking retail shares is because the agency conflict and the issue of information asymmetry can be expected to be larger for retail investors than for institutional investors. Therefore, the added value of the boards of directors is potentially larger in this market segment. In addition, only in the case of retail shares, it can be reasonably assumed that the stated fund costs are indeed paid by the investor. In the case of institutional shares, it is common that part of the management fees or other fees is repaid to the investor in the form of rebates. Therefore, it is not possible to establish from public sources what the investor actually pays. In the case of retail share classes, any rebate is generally paid to the distributor, not to the investor.

Unfortunately, there is no market standard in Luxembourg with regard to the labelling of share classes. Retail share classes are offered as e.g., A-shares, C-shares (Classic) or P-shares (Private), depending on the fund promoter. The standard retail share class for each of the funds in the sample was therefore determined on the basis of a combination of the Lipper Funds Encyclopaedia, the fund prospectuses and the annual reports. In most cases, it was one share class type across all funds within the same umbrella and over time. In a few cases, there was a change in the standard retail share class during the research period. Details of how these situations were dealt with can be found in appendix 1, together with the standard retail share class used for each of the promoters and umbrellas in the sample. In the case of a fund having more than one currency retail share class, the share class in the base currency of the fund was selected. In the case where both Income (dividend paying) and Accumulation (dividend reinvested) shares were available, the latter was included in the sample.

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<sup>82</sup> Until 2007 called the Fitzrovia Luxembourg Funds Encyclopaedia.



4.2.2 Sample size

In total, there are 48 different fund promoters and the same number of flagship umbrellas included in the sample at some point in time. An overview is provided in appendix 1. Five of the 48 flagship umbrellas were launched in the course of the research period, whereas three umbrellas dropped from the sample due to merger activity. At the end of 2009, there were 45 umbrellas in the sample.

Figure 4.1 shows the development of the sample size over time, both with (blue line) and without (red line) the forward-looking bias referred to in Criterion 4 in section 4.2.1. The sample used to form the blue line includes any fund promoter that meets the domicile and fund sector criteria and that was included on the PwC top-50 in any year in the 2003-2010 period. The blue flags show the changes to the sample resulting from the launch of new Luxembourg umbrellas that met the criteria or from umbrellas dropping from the sample due to mergers and acquisitions. For the red line, the same criteria were used, except that promoters are only included as of the year they appeared on the PwC top-50 for the first time. The red flags show the publication of the first PwC top-50 in 2003, as well as the new entrants in the top-50 in each year as of 2004.

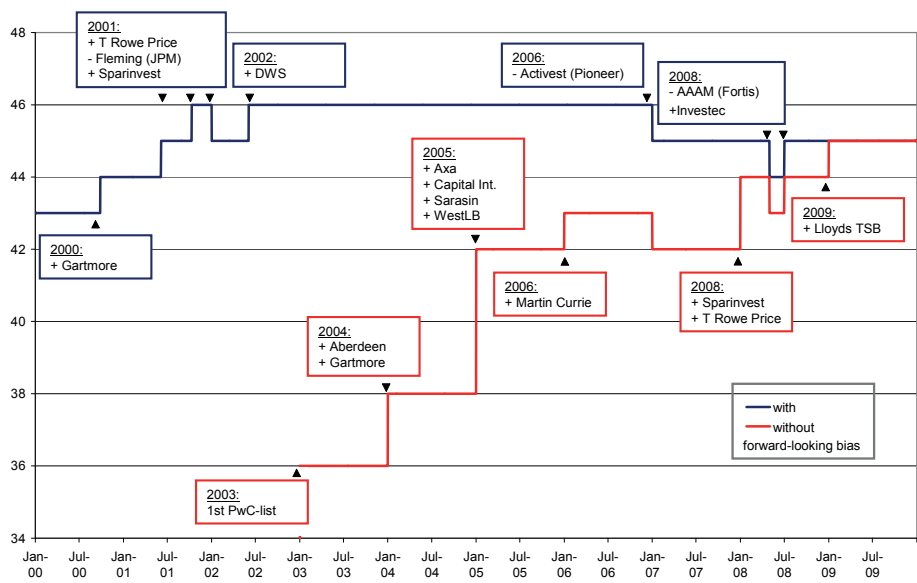


Figure 4.1: Development of the number of fund promoters in the sample  
Source: PwC (2002-2010)

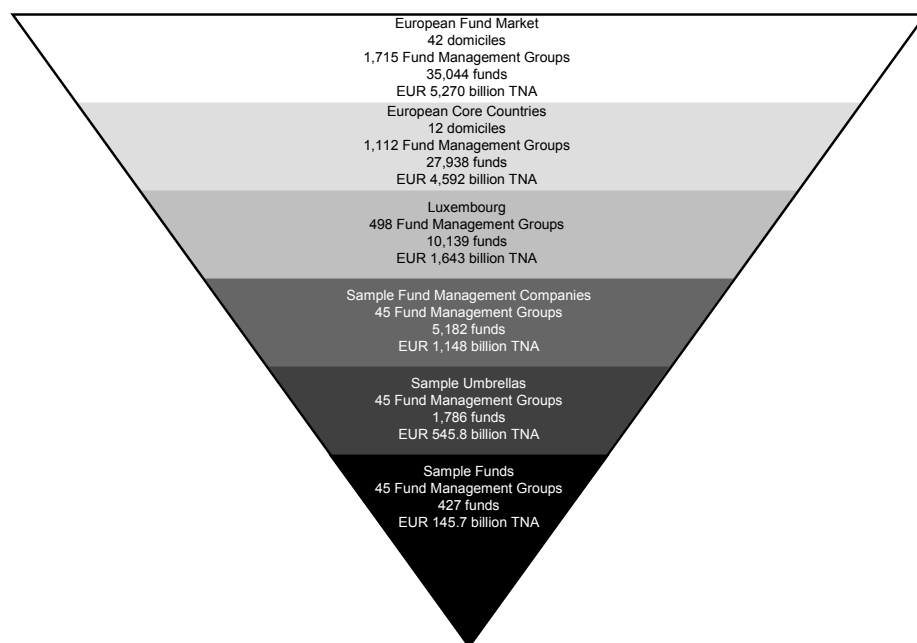
A list of all funds in the sample, organised by promoter, is provided in appendix 2. Table 4.1 shows the number of funds in the sample by fund sector, both at any point in the 2000-2009 period, and at the end of the research period. Also shown in that table is the Total Net Assets of the funds in the sample at the end of the research period.

**Table 4.1:** Number of funds and Total Net Assets in the sample by fund sector

Fund sector (all equity)	Number of funds		Total Net Assets(TNA) In EUR bn
	Total (2000–2009)	31-Dec-2009	31-Dec-2009
Global	133	91	27.8
Pan-Europe	152	108	42.2
Euroland	52	39	15.8
U.S.	134	93	26.5
Japan	75	56	5.9
Emerging Markets	47	40	27.4
<b>Total</b>	<b>593</b>	<b>427</b>	<b>145.7</b>

Source TNA data: Lipper FMI

Figure 4.2 shows how the sample funds selected on the above criteria relate to the total population of European and Luxembourg funds. Both the number of funds and the Total Net Assets are provided per 31 December 2009, the final day of the research period.

**Figure 4.2:** Sample within the total European fund market per 31 December 2009

Source: Lipper FMI

The total population of European funds, shown as the first level in the triangle, consists of 35,044 funds from 42 domiciles<sup>83</sup> with almost EUR 5.3 trillion in Total Net Assets.

<sup>83</sup> Lipper FMI considers some funds that are domiciled in offshore domiciles outside of Europe and distributed in Europe as European Market Funds. However, their number and assets under management are not a significant part of the total market. At the end of 2009, there were 471 funds domiciled in the Bahamas, Bermuda, British Virgin Islands, Cayman Islands, Mauritius and Netherlands Antilles, with Total Net Assets

These funds are offered by 1,715 different fund management groups<sup>84</sup>. The second level in the chart represents funds domiciled in any of the European core countries<sup>85</sup>. These twelve domiciles house 79.7% of the funds on the European market, holding 87.1% of the Total Net Assets. On the third level, the chart shows that Luxembourg, which is the largest domicile in Europe, represents more than one-third of the fund market in the European core countries, both in terms of the number of funds (36.3%) and Total Net Assets (35.8%). These funds are offered by 498 different groups.

On the fourth level, the chart zooms in on funds offered by the fund management groups in the sample. The 45 cross-border fund management groups in the sample at the end of 2009 (9.0% of the number of fund management groups in Luxembourg), managed 51.1% of the Luxembourg-domiciled funds and 69.9% of the Luxembourg Total Net Assets. This fact implies that the fund promoters selected for the sample are, on average, larger than the average promoter in Luxembourg (EUR 25.5 billion versus EUR 3.3 billion of Total Net Assets, on average), which is a logical consequence of selecting promoters from the top-50 leading cross-border fund promoters. Their funds are also larger than the average Luxembourg-domiciled fund (EUR 221.5 million versus EUR 162.1 million), although this difference is not as striking.

On the fifth level, the statistics are provided for the 45 flagship umbrellas that were in the sample at the end of 2009. Since boards of directors operate for the whole umbrella, all funds in a particular umbrella share the same board. With 1,786 funds and EUR 545.8 billion of Total Net Assets, these flagship umbrellas represent over one-third (34.5%) of the number of funds and almost half (47.5%) of the Total Net Assets of the selected fund management groups. The funds in these flagship umbrellas are larger than the average fund managed out of Luxembourg by their respective fund management groups, in particular, EUR 305.6 million versus EUR 221.5 million.

Finally, the sixth level represents the funds in the sample investing in one of the six selected sectors (Global, Pan-Europe, Euroland, U.S., Japan and Emerging Markets). These funds share the same boards with the other funds in the flagship umbrellas and are the ones that are used to analyse the relationship between governance characteristics and costs and performance. As of the end of 2009, there are 427 funds in the sample, with a combined EUR 145.7 billion of Total Net Assets. The sample funds represent 26.7% of the Total Net Assets of the umbrellas under which they reside and 23.9% of the number of sub-funds. With an average of EUR 341.3 million of Total Net Assets, these funds are approximately 12% larger than the average fund in the sample umbrellas.

Figure 4.3 shows that there is a significant variation in the size of the umbrellas in the sample, both in terms of the number of sub-funds (top chart) and the Total Net Assets per umbrella (bottom chart). Whereas there are 19 umbrellas with less than EUR 5 billion of Total Net Assets, the largest umbrella holds EUR 57.1 billion of assets. In

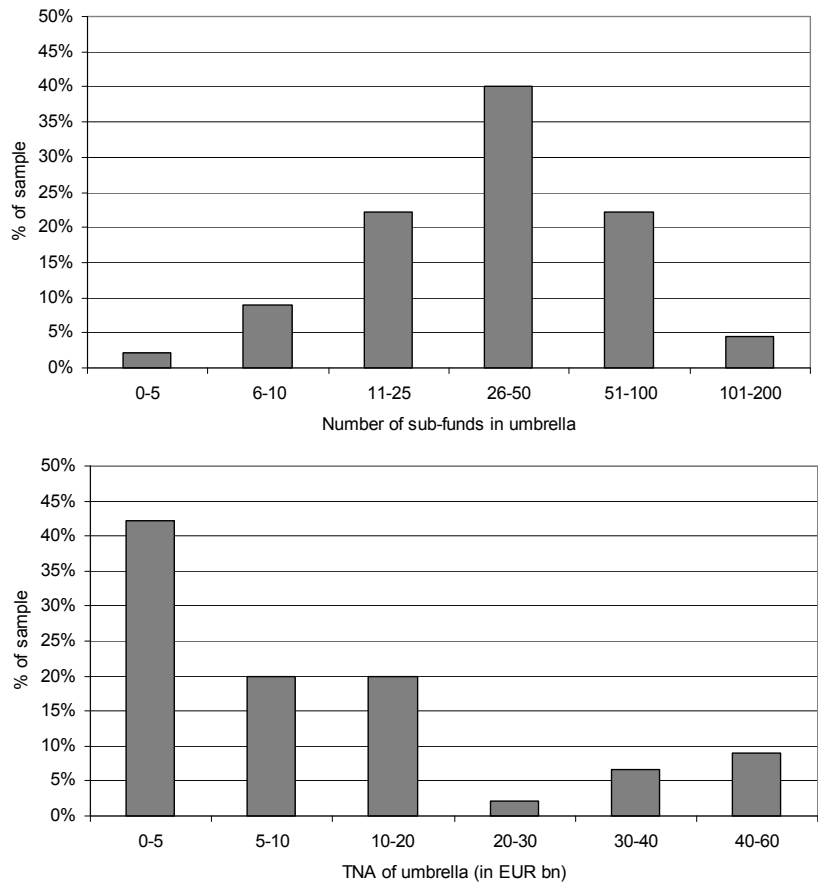
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amounting to EUR 80.3 billion (1.5% of total), which were included by Lipper FMI in the European Fund Market.

<sup>84</sup> Lipper FMI refers to these as Master Groups.

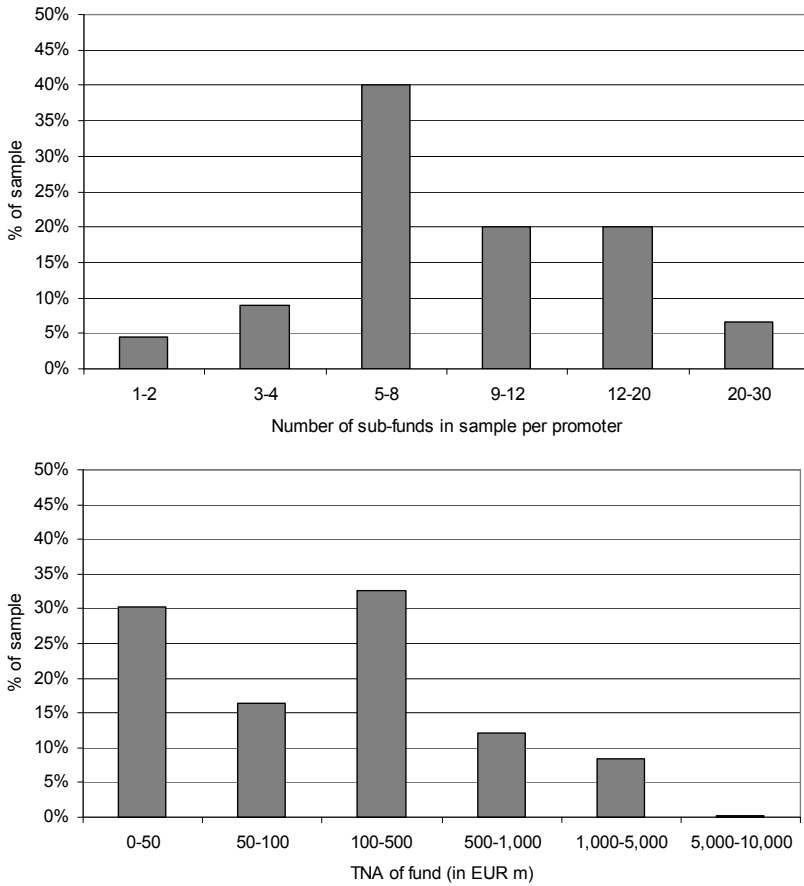
<sup>85</sup> EU core countries are defined as those among the countries signing the Maastricht treaty in 1993, i.e., Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain and the U.K.

terms of the number of sub-funds, the smallest umbrella includes three sub-funds, while the umbrella with the most sub-funds contains 151 individual sub-funds.



**Figure 4.3: Distribution of umbrellas in the sample (31 December 2009)**  
The top chart shows the distribution by number of sub-funds in the umbrellas in the sample.  
The bottom chart shows the distribution by TNA of all sub-funds of the umbrellas in the sample.  
Source: Lipper FMI and fund annual reports

Figure 4.4 (bottom chart) shows that there is also a significant variation in Total Net Assets per fund in the sample of funds. Out of the 427 funds in the sample at the end of 2009, 129 have less than EUR 50 million of Total Net Assets. A total of 37 funds are larger than EUR 1 billion, out of which one fund has more than EUR 5 billion of Total Net Assets. The top chart in figure 4.4 shows the number of sub-funds represented by each promoter in the sample, as of the end of the research period. This varies between 1 and 23 sub-funds.



**Figure 4.4: Distribution of funds in the sample as per 31 December 2009**

The top chart shows the distribution by number of sub-funds in the sample for each of the promoters.

The bottom chart shows the distribution by TNA of the sub-funds in the sample.

Source: Lipper FMI and fund annual reports

### 4.3 Dependency status of board members

#### Definitions

Chapters 5 and 6 will analyse and compare the costs and performance of funds with different board characteristics. With respect to the governance characteristics, the main distinction made is whether an individual board member can be characterised as *independent* from the fund promoter and promoter group<sup>86</sup> or whether he has certain ties with the fund promoter that make him *dependent*. Related empirical studies of U.S. mutual funds use the information provided in the Statements of Additional Infor-

<sup>86</sup> The term *promoter group* is used in the meaning of the larger financial group, for example bank or insurance company, of which the fund promoter is part.

mation to categorise individual board members. This is a document that these funds are required to file with the SEC and is available to shareholders upon request. The document mentions for each of the board members whether they are independent or dependent, based on the definition of the 1940 Act<sup>87</sup>. Because fund boards in Luxembourg are not required by law or regulation to have independent members, the Luxembourg regulator has not determined for each board member whether or not he qualifies as an independent director, nor is there a legal definition of independent versus dependent directors that can be used. It is therefore necessary, for the purpose of this empirical study, to define dependence and independence. The definition used in this dissertation follows the spirit of the OECD White Paper (OECD, 2005, p. 165):

“It is accepted that no employee of any company affiliated with the operator through ownership linkages or as a service provider is eligible to serve as an independent director.”

At the same time, the definition must be practicable, i.e., it must be possible for the board members of the umbrellas in the sample to determine, on the basis of public sources, what is their dependency status according to the definition used. To do justice to Luxembourg market practice, a category of semi-independent board members is also distinguished. In Luxembourg, a less strict definition of independence is commonly used than in the U.S. In Luxembourg, a representative of the fund’s legal council or another service provider outside of the promoter group would normally be considered as an independent director. To capture this category of directors that are not employees of the promoter group, but still have a business link in addition to their role as director, a category of semi-independent board member is distinguished. Former employees are also included in this category. According to U.S. regulations, former employees are not disqualified for a position as independent board members on boards of their former employer’s funds. However, in their best practice recommendations, ICI recommends that promoters not consider former employees as independent. Qian (2011) refers to the category of former employee board members as *gray* directors. In this study, board members are categorised as follows:

- **Dependent board members** are employees of the fund promoter or the promoter group<sup>88</sup>.
- **Independent board members** do not have a current or previous employment tie with the fund promoter or the promoter group and are not currently employed by any of the service providers of the UCITS.
- **Semi-independent board members** are either former employees of the fund promoter or promoter group or are current employees of a service provider of the UCITS, provided that it is not part of the promoter group.

This definition implies that in the case of a board member resigning or retiring as an employee of the fund promoter or promoter group, but staying on as a board member of the umbrella, that board member moves from the dependent to the semi-

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<sup>87</sup> See section 2.2.2.

<sup>88</sup> There are three umbrellas in the sample that have a corporate director, which is part of the promoter group. These are considered as dependent board members.

independent category. An employee of a service provider of the umbrella who resigns or retires as an employee of that service provider, but stays on as a board member of the umbrella, immediately moves from the semi-independent to the independent category for the purpose of this study.

For Luxembourg board members, data with regard to ownership in the fund promoter or promoter group is not public. Therefore, such ownership ties are not included in the definition. The assumption is that, in practice, this does not materially weaken the definition, as it is expected that there will be few cases, if any, where a board member does have an ownership tie with the fund promoter or promoter group, but not an employment tie.

In addition to the board of directors of the umbrella, the depositary also has an oversight role, based on the UCITS Directive<sup>89</sup>. A depositary is appointed at the level of the umbrella, as a result of which it is the same for all sub-funds in an umbrella. In this dissertation, a depositary is seen as dependent when it belongs to the promoter group and as independent when it does not.

### *Data*

For the empirical part of this dissertation, a unique, proprietary fund governance database was developed containing governance data of all the umbrellas in the sample, covering the period from 1 January 2000 to 31 December 2009. For these umbrellas, the annual reports for each of the financial years ending in the 2000<sup>90</sup>-2010 period were requested from the fund promoter. In the cases where the annual reports could not be obtained this way, other channels were used<sup>91</sup>, so that in the end, substantially all required annual reports were available for analysis.

From these annual reports, the names of all directors on the boards of these umbrellas were copied into the database, together with their *title* (their role or position outside of the board in question, often a role with the fund promoter) as included in the annual report. Also included in the database were the dates of appointment and resignation. From the title as provided in the annual reports, it was usually possible to establish to which of the three categories – dependent, independent or semi-independent – the board member belongs. In the case where a board member was characterised as independent or with a role from which it could not be established immediately whether the person should be considered (semi-) independent, a follow-up investigation was performed based on the fund's prospectus or by means of an internet search. Ultimately, the dependency status of all board members could be established with absolute or almost absolute certainty.

The date of appointment or resignation was, in most cases, mentioned in the annual report for the year in which the change in board composition occurred. When this was not the case, follow-up research was performed in the official publication of the Luxembourg government "Mémorial; Journal Officiel du Grand-Duché de Luxembourg;

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<sup>89</sup> See section 2.2.3 for details.

<sup>90</sup> Not all umbrellas have a financial year that is the same as the calendar year. Board data was gathered for each of the umbrellas as of the financial year ending in 2000.

<sup>91</sup> This included Morningstar and service providers of the umbrellas.

Recueil des Sociétés et Associations” (hereafter *Mémorial*)<sup>92</sup>. In most cases, if the date of appointment or resignation was not in the annual report, it could be obtained from this publication. In only a limited number of cases, this source did not provide the exact date. In these cases, it was assumed that an appointment took place on the first day of the umbrella’s financial year in which the board member is first included in the annual report. A resignation for which the exact date is not found in the annual report or in *Mémorial* is assumed to have taken place on the last day of the financial year in which the board member is last included<sup>93</sup>. *Mémorial* was also used to supplement data in the few cases in which individual annual reports could not be obtained.

For most umbrella boards, the annual report named the chairman of the board. This information has also been captured in the database. The chairmen have been categorised as dependent, semi-independent or independent on the basis of the same definitions as used for other board members. Since some umbrellas have not assigned a chairman, either permanently or temporarily (sometimes there is a gap between the resignation of one chairman and the appointment of a new chairman), or have not indicated the chairman in the annual report, a fourth category is distinguished for the chair, which is *none*.

The name of the depositary, the dates of appointment and replacement, and the status as either dependent or independent were also included in the proprietary fund governance database. In all cases, this information could be obtained from the annual reports.

### *Development*

A first way of approaching independence of governance is by looking at individual board seats and whether they are held by persons who are dependent, independent or semi-independent. Figure 4.5 shows how board members of the umbrellas in the sample were divided over the three categories for the entire research period. Out of the 911 board members in total (chairs and others combined), 755 (82.9%) are employees of the fund promoter or promoter group and are therefore classified as dependent. Of all board members, 100 (11.0%) are independent and 56 (6.1%) semi-independent. Among the chairs, the distribution is more skewed towards the dependent category. Out of the 141 chairmen in the sample in the research period, 89.4% are dependent, whereas 6.4% are independent and 4.3% are semi-independent.

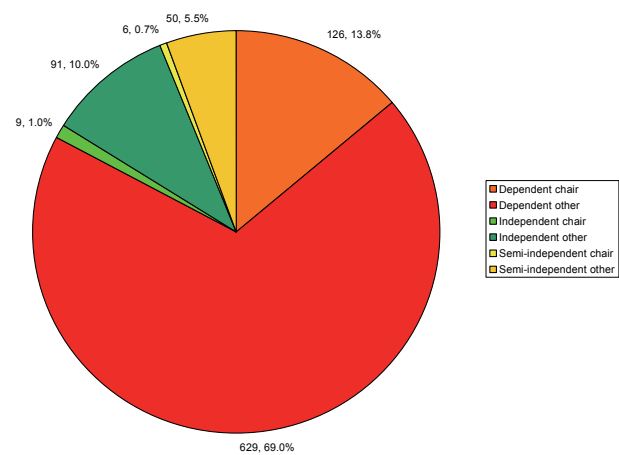
Figure 4.6 shows the development in the 2000-2009 period of the total number of board seats in the sample and how they were divided among the different categories of board members. The composition has been relatively stable in this period. At the beginning of 2000, there were 270 board seats taken by three independent chairmen and 36 other independent board members. At that moment, 20 board members were semi-independent. None held the position of chairman. The remaining board members were dependent, with 36 chairmen and 175 other dependent board members. Five years later, by 31 December 2004, the total number of board members in the umbrel-

<sup>92</sup> Funds are required to notify the CSSF, as well as the Companies Registrar, of any changes to the board of directors. The Companies Registrar publishes the change in *Mémorial*.

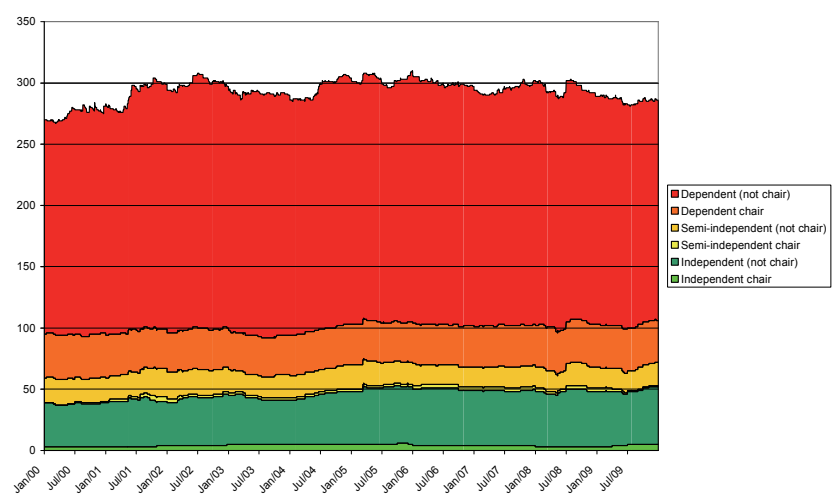
<sup>93</sup> In a handful of cases, a more exact estimate of the appointment or resignation date could be made, for example when it could be established from a publication in *Mémorial* that a person was still on the board on a date after the end of the financial year.



las in the sample had increased to 304. On that date, the number independent chairmen had increased to five and that of other independent board members to 43. The semi-independent board members included two chairmen and 20 other board members. The remaining seats were taken by 33 dependent chairmen and 201 other dependent board members. By the end of the research period, the total number of board members had declined to 285 in total. There were still five independent chairmen, while the number of other independent board members had increased to 47. There was one semi-independent chairman and 19 other semi-independent board members. The 213 dependent board members included 34 chairmen and 179 others.



**Figure 4.5:** All board seats in sample by category  
Source: Proprietary Fund Governance Database



**Figure 4.6:** Development of individual board seats by category (total number)  
Source: Proprietary Fund Governance Database

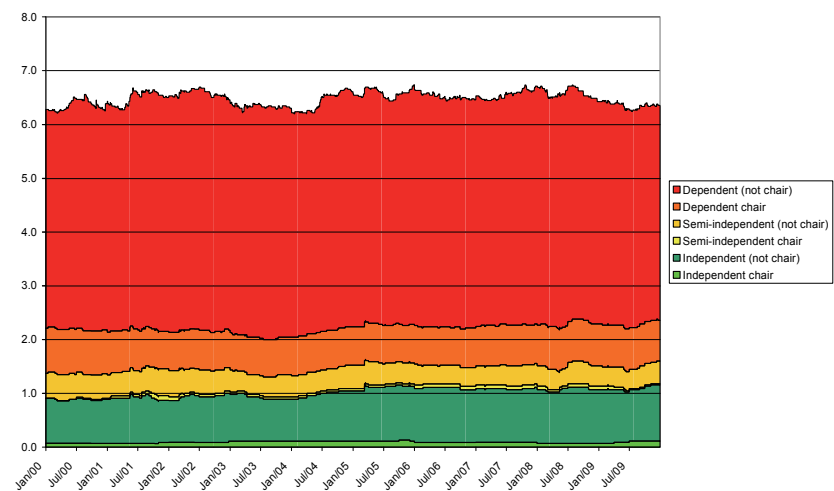
When interpreting these figures, it should be noted that the number of umbrellas in the sample was not the same throughout the research period. There have been five new entrants since the beginning of 2000 and three umbrellas have dropped from the sample. As a result of these changes, there were 43 umbrellas included at the start, 46 halfway through and 45 at the end of the research period. Whereas figure 4.6 is based on the total number of board seats in the sample at any time, figure 4.7 reflects the average number of board seats per umbrella. This chart shows that also the average number of board members per umbrella has been very stable through time, always hovering between 6.2 and 6.7. As a result of a number of large boards, the median was always lower, but stable as well, namely 5 or 6. Both at the end, and at the beginning, of the research period, the average number of board members, including the chair, stood at 6.3 board members. In this period, the average number of dependent board members decreased slightly from 4.9 to 4.7 members. The average number of semi-independent board members also declined, from 0.5 to 0.4, whereas the number of independent board members increased from 0.9 to 1.2.

Figure 4.8 is based on the same data, except there the division of board members over the different categories is shown on a relative basis. By definition, the division among board member categories expressed as a percentage of the total number of board seats is the same as when showing the same division for the average number of board seats per umbrella. In the 10-year period under review, the percentage of independent board members increased from 14.4% to 18.2%. This increase was at the expense of both the percentage of semi-independent and dependent members. These categories declined from 7.4% to 7.0% and from 78.1% to 74.7% respectively.

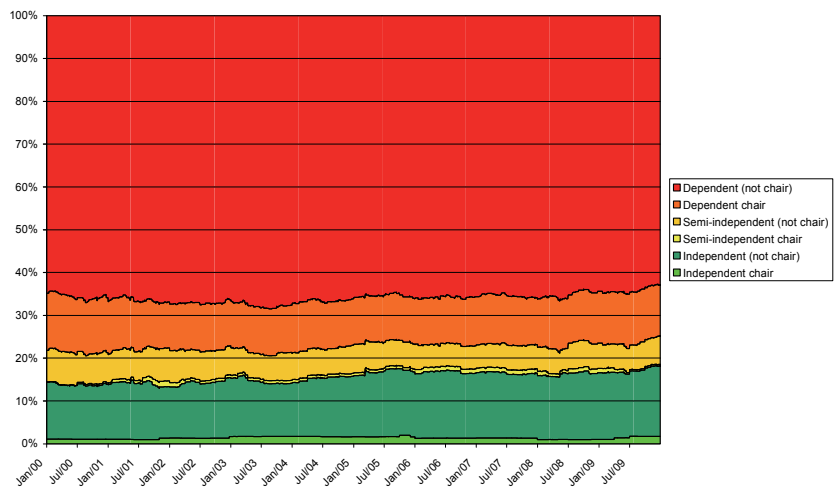
Based on figures 4.6, 4.7 and 4.8, it can be concluded that in the 2000-2009 period, there has been an increase in the number and percentage of independent board members, but that the increase has been modest. The analysis results for the appointments and resignations per year support this conclusion. Table 4.2 tracks changes to the sample of board members throughout the research period. The top panel provides the changes due to umbrellas that were added to and removed from the sample. The middle panel shows the changes by calendar year due to the net effect of appointments and resignations of board members on boards in the sample. The bottom panel shows by calendar year the changes due to both of these factors combined. The three columns to the right concern the total number of board members, separated into dependent, independent and semi-independent categories. The columns to the left detail this further into the board members holding the position of chairman and the other board members.

The net effect of the umbrellas being added to and removed from the sample is no change in the number of independent and semi-independent board members. The flagship umbrellas of Gartmore, Sparinvest, T Rowe Price and DWS added in 2000, 2001 and 2002 resulted in the addition of dependent board members and only one semi-independent board member. Investec had two independent and two semi-independent board members as well as four dependent board members when it was added in 2008. Activest, removed in 2007, had dependent board members only, but J.P. Morgan and ABN AMRO, removed in 2002 and 2008 respectively, both had independent and semi-independent board members, in addition to dependent board members.

The appointments and resignations did result in an increase by 13 in the number of independent board members in the research period. The table shows that this development has not been a straight and clear trend. There were several years in which the number of independent board members in the sample declined compared to the year before. The table confirms the earlier conclusion of the development towards more independent boards at a modest pace.



**Figure 4.7:** Development of average number of board seats by category (absolute number)  
Source: Proprietary Fund Governance Database



**Figure 4.8:** Development of board seats by category (percentage)  
Source: Proprietary Fund Governance Database

**Table 4.2:** Development of the number of board members in the sample by category

	Chair			Semi-independent			Other			Total		
	Dependent	Independent	Chair	Dependent	independent	Semi-independent	Dependent	Independent	Other	Dependent	Independent	Semi-independent
Start research period	1-Jan-00	36	3	0	0	0.0%	175	36	20	211	39	20
		92.3%	7.7%				75.8%	15.6%	8.7%	78.1%	14.4%	7.4%
Changes due to umbrellas entering (+) and exiting (-) the sample	2000	1	0	0	0		3	0	1	4	0	1
	2001	1	0	0	0		3	0	0	4	0	0
	2001	1	0	0	0		4	0	0	5	0	0
	2002	1	0	0	0		3	0	0	4	0	0
	2002	0	0	-1	-1		-2	-1	-1	-2	-1	-2
	2007	-1	0	0	0		-2	0	0	-3	0	0
	2008	-1	0	0	0		-1	-1	-1	-2	-1	-1
	2008	0	0	1	1		4	2	1	4	2	2
Total		2	0	0	0		12	0	0	14	0	0
Changes due to appointments and resignations	2000	-1	0	1	3		7	0	-1	6	0	0
	2001	-6	1	3	1		8	0	3	2	1	6
	2002	-1	1	-1	-1		-4	6	-2	-5	7	-3
	2003	0	0	0	0		-1	-5	-1	-1	-5	-1
	2004	1	0	0	0		5	7	1	6	7	1
	2005	0	0	0	0		3	4	-2	3	4	-2
	2006	1	-1	1	1		-9	-2	-2	-8	-3	-1
	2007	1	-1	0	0		6	1	1	7	0	1
	2008	2	0	-1	-1		-16	-2	0	-14	-2	-1
	2009	-1	2	-2	-2		-7	2	2	-8	4	0
Total		-4	2	1	1		-8	11	-1	-12	13	0
Sum	2000	0	0	1	3		10	0	0	10	0	1
	2001	-4	1	3	-2		15	0	3	11	1	6
	2002	0	1	-2	0		-3	5	-3	-3	6	-5
	2003	0	0	0	0		-1	-5	-1	-1	-5	-1
	2004	1	0	0	0		5	7	1	6	7	1
	2005	0	0	0	0		3	4	-2	3	4	-2
	2006	1	-1	1	1		-9	-2	-2	-8	-3	-1
	2007	0	-1	0	0		4	1	1	4	0	1
	2008	1	0	0	0		-13	-1	0	-12	-1	0
	2009	-1	2	-2	-2		-7	2	2	-8	4	0
Total		-2	2	1	1		4	11	-1	2	13	0
End research period	31-Dec-09	34	5	1	1		179	47	19	213	52	20
		85.0%	12.5%	2.5%	2.5%		73.1%	19.2%	7.8%	74.7%	18.2%	7.0%

Source: Proprietary Fund Governance Database

#### 4.4 Dependency status of boards

##### *Definitions*

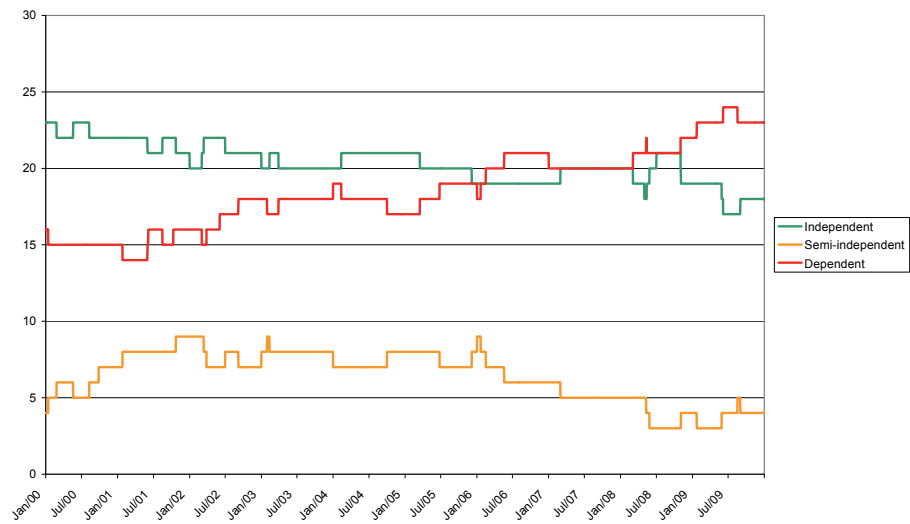
Whereas the individual board seats in the sample were analysed in section 4.3, this section takes the umbrellas in the sample as the unit of analysis. In the analysis of all board members, a subsequent independent board member on a board that already had one or more independents counts as much in the total as the first independent board member on a board that used to have none. For the functioning of the board, having some independent influence versus having none could matter more than the exact percentage of independent board members. Therefore, for a fund promoter and for the investors, the appointment of the first independent board member might be a more significant event than the appointment of each subsequent independent board member. The following types of boards are distinguished:

- **Independent boards** have at least one independent member.
- **Semi-independent boards** have at least one semi-independent member, but no independent members.
- **Dependent boards** have dependent members only.

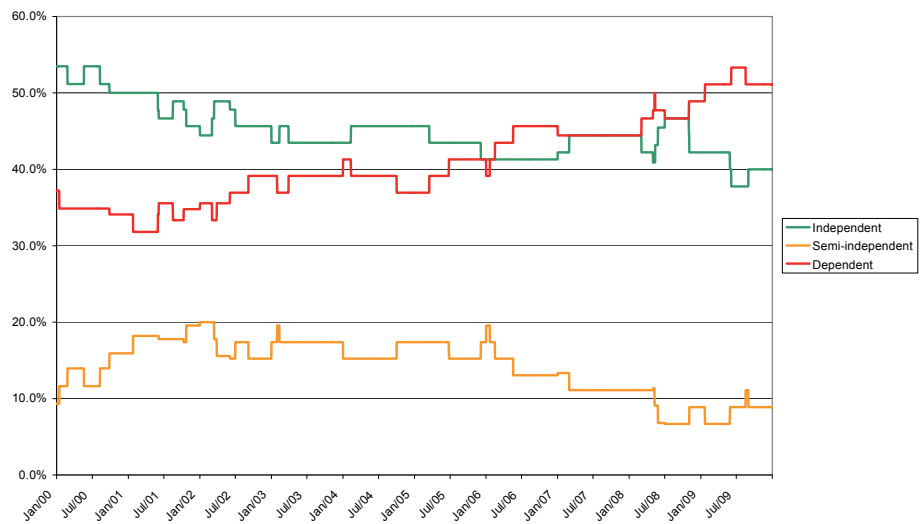
##### *Development*

In figure 4.9, the development is shown on an absolute basis and in figure 4.10, on a relative basis. Surprisingly, the charts show that the proportion of boards with dependent members only has increased in the 2000-2009 period. At the beginning of the period, boards with dependent board members only were a minority (16 out of 43, or 37.2%). Since January 2009, dependent boards are a majority in the sample (23 out of 45, or 51.1% at the end of 2009). This development has been at the expense of boards that have independent members. The percentage of semi-independent boards decreased as well, in this case, after an initial increase.

Table 4.3 provides further insight into the development of independence at the board level. The top panel provides the changes due to umbrellas being added to and removed from the sample. The net effect is an increase by two of the number of dependent boards, an increase by one of the number of semi-independent boards and a decrease by one of the number of independent boards. The middle panel shows the changes by calendar year due to the net effect of appointments and resignations of board members on boards in the sample. Over the whole research period, the net effect is five more dependent boards and a decline in the number of independent and semi-independent boards by four and one, respectively. The bottom panel shows the changes by calendar year due to both of these factors combined.



**Figure 4.9:** Development of umbrellas by category (absolute number)  
Source: Proprietary Fund Governance Database



**Figure 4.10:** Development of umbrellas by category (percentage)  
Source: Proprietary Fund Governance Database

The increase in boards with dependent board members only and decrease in boards with independent board members seems to contradict the observation in the previous section that the total number of independent board seats in the sample has increased. These deviating developments can be explained by an increase in the number of independent board members on boards that have independent members.

**Table 4.3:** Development of the number of boards in the sample by category

			Dependent	Independent	Semi-independent	Total
Start research period		1-Jan-00	16	23	4	43
			37.2%	53.5%	9.3%	
Changes due to umbrellas entering (+) and exiting (-) the sample	Gartmore (+)	2000			1	1
	T Rowe Price (+)	2001	1			1
	Sparinvest (+)	2001	1			1
	DWS (+)	2002	1			1
	J.P. Morgan (-)	2002		-1		-1
	Activest (-)	2007	-1			-1
	ABN AMRO (-)	2008		-1		-1
	Investec (+)	2008		1		1
		Total	2	-1	1	2
Changes due to appointments and resignations		2000	-1	-1	2	0
		2001	-1	-1	2	0
		2002	1	1	-2	0
		2003	0	-1	1	0
		2004	-1	1	0	0
		2005	2	-2	0	0
		2006	2	0	-2	0
		2007	0	1	-1	0
		2008	2	-1	-1	0
		2009	1	-1	0	0
		Total	5	-4	-1	0
Sum		2000	-1	-1	3	1
		2001	1	-1	2	2
		2002	2	0	-2	0
		2003	0	-1	1	0
		2004	-1	1	0	0
		2005	2	-2	0	0
		2006	2	0	-2	0
		2007	-1	1	-1	-1
		2008	2	-1	-1	0
		2009	1	-1	0	0
		Total	7	-5	0	2
End research period		31-Dec-09	23	18	4	45
			51.1%	40.0%	8.9%	

Source: Proprietary Fund Governance Database

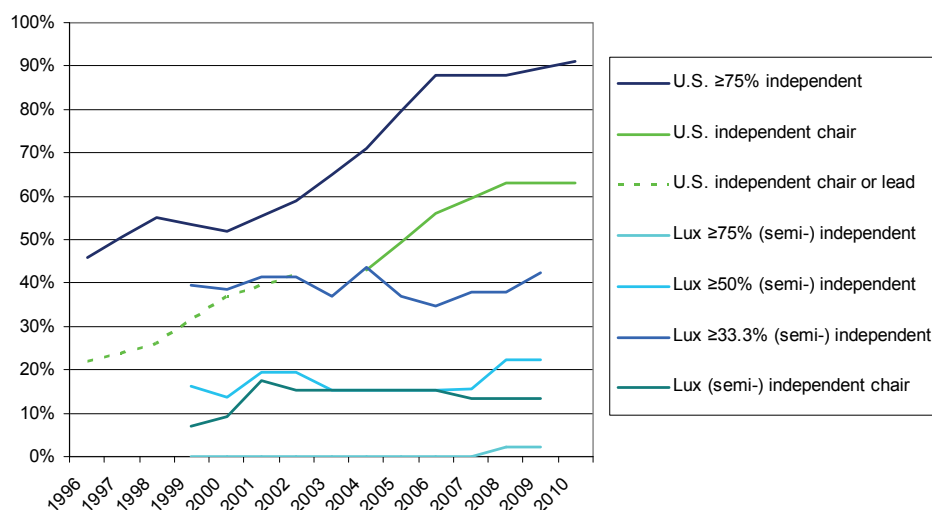
## 4.5 Cultural differences

### *Comparing Luxembourg and U.S.*

Figure 4.11 compares the independence of boards in Luxembourg and the U.S. For the U.S., the chart shows the percentage of fund ranges that have independent chairmen and those that have 75% or more of their board seats held by independent directors. For Luxembourg, a less strict definition of independence is used, combining the independent and the semi-independent categories<sup>94</sup>. In addition to the threshold of 75%,

<sup>94</sup> Note that the definition for independence used in this dissertation for the sample of Luxembourg umbrellas is not exactly the same as the definition used in the U.S.

lower thresholds of 50% and 33.3% were added to be able to make a meaningful comparison.



**Figure 4.11:** Development of board independence in the U.S. and Luxembourg

Source:

- Luxembourg funds: Proprietary Fund Governance Database.

- U.S. funds: ICI (2011), which is based on a bi-annual survey done in the period from 1996 (with 5,191 funds participating) until 2010 (with 7,756 funds participating).

In the U.S., the percentage of ranges with more than 75% independent directors has increased from 46% in 1996 to 91% in 2010. The percentage with independent chairmen was 63% in 2010, whereas in 1996 only 22% of the fund ranges had an independent chairman or lead director<sup>95</sup>. The trend towards more independence in the U.S. reflects both the development of best practice and regulatory change. Notable examples are the 1999 ICI<sup>96</sup> recommendations of a two-thirds independent majority and the independent lead director, and the 2001 regulations requiring funds benefitting from certain exemptive rules to have a majority of independent directors. On the basis of the 1940 Act, funds are required to have at least 40% independent directors. In 2004, the SEC intended to increase the minimum percentage of independent directors to 75% and to require an independent chair, but this rule change did not hold up in court. Despite the fact that this higher minimum is not a legal or regulatory requirement, many fund ranges seemed to have followed it nevertheless, either as an implicit best practice or anticipating stricter regulations.

For Luxembourg, there is only one umbrella in the sample (2%) since 2008 with more than 75% (semi-) independent board members. The percentage of umbrellas

<sup>95</sup> Before 2004, ICI did not make the distinction between independent chairmen and independent lead directors (a director designated as a *primus inter pares* of the independent directors, not formally having the position of the chair), which is represented by the dotted part of the line.

<sup>96</sup> Please refer to section 2.3.1 for further details.



with more than one-third and more than half (semi-) independent board members has increased in the research period from 40% to 42% and from 16% to 22%, respectively. This finding reflects the development mentioned earlier in the section, in particular that while the percentage of boards with any (semi-) independent members has decreased, boards that have any (semi-) independent members have a higher percentage of (semi-) independent board members than earlier in the research period. After an initial increase from 7% to 17% at the end of 2001, the percentage of umbrellas with an independent chairman had dropped back to 13% by the end of 2009.

#### *Differences in Luxembourg*

Independent governance is much more part of the Anglo-Saxon culture and regulatory system than that of continental Europe. Table 4.4 explores whether the Anglo-Saxon promoters have exported the governance practices of their home markets to their Luxembourg fund range.

**Table 4.4:** Governance characteristics by promoter origin (as per 31 December 2009)

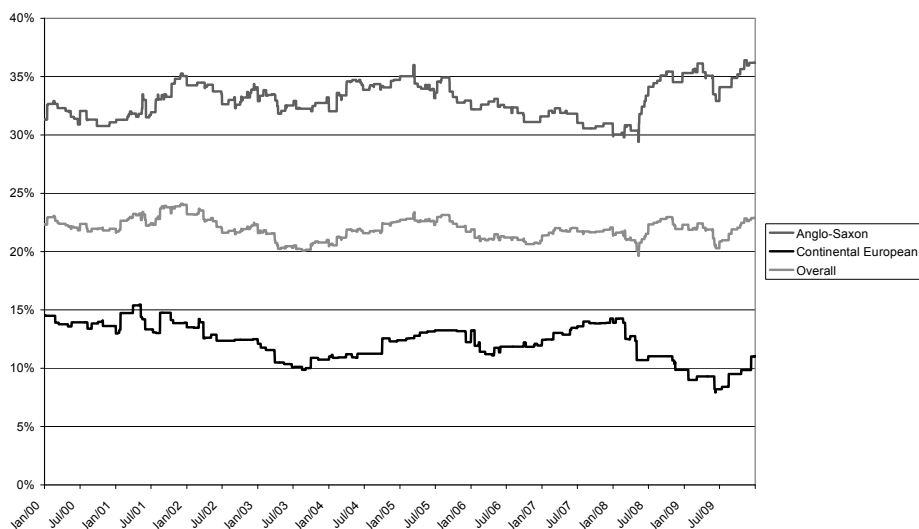
Origin of promoter	Number of umbrellas	Number of umbrellas with (semi-) independent board members	Number of umbrellas with (semi-) independent majority	Number of umbrellas with (semi-) independent chairman	Development of percentage of (semi-) independent board members <sup>1</sup>	
					Increase	Decrease
All	45	22 (49%)	5 (11%)	6 (13%)	16 (36%)	9 (20%)
Continental European	23	5 (22%)	1 (4%)	1 (1%)	3 (13%)	5 (22%)
Anglo-Saxon	22	17 (77%)	4 (18%)	5 (5%)	13 (59%)	4 (18%)

1. Compares the composition of the board of each umbrella at the end of the research period to the composition at the moment the umbrella entered the sample.

The table shows that, indeed, the governance characteristics of boards are different depending on the origin of the fund promoter. Of the 22 Anglo-Saxon (U.S., U.K. and South-African) promoters, 17 have (semi-) independent board members on their boards, whereas of the 23 continental European promoters, only five have (semi-) independent board members. Of the Anglo-Saxon promoters, five have an independent chairman, while of the continental European promoters, only one has an independent chairman. A (semi-) independent majority is more common among Anglo-Saxon promoters as well. Out of the five boards that have a (semi-) independent majority, four are Anglo-Saxon and one is continental European.

The final two columns show that mainly the Anglo-Saxon fund promoters have developed towards more independence. Comparing the percentage of (semi-) independent board members as per 31 December 2009 to that percentage at the moment a promoter entered the sample, 16 boards have increased this percentage and nine boards have decreased this percentage. This finding implies that for 20 boards, this percentage was unchanged. Among the Anglo-Saxon promoters, there were 13 where the percentage of (semi-) independent board members increased and four where it decreased. Among the continental European promoters, those with a decrease outnumbered those with an increase. Figure 4.12 provides a further confirmation of this

development. The chart compares the development of the average percentage of (semi-) independent board members for the whole sample to the development of this percentage in the sub-samples of Anglo-Saxon and continental European promoters. Among the former group, the percentage has increased over the research period, whereas among the latter group, the percentage has decreased.



**Figure 4.12:** Development of the average percentage of (semi-) independent board members  
Source: Proprietary Fund Governance Database

## 4.7 Conclusion

For the empirical part of this dissertation, a sample was formed that consists of the Luxembourg flagship umbrellas of the main cross-border fund promoters in Europe. Luxembourg is, by far, the largest domicile for funds offered on a cross-border basis and represents a large part of the European fund market. Of the funds domiciled in the European core countries, Luxembourg represents more than one-third, both in terms of the number of funds offered and in terms of Total Net Assets. The sample includes all cross-border fund promoters that have a Luxembourg flagship umbrella and that were among the top-50 cross-border promoters in any of the years in the 2003–2010 period. These flagship umbrellas have almost one-third of the Total Net Assets of Luxembourg as fund domicile, and almost half of the Total Net Assets of the promoters to which they belong. It should be noted that all funds under one umbrella have the same board, implying that all governance data gathered applies at this level. In order to empirically analyse relationships between governance characteristics on the one hand, and costs and performance on the other hand, funds were selected from some of the largest sectors within the equity asset classes, specifically Global equity, Pan-European equity, Euroland equity, U.S. equity, Japan equity and Emerging Markets equity.

Luxembourg as a fund domicile is the ideal testing ground for the relationship between fund governance and costs and performance. The market is unique in its width and depth, with a large number of promoters from different home countries operating in a single legal and regulatory environment and offering a wide variety of funds. This fact has the advantage that a relatively large, homogeneous sample of funds sharing the same legal and regulatory framework can be formed. Although independent directors are not mandatory in Luxembourg, independent directors are not exceptional. Of the 45 cross-border promoters included in the sample at the end of 2009, almost half (22) had at least one independent or semi-independent member on the board of their flagship umbrella. Out of the 285 board seats as of that same date, 52 (18.2%) were qualified as independent and 20 (7.0%) as semi-independent.

The question of whether umbrella boards have become more independent in the past decade has turned out to be less clear cut and the answer actually varies, depending on which definition is used for board independence. In the 2000-2009 period, there has been some polarisation visible in the sample of umbrellas:

- The percentage of directors in the sample who are (semi-) independent increased from 21.9% at the beginning to 25.3% at the end of the research period.
- The percentage of umbrellas with at least one (semi-) independent board member decreased in the same period from 62.8% to 48.9%. This finding indicates that there are more umbrellas that developed from having at least one (semi-) independent member to having dependent members only than vice-versa.

These seemingly contradictory developments can be explained by the fact that on boards with (semi-) independent board members, the proportion of these board member categories increased. The Anglo-Saxon promoters are responsible for this development. Among Anglo-Saxon promoters, it is more common to have boards with independent board members than among continental European promoters. Furthermore, they have developed towards more independence in the last decade, whereas the opposite is true for the continental European promoters.



## Chapter 5

# Governance and costs

*“...the supposedly independent boards of directors should be asking tougher questions, such as why management fees aren’t being reduced as some funds mushroom in size. The problem is that most directors are afraid if they raise these issues they’ll be shown the door from these cushy jobs that often pay tens of thousands of dollars per year for very little work.”<sup>97</sup>*

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<sup>97</sup> Eric Tyson, 1995, *Mutual funds for dummies* (IDG Books Worldwide, Foster City), p. 358.

## 5.1 Introduction

Chapter 5 is dedicated to the analysis of fund costs in relationship to governance characteristics. The goal is to establish whether governance characteristics explain variation in annual recurring costs. The main question of this chapter is whether or not fund investors benefit from more independent governance in the form of lower costs. The results from earlier empirical are inconsistent. Using data of U.S. open-end funds in 1992, Tufano and Sevick (1997) find evidence of a positive contribution of independent governance; funds with a larger proportion of independent directors charge lower fees. Similar results are found by Del Guercio et al. (2003) and Gemmill and Thomas (2006) for closed-end funds in the U.S. and the U.K., respectively.

For a sample of index funds, Adams et al. (2010) do not find a statistically significant relationship between the percentage of independent board members or the position of the chair and costs. Cremers et al. (2009) find no statistically relationship between the percentage of independent directors and costs for open-end funds in the 2002-2004 period. Analysing data of U.S. open-end funds over a longer period (1995-2004), Meschke (2007) also does not find a statistically significant relationship for the percentage of independent board members and costs for the whole period. However, splitting this period into three parts, he finds that, whereas a higher percentage of independents is associated with higher costs in the first and second part of the period, it is associated with lower costs in the third part. Chair independence is associated with lower costs both for the entire period and for the three sub-periods.

Ferris and Yan (2007b) perform a similar analysis for data of open-end funds concerning the year 2002, but fail to find that a higher percentage of independent directors or independent chairmen are associated with lower costs. They argue that this might be the case because in their sample of U.S. funds, there is little cross-sectional variation in the percentage of independent directors. In the U.S., most fund management companies have a supermajority of independent directors and their funds, following ICI's 1999 best practice recommendation of a two-third majority of independents. Already since the 1940 Act, U.S. funds are required to have at least 40% independent directors on their boards. In Luxembourg, it is not mandatory to have independent board members. In the sample of Luxembourg funds analysed in this chapter, that variation is larger, possibly leading to different results. In 2008, the final year of the cost analysis, approximately half of the promoters in the sample had dependent board members only on their fund boards, whereas the other half had at least one semi-independent or independent board member. In that year, the percentage of independent board members on the boards in the sample varied from 0% to 73.5%.

Tufano and Sevick (1997), Ferris and Yan (2007b) and Cremers et al. (2009) find that for open-end funds, larger boards are associated with higher costs. Results consistent with this finding are found for index funds by Adams et al. (2010) and for closed-end funds by Del Guercio et al. (2003), as well as Gemmill and Thomas (2006). In the case of Meschke (2007), however, the results for the board size variable are not statistically significant.

Tufano and Sevick (1997), Ferris and Yan (2007b) and Meschke (2007) all find some evidence that boards with a higher compensation relative to the number of funds and assets overseen are associated with higher fund costs, consistent with the notion that

high compensation results in a financial dependency and lesser alignment with investor interests. Board members investing in the funds they oversee could improve the alignment of their interests with those of investors. Indeed, Meschke (2007) finds evidence that higher investment in the funds overseen is related to lower costs, but in the case of Ferris and Yan (2007b), this relationship is not statistically significant. Cremers et al. (2009) find only for the category of non-independent directors that higher ownership is associated with lower fees. Their results for independent director ownership are not statistically significant. Tufano and Sevick (1997) could not include an ownership variable in their analysis because for U.S mutual funds, data on directors' ownership is only available starting in 2002. Unfortunately, it is not possible to include either compensation or ownership variables in this study of Luxembourg UCITS. In Luxembourg, it is not required to disclose information regarding directors' compensation or investments in the funds they oversee.

The study presented in this chapter uses the Total Expense Ratio (TER) and two of its components as cost measures at the fund level. As a robustness check, the analysis is repeated at the umbrella level, using the average Relative Cost Indicator (RCI). The RCI was developed specifically for this study as a measure for the overall pricing level of the funds in an umbrella. Section 5.2 provides details of the definitions for fund costs used in this chapter and lists the sources for the cost data used. Section 5.3 uses descriptive statistics to analyse the development of costs in the sample from 2000 until 2008. Section 5.4 analyses the remuneration of fund board members, which can be seen as the direct costs of boards. Section 5.5 is dedicated to the multiple regression analysis at the fund level. First, the model and variables are described, then the sample is explored with descriptive statistics and the model is formalised. Subsequently, the results of various regression model specifications are provided. Section 5.6 deals with the issue of endogeneity. Section 5.7 is dedicated to an analysis similar to those in sections 5.5 and 5.6, but at the umbrella, rather than fund, level. Section 5.8 provides two robustness checks of the results found in section 5.5. Section 5.9 presents the conclusion.

## 5.2 Cost definitions and data

### *Management and Distribution Fee*

The first component of the TER distinguished in this study is the Sum of Management Fee and Distribution Fee. Management Fee is the fee for managing the fund portfolio, including any investment advisory expenses. The management fee represents the amount of wealth transferred from the fund investor to the fund promoter. It is, therefore, the primary part of the total expenses where conflicts of interest can be expected between the promoter and the investor.

It should be noted that fund distributors are normally paid for their services in the form of a retrocession<sup>98</sup>. Retrocessions are paid from, and are therefore part of, the management fee paid by the investor. In the case where funds charge a separate, transparent Distribution Fee, this amount is added to the management fee for the

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<sup>98</sup> See section 1.6.

various analyses in this dissertation, in order to make a comparison between comparable items. This practice is in line with Lipper (2009b, p. 18), which comments:

“that outside the US it is not normal practice for the promoter to disclose the distribution fees that they pay to introducers (e.g. financial advisers or intermediaries). Typically the promoter will rebate part of the management fee to introducers, but will negotiate this on a case by case basis. Distribution fees are not uniform, even within one fund. Nor are these payments in the public domain, not even to those invested in the fund.

US promoters, however, have led moves towards transparency in this area by showing the distribution fee that is paid automatically to introducers separately from the management fee, in respect of a specific fund/share class.

This transparent type of fee is equivalent to a 12b-1 type fee on US-domiciled funds. Management fee comparisons need to include distribution fees in order to make like-with-like comparisons with funds that charge an untransparent distribution fee from the management fee. We therefore recommend wherever ‘transparent’ distribution fees are paid that these are considered alongside the management fee.”

### *Other Costs*

The second component of the TER distinguished in this study is that of Other Costs, which includes costs for administration, consisting of valuations and accounting, as well as transfer agency and shareholder service, custody, including depositary and trustee, audit and other expenses. Other Costs is an area where conflicts of interest might be subtler than with management fees. Since the Other Costs category includes custody, fund accounting and transfer agency (functions that are often provided by companies of the promoter group), this category could still represent a wealth transfer from the investors in the fund to the promoter group. Other Costs typically include costs that could be considered quasi-marketing costs, such as country registrations and start-up costs for new funds. Furthermore, Other Costs include the annual subscription tax applicable for Luxembourg funds (taxe d’abonnement). For the share classes in the sample, i.e., retail shares of equity funds, the rate is five basis points per annum<sup>99</sup>.

### *Total Expense Ratio*

The Total Expense Ratio (TER) is the total of all ongoing expenses, expressed as a percentage of the average net assets. The  $TER\%_{i,t}$  of fund  $i$  in period  $t$  can be calculated as follows:

$$TER\%_{i,t} = Mgt\%_{i,t} + Distr\%_{i,t} + Other\%_{i,t} \quad (5.1)$$

where:

$Mgt\%_{i,t}$  denotes the Management Fee percentage, as stated in the fund’s prospectus and annual accounts.

<sup>99</sup> The “taxe d’abonnement” changed from 6 to 5 basis points as per 1 January 2002.



$$Distr\%_{i,t} = Distr_{i,t} / Avg\ Net\ Assets_{i,t} \quad (5.2)$$

$$Other\%_{i,t} = Other_{i,t} / Avg\ Net\ Assets_{i,t} \quad (5.3)$$

$Distr\%_{i,t}$  and  $Other\%_{i,t}$  denote the Distribution Fee percentage and Other Costs percentage, calculated using the Distribution Fee ( $Distr_{i,t}$ ) and Other Costs amounts ( $Other_{i,t}$ ) from the fund's annual accounts and the Average Net Assets, as calculated according to Eq. (5.4).

$$Avg\ Net\ Assets_{i,t} = Mgt_{i,t} / Mgt\%_{i,t} \quad (5.4)$$

With Eq. (5.4), the Management Fee amount ( $Mgt_{i,t}$ ) from the fund's annual accounts and the stated Management Fee percentage ( $Mgt\%_{i,t}$ ) are used to calculate the fund's average net assets<sup>100</sup>.

There are several types of costs associated with investing in funds that are not included in the TER:

- Performance fees, which in a certain period may or may not be charged, depending on performance achieved.
- Costs associated with transactions in the portfolio, such as brokerage commissions and stamp duties.
- Entry and exit charges, often referred to as subscription and redemption charges or front-end and back-end loads. In a fund's prospectus, a relatively high maximum subscription and redemption charge is usually set, within which each distributor can set the actual charge. These actual charges accrue to the distributor and differ significantly across channels (e.g., direct channel versus advisory channel), across distributors and across markets. Therefore, it is not possible to determine what subscription and redemption charges investors actually pay. In this dissertation, the focus is on the influence of the board of directors on costs. Although the directors, in theory, have influence on the maximum charges set in the prospectus, it is the distributor who determines the actual charges within this maximum. The impact of the entry and exit charges on the longer-term performance of the investor depends on the investor's holding period in the fund.

The TER as defined above is comparable to the expense ratio or annual operating expenses used in U.S. fund studies and is substantially the same as the Ongoing Charges Figure as defined by CESR (2010), including<sup>101</sup> and excluding<sup>102</sup> the same categories of

<sup>100</sup> This method to calculate a fund's Average Net Assets follows the Lipper methodology (see Lipper Fitzrovia, 2007). For example, in the case that a fund has a management fee of 1.5% and the management fees charged in a financial statement for a one-year period is EUR 1.5 million, the average net assets over the accounting period are exactly EUR 100 million. This calculation method of the Average Net Assets has the advantage that it is not dependent on how frequently the NAV is calculated.

<sup>101</sup> CESR (2010, p. 4): "The following list is indicative but not exhaustive of the types of ongoing charge that, if they are deducted from the assets of a UCITS, shall be taken into account in the amount to be disclosed:

(a) all payments to the following persons, including any person to whom they have delegated any function:  
- the management company of the UCITS

costs. The Ongoing Charges Figure is a mandatory element of the Key Investor Information Document (KIID) under UCITS IV. In the remainder of this chapter, the TER is used as the primary cost measure, since it is the most comprehensive of the three measures used. Several analyses are also performed on the other two cost measures, the Sum of Management and Distribution Fees and the Other Costs.

### *Relative Cost Indicator*

The pricing strategy, i.e., the setting of management fees and other fees, is often determined by the fund promoter at umbrella or fund range level, not per individual fund. For this reason, the analysis of the relationship between governance characteristics, which are also umbrella and not fund specific, and costs is done at the individual fund level, as well as at the umbrella level. The Relative Cost Indicator was developed for this purpose, as a measure for the overall level of fund costs in an umbrella, relative to competitors. The Relative Cost Indicator expresses the cost of a fund as the distance in standard deviations from the mean of the costs of funds in the same sector. The Relative Cost Indicator of a certain umbrella is the average of the RCI of all funds in the sample belonging to that umbrella.

The Relative Cost Indicator for fund  $i$  in period  $t$  can be calculated as follows:

$$RCI_{i,t} = (TER\%_{i,t} - TER\%_{s,t}) / SD\%_{s,t} \quad (5.5)$$

where:

$TER\%_{s,t}$  is the average cost level of funds in the same sector

$SD\%_{s,t}$  is the standard deviation of costs of funds in the same sector

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- directors of the UCITS if an investment company

- the depositary

- the custodian(s)

- any investment adviser;

(b) all payments to any person providing outsourced services to any of the above, including:

- providers of valuation and fund accounting services

- shareholder service providers, such as the transfer agent and broker dealers that are record owners of the UCITS' shares and provide sub-accounting services to the beneficial owners of those shares;

(c) registration fees, regulatory fees and similar charges;

(d) audit fees;

(e) payments to legal and professional advisers;

(f) any costs of distribution."

<sup>102</sup> CESR (2010, p. 4-5): "The following charges and payments shall not form part of the amount to be disclosed as ongoing charges in the KID:

(a) entry / exit charges or commissions, or any other amount paid directly by the investor or deducted from a payment received from or due to the investor;

(b) a performance-related fee payable to the management company or any investment adviser;

(c) interest on borrowing;

(d) payments to third parties to meet costs necessarily incurred in connection with the acquisition or disposal of any asset for the UCITS' portfolio, whether those costs are explicit (e.g. brokerage charges, taxes and linked charges) or implicit (e.g. costs of dealing in fixed interest securities, market impact costs);

(e) payments incurred for the holding of financial derivative instruments (e.g. margin calls);

(f) the value of goods or services received by the management company or any connected person in exchange for placing or dealing orders (soft commissions or any similar arrangement)."

Relative Cost Indicator for umbrella  $u$  in period  $t$  is a measure for the relative cost level of funds in that umbrella and is calculated as follows:

Relative Cost Indicator for umbrella  $u$  in period  $t$ :

$$RCI_{u,t} = \sum_{i=1}^{n_u} RCI_{i,t} / n_u \quad (5.6)$$

where:

$n_u$  = number of funds in umbrella  $u$  included in the sample

Because funds with a performance fee might have a lower TER, the Relative Cost Indicator is calculated excluding funds that had a performance fee schedule in place in the specific period.

### *Data*

The data for fund costs was received from Lipper, the leading provider of investment fund fees and expenses data in Europe, specifically for the analysis in this dissertation. Using this data source, rather than collecting TER data from the fund promoters or calculating TERs using data from the funds' annual reports, has three main advantages:

- Lipper is independent from the promoter groups and is a source for cost data that is well accepted in the industry.
- Lipper calculates the TERs and its components in a consistent manner through time and across fund promoters, which allows comparisons between funds of different fund promoters and at different moments in time. This would not be the case if the data were collected from the fund promoters, as these would likely use different definitions. Lipper does not rely on TERs gathered from the fund promoters. It calculates TERs using data from the funds' published financial statements and accounts, using all fee and expense items.
- Funds with multiple share classes do not usually disclose expenses at share class level in their financial statements. Lipper calculates expenses at share class level using additional data provided by the fund promoters, while still being able to reconcile the figures to the fund level expenses in the financial statements, thus ensuring accuracy.

Cost data from Lipper always concerns a fund's full financial year or the first half thereof. Only data for full financial years was used for this study. Lipper calculates cost data only if a fund in a certain financial year has been in existence for at least 90 days.

There are several funds in the sample that changed sector during the research period and, as a result, either entered into or dropped from the sample. An example is Axa World Funds-British Equities, which changed from a U.K. into a Pan-European equity fund (changing its name to Axa World Funds-Talents Europe), thus entering the sample. In such cases, the cost data for the financial year in which the change occurred was not included in the analysis because it would have contained data for the period in which the fund was included in a sector not included in the sample.

Not all financial years of the funds in the sample are the same. In fact, all month-ends are represented in the sample as end-dates of the funds' financial years. Less than half of the umbrellas in the sample use the calendar year as their financial year. A disadvantage of comparing costs of funds with different financial years is that it could bring a timing bias into the results, in the case of an upward or downward trend of cost levels in the period of analysis. When comparing costs of funds in a period ending in a certain year, it might only seem that a fund with a financial year ending in December is more expensive than a fund with a January year-end, simply because a fee increase for the latter fund in the same calendar year is not yet included in the data. For this reason, the cost data for all funds is recalculated to calendar years, by time-weighting the cost data of subsequent years<sup>103</sup>. A fund is included in the analysis for a certain calendar year when there is at least 90 days of data for that year.

For certain umbrellas, Lipper did not treat Distribution Fees consistently through time, in some years including Distribution Fees as part of Other Costs. This inconsistency has been corrected, based on information regarding fund costs included in the fund umbrellas' annual reports.

There are two promoters that have a so-called All-In Fee. In those cases, the TER cannot be broken down into Management and Distribution Fees on the one hand, and Other Costs, on the other hand. These funds are only included in the sample for the analyses of TER data, not for analyses of its two components.

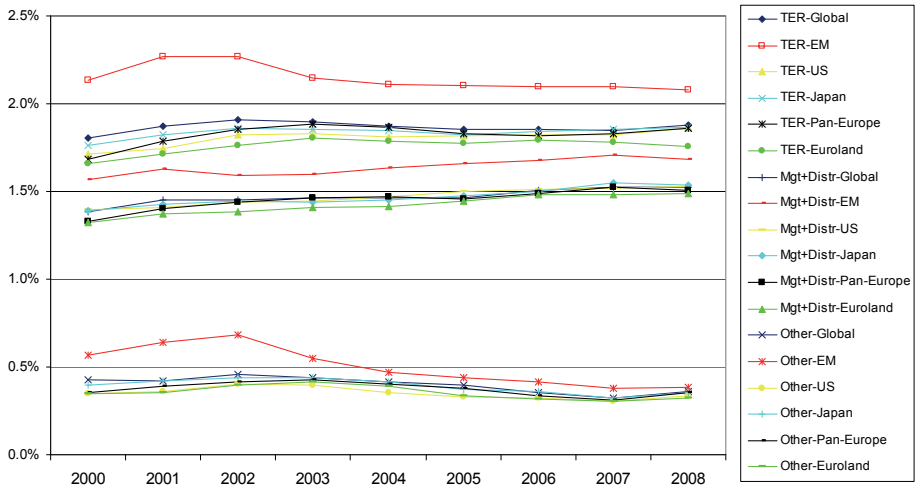
### 5.3 Development of costs

Figure 5.1 displays the development of fund costs in the sample in the 2000–2008 research period. The chart shows the simple average of the Sum of Management and Distribution Fee, the Other Costs and the TER, distinguished separately for the six sectors (Global equity, U.S. equity, Japan equity, Pan-European equity, Euroland equity and Emerging Markets equity). Excluded from the sample for the chart are funds that had a performance fee schedule in place in the specific calendar year. Funds that have a performance fee are a minority in the sample. Such funds might have different regular fees and could therefore distort the averages. Figures for 2009 are not included because at the time of analysis, no figures for the full year 2009 were available yet for the majority of funds.

For all fund sectors in the sample, the mean of the Sum of Management and Distribution Fees has increased in the 2000–2008 period. For the developed markets sectors, the average Management and Distribution Fee increased from below 1.4% for all sectors to around 1.5% in 2008. In 2008, the developed markets sector with the highest average Management and Distribution Fee was Japan equity, with an average of 1.54%, and the lowest was Euroland equity, with an average of 1.49%. Whereas for the developed markets sectors, the average Sum of Management and Distribution Fees developed within a small margin from each other, the average Management and Dis-

<sup>103</sup> In the case where a fund has a March-end financial year and 0.25% of other costs in the first financial year and 0.30% of other costs in the second financial year, the other costs for the calendar year are estimated at  $90/365 * 0.25\% + 275/365 * 0.30\%$ .

tribution Fee for Emerging Markets equity was consistently higher. For the Emerging Markets sector, the average Management and Distribution Fee increased from 1.57% in 2000 to 1.69% in 2008. Except for Pan-European equity, all sectors saw a decrease of the Other Costs in the period from 2000 until 2008. Only in the case of Emerging Markets equity, the TER decreased. In all other sectors, TERs increased in the 2000-2008 period.



**Figure 5.1:** Historical fee trend in sample

Source: Lipper

These developments are in line with Lipper (2008), a study into the development of European fund costs in the 1994-2007 period. Lipper (2008) finds that the Sum of Management and Distribution Fees for retail share classes of cross-border equity funds has increased steadily throughout the period mentioned, from approximately 1.3% to almost 1.6% on average. Unlike in the sample for this study, Lipper uses a sample of funds domiciled in Luxembourg and Ireland for the cross-border segment. Furthermore, the equity asset class is not broken down into sectors, as it is in this study.

According to Lipper, two factors have contributed to the steady increase in Management Fees: the increase in Management Fees of existing funds and the launch of new funds with fees at or above the average fee level at the time. The latter is partly the result of new funds launched in more specialised and exotic funds sectors, for which higher Management Fees are charged. Fund promoters generally explain the increase in Management Fees by the rising cost of distribution (Lipper, 2008, p. 4-5). The same study finds that Management Fees are not lower for larger funds but TERs are. This finding indicates that economies of scale in the area of Other Costs are shared with investors of funds, not in the area of management fees.

After an initial decline in the TER in the period until around 2000, despite the increase in Management Fees, TERs have moved upwards again since then. This increase can be explained by the combination of a drop in fund assets, due to the fall of the equity markets, and the continued upward trend in Management Fees. Increasingly, fund promoters actively manage their TERs, for example by introducing TER caps, Fixed

Service Fees or All-In Fees<sup>104</sup>. Active TER management has contributed to the decline in the simple average TER in the final years of the research period (Lipper, 2008, p. 5).

Table 5.1 provides further details of the average costs by sector in the sample used for this study for the years 2000 and 2008. It also provides the differences between the values for these two years and the t-values for the differences. When the difference is statistically significant at the level of 5%, it is highlighted in dark grey. For differences that are significant at the 10%-level, a lighter shade of grey is used. Please note that the number of observations for Management and Distribution Fee, as well as Other Costs on the one hand, and TERs on the other hand, are not equal. This discrepancy is caused by two fund promoters having an All-In fee structure. For these cases, only the TERs are included in the analysis, not its components.

**Table 5.1:** Comparison of the average fund costs by sector in 2000 and in 2008

Sector	Mean TER% <sub>1</sub>	n <sub>1</sub>	Mean TER% <sub>2</sub>	n <sub>2</sub>	Delta <sub>1,2</sub>	t
Global	1.802%	50	1.876%	70	0.073%	1.54
Emerging Markets	2.133%	25	2.079%	31	-0.053%	-0.58
US	1.711%	51	1.861%	92	0.151%	3.20
Japan	1.762%	40	1.866%	47	0.105%	1.59
Pan-Europe	1.680%	50	1.859%	88	0.178%	3.61
Euroland	1.658%	26	1.759%	31	0.100%	1.60
Mean						
Sector	Mean Mgt%+Distr% <sub>1</sub>	n <sub>1</sub>	Mean Mgt%+Distr% <sub>2</sub>	n <sub>2</sub>	Delta <sub>1,2</sub>	t
Global	1.383%	49	1.526%	67	0.143%	3.65
Emerging Markets	1.566%	25	1.686%	30	0.120%	1.85
US	1.399%	46	1.529%	89	0.130%	3.45
Japan	1.391%	37	1.537%	44	0.146%	2.85
Pan-Europe	1.330%	49	1.507%	84	0.177%	4.50
Euroland	1.324%	25	1.487%	24	0.163%	3.02
Sector	Mean Other% <sub>1</sub>	n <sub>1</sub>	Mean Other% <sub>2</sub>	n <sub>2</sub>	Delta <sub>1,2</sub>	t
Global	0.425%	49	0.357%	67	-0.067%	-1.91
Emerging Markets	0.567%	25	0.383%	30	-0.184%	-2.97
US	0.349%	48	0.337%	89	-0.013%	-0.41
Japan	0.394%	37	0.351%	44	-0.043%	-0.95
Pan-Europe	0.352%	49	0.356%	84	0.004%	0.11
Euroland	0.350%	25	0.323%	24	-0.027%	-0.75

■ Significant at 5% level. ■ Significant at 10% level

Source: Lipper

For the Sum of Management and Distribution Fee, the increase in the 2000–2008 period is statistically significant at the 5%-level for all developed markets sectors. For Emerging Markets equity, it is significant at the 10%-level only. The decrease in Other Costs seen for all sectors is statistically significant at the 5%-level only in the case of Emerging Markets and is significant at the level of 10% for Global equity. For all developed market sectors, the increase in the Sum of Management and Distribution Fee

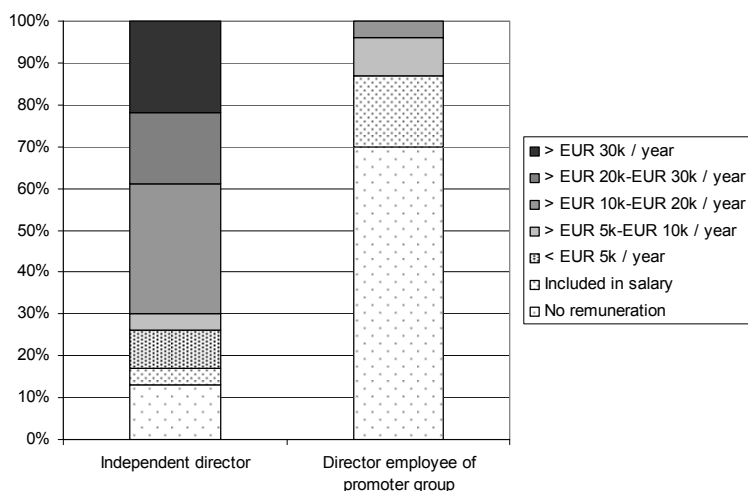
<sup>104</sup> With Fixed Service Fees, the Other Costs are fixed in basis points of the assets, so that they do not fluctuate with actual expenses or assets under management. In case of an All-In Fees, there is one basis point fee that covers management, distribution and other costs.

offsets the decrease in Other Costs, resulting in an increase in the TERs. For the U.S. equity and Pan-European equity sectors, the TER increase is statistically significant, in both cases at the level of 5%. Emerging Markets equity is the only sector where the decrease in Other Costs offsets the increase in the Management and Distribution Fee, resulting in a decrease in the TER. However, this decrease is not statistically significant.

## 5.4 Direct costs of independent governance

Before analysing the relationship between fund governance and fund costs in the subsequent sections of this chapter, this section explores the direct costs of board members. This is relevant because if the remuneration of board members is material in relationship to the funds' assets, then these direct costs influence the TERs. In that case, the direct costs of board members could be such that they offset any benefit they might have for the investors in the form of setting lower fees or containing costs.

In Luxembourg, it is not mandatory for funds to disclose in the annual report the remuneration for directors in their role on the umbrella's board. However, some funds do disclose remuneration data voluntarily. The overview in table 5.2 was constructed on the basis of data included in annual reports. In all cases where board remuneration data was available, the fees were only paid to directors in the category of semi-independent or independent directors. This finding is line with the outcome of a PwC survey among 31 board members of Luxembourg UCITS, the results of which are shown in figure 5.2. In general, directors who are employees of the promoter group (i.e., dependent board members) receive no remuneration or it is included in their salary. Lawyers who are board members usually charge their hourly fees rather than receiving regular board compensation (PwC, 2011, p. 8). As shown in figure 5.2, 39% of UCITS independent directors earn more than EUR 20,000, 31% earn between EUR 10,000 and EUR 20,000 and 30% earn EUR 10,000 or less.



**Figure 5.2:** UCITS Board member remuneration

Source: PwC (2011, p. 9)

Table 5.2 provides details about the remuneration of independent directors for the umbrellas in the sample that included the board remuneration in the annual reports. The directors on these boards earned more than in the survey, with the board members of six out of seven umbrellas earning above EUR 20,000 in both the financial year ending 2008 and that ending in 2009.

**Table 5.2:** Board member remuneration

Promoter	Remuneration per (semi-) independent director (in EUR)		Total director remuneration for umbrella (in EUR)		Total director remuneration for umbrella (in bp of average assets)	
	2008	2009	2008	2009	2008	2009
BlackRock <sup>1</sup>	25,000	37,500	50,000	150,000	0.009	0.030
Fidelity	45,078	44,000	270,470	264,000	0.044	0.058
Goldman Sachs <sup>2</sup>	22,506	69,905	67,519	209,714	0.055	0.200
Henderson	38,316	21,157	38,316	21,157	0.075	0.061
JPMorgan	21,318	22,786	106,592	113,931	0.021	0.037
Lloyds TSB	15,692	13,553	31,384	27,106	0.593	0.598
Morgan Stanley	35,000	35,000	70,000	70,000	0.056	0.070

Source: Annual reports (2008 and 2009) of the umbrellas in the sample.

1. BlackRock annual reports mention that the director fees stated are net of tax. Tax rate (20% of gross amount) is added. In all other cases, the amounts stated in the Annual Reports are assumed to be gross amounts.

2. In the case of Goldman Sachs, the independent board members serve on more than one SICAV with an agreed upon remuneration for their total package of activities. Costs are allocated to SICAVs based on the number of funds and assets under management. This explains significant jumps in remuneration for one SICAV from one year to the next.

For none of the umbrellas in table 5.2 was the board remuneration more than one basis point of the Total Net Assets of the umbrella. Actually, for all but one of the umbrellas was the total remuneration less than one-tenth of a basis point of the Total Net Assets of the umbrella. From this finding, combined with the PwC survey data (PwC, 2011, p. 8), it can be concluded that the direct impact of the board member remuneration on the total fund costs is not material in relationship to the assets managed.

## 5.5 Multiple regression analysis – Individual fund level

This section is dedicated to the multiple regression analysis at the level of the individual funds in the sample. The purpose of this analysis is to investigate the relationship between fund costs as a dependent variable and the funds' governance characteristics as explanatory variables, while correcting for possible other influences, for example that of affiliate distribution and fund size, with several control variables.

Three different definitions of costs ( $C\%_{i,t}$ ) at fund level are used as dependent variables. The primary measure for costs is the Total Expense Ratio ( $TER\%$ ). The analysis is also performed with the two components of the  $TER\%$ : the Sum of Management and Distribution Fee ( $Mgt\%+Distr\%$ ) and the Other Costs ( $Other\%$ ). These analyses serve as robustness checks and clarify which of the two  $TER$  components is the driving force behind the relationships found between the  $TER\%$  and different explanatory variables.



### *Governance variables*

In the regression analysis, various governance characteristics are used as explanatory variables. Formal definitions of the governance variables are provided in table 5.3. The first governance variable is:

- **Size of the board of directors.** This variable is measured as the average total number of board members in a calendar year. Larger boards may be less effective than smaller boards in monitoring and decision-making, potentially suffering from coordination problems and a higher risk of *free riding*.

The hypothesis being tested in this dissertation is that more independent boards are more effective from the viewpoint of the investor, in the sense that a higher degree of independence is associated with lower costs and/or better performance. Several measures of independence are used:

- **Percentage of independent board members.** Independent board members are not tied to the fund promoter or any of its service providers as an employee or partner. The hypothesis being tested is that this category of directors should be the most effective in pursuing the interests of the investors because they should be the least affected by conflicts of interest and therefore, the most inclined to put the interests of the investors first.
- **Percentage of semi-independent board members.** Semi-independent board members are not employed by the fund promoter, but because they are either former employees of the promoter or employees of a service provider, they still have an economic link to and/or dependency on the fund promoter. When it matters, their loyalty might well be with the fund promoter, rather than with the investors. Nevertheless, given that they are not employed by the fund promoter, there is no hierarchical relationship with the management thereof, which can still result in a more independent position on the board than that of dependent board members.
- **Chair (dummy).** Dummy variable taking the value of one when the position of chairman is held by an independent or semi-independent director for at least half of the period. The chairman can be the most influential board member, for example, determining the meeting agendas and having the deciding vote when votes are tied between the other board members. Boards with a chairman who is not employed by the fund promoter might well be able to take a more independent stance towards the fund promoter, irrespective of the overall percentage of independent or semi-independent board members on the board.
- **Independence of the depositary (dummy).** Dummy variable taking the value of one when the depositary does not belong to the promoter group for at least half of the period under analysis. In that case, the depositary can be considered independent from the fund promoter. Based on the UCITS Directive and Luxembourg fund regulations, the depositary has an oversight role. The depositary might be more effective in exercising its oversight function when it does not have an intra-group relationship with the fund promoter. In its function as custodian of the fund assets, the depositary is also a service provider to the fund. Having a service provider from the same group can give rise to additional conflicts of interest, in particular with regard to the pricing of these services.

**Table 5.3:** Definitions of governance variables (applying at the level of the umbrella  $u$ )

Variable	Description	Definition (source)
$T_{u,t}$	Average total number of board members of umbrella $u$ in calendar year $t$	Average based on daily observations for the number of board members. (source: PFGD <sup>105</sup> )
$I\%_{u,t}$	Percentage of independent board members of umbrella $u$ in calendar year $t$	$I\%_{u,t} = I_{u,t} / T_{u,t}$ where: $I_{u,t}$ is the average number of independent board members in calendar year $t$ , based on daily observations. (source: PFGD)
$S\%_{u,t}$	Percentage of semi-independent board members of umbrella $u$ in calendar year $t$	$S\%_{u,t} = S_{u,t} / T_{u,t}$ where: $S_{u,t}$ is the average number of semi-independent board members in calendar year $t$ , based on daily observations. (source: PFGD)
$CH_{u,t}$	Independency status of the chair of the board of umbrella $u$ in calendar year $t$ (dummy)	Dummy variable equals 1 when the chair is taken by either an independent or semi-independent board member for more than half the year. (source: PFGD)
$DEP_{u,t}$	Independency status of the depositary of umbrella $u$ in calendar year $t$ (dummy)	Dummy variable equals 1 when the depositary is independent from the promoter, i.e., not belonging to the promoter group, for more than half the year. (source: PFGD)
$TEN3\%_{u,t}$	Board tenure for umbrella $u$ in calendar year $t$	$TEN3\%_{u,t} = TEN3_{u,T} / T_{u,T}$ where: $TEN3_{u,T}$ is the number of board members with at least 3 years experience in the position on the board of umbrella $u$ on the final day of calendar year $t$ . $T_{u,T}$ is total number of board members on the final day of calendar year $t$ . (source: PFGD)
$LEG_{u,t}$	Legal form of the umbrella (dummy)	Dummy variable equals 1 if in calendar year $t$ the umbrella is an FCP or equals 0 if it is an SICAV. (source: annual reports)

In addition to board size and the various measures for independence, the board's tenure and the legal form of the umbrella are used as governance variables in the regression analysis:

- **Board tenure.** This variable is a measure for board member experience. Board members with more experience could be more effective in their oversight role. However, independent board members might lose their ability to act independently from the fund promoter when their tenure is longer. Because board data was collected for the 2000–2009 period, it is not known on which exact date directors in the sample on 1 January 2000 were appointed. It could, for example, be one day before 1 January 2000 or 10 years prior. For this reason, it is not possible to calculate the tenure for each director, nor the average tenure for each umbrella board. As an alternative, board tenure is measured on the final day of a calendar year as the percentage of board members with at least three years experience in their po-

<sup>105</sup> Proprietary Fund Governance Database.

sition on the board. This implies that, on the basis of the available data, this measure can be calculated as of 31 December 2002.

- **Legal form of the umbrella** (dummy). The umbrellas in the sample either have the legal form of an SICAV or an FCP. In the case of an FCP, which is a contractual vehicle, the fund promoter has stricter control over the umbrella. The board of the management company is, at the same time, the board of the umbrella. Therefore, the board of the umbrella does not form an additional layer of oversight. Additionally, contrary to the SICAV, in the case of the FCP, there is no shareholders meeting where the investors can elect members of the board or vote on other matters affecting the fund. This difference might imply that there is a greater risk of conflict of interest in the case of an FCP. A dummy variable of one is included in the regression analysis if the umbrella is an FCP. Only in one case during the research period was there a change in the legal form of a promoter's umbrella in the sample.

#### *Control variables*

In addition to the governance characteristics as explanatory variables, several control variables are included in the regression analysis. These control variables potentially affect the dependent variable. The function of the control variables is to remove their impact on the dependent variable so that the relationship between the explanatory variables (in this case, the governance characteristics) and the dependent variables (in this case, various measures for costs) can be analysed without interference. Formal definitions of the control variables are provided in table 5.4. The first set of control variables relates to the fee structure of the fund. The two variables for this category are:

- **Performance Fee** (dummy). Certain funds in the sample have a fee structure with a performance-related fee. Performance-related fees are not captured in the Total Expense Ratio. Because funds with a performance fee could have lower regular fees, a dummy variable is included in the analysis, distinguishing funds with and without performance fees. Whether or not a fund has a performance fee in place is determined on the basis of the fund prospectuses and annual reports. The dummy variable is one if a performance fee is in place for at least part of the period.
- **Fixed TER** (dummy). Increasingly, funds domiciled in Luxembourg have a fixed TER in basis points, either as a result of a so-called All-In Fee or a Fixed Service Fee. An All-In Fee is in place when the fund has one basis point fee covering all ongoing expenses. In the case of a Fixed Service Fee, the Management Fee and Other Costs are quoted separately, but both in basis points, still resulting in a fixed TER. The advantage for the investor of a fixed TER is that it is clear beforehand what will be the total level of costs in basis points. A disadvantage of such a fee structure is that it might result in higher costs for the investor. The fund promoter might build in a *fee cushion* as a risk premium and/or profit margin. Charging a risk premium is understandable because with a fixed TER, the promoter takes on the risks of increasing absolute costs and declining assets under management, resulting in higher relative costs. The fund prospectuses and annual reports were used to determine whether funds have a fixed TER fee structure. The dummy variable is one if a fixed TER is in place at least for part of the period.

**Table 5.4:** Definitions of control variables (applying at the level of the fund  $i$ , umbrella  $u$  or promoter  $p$ )

Variable	Description	Definition (source)
$PF_{i,t}$	Performance Fee (dummy)	Dummy variable equals 1 if for fund $i$ a performance fee is in place during (part of) calendar year $t$ . (source: prospectuses and annual reports)
$FIX_{i,t}$	Fixed TER (dummy)	Dummy variable equals 1 if for fund $i$ a Fixed Service Fee or All-In Fee is in place during (part of) calendar year $t$ . (source: prospectuses and annual reports)
$LTNA_{i,t}$	Fund scale	$LTNA_{i,t}$ is the natural logarithm of the average Total Net Assets of fund $i$ in calendar year $t$ . The average is calculated based on monthly values obtained by taking the average of the Total Net Assets in the fund at the beginning and at the end of the month. All figures are in millions of Euros. The monthly data is available only from the end of 2001. For 2001, fund scale is measured as the natural logarithm of the Total Net Assets at the end of December of that year. For 2000, the measure used is the natural logarithm of the Total Net Assets at the end of the financial year ending that year, as included in the fund's annual report. (source: Lipper FMI from end of 2001; for 2000 annual reports)
$LTNA_{u,t}$	Umbrella scale	Natural logarithm of Total Net Assets of umbrella $u$ in calendar year $t$ , taken at the end of the financial year ending in year $t$ . All figures are in millions of Euros. When the figure given in the annual report is in a different currency, it is transferred to Euros with the exchange rate on the same date. (source: annual reports)
$LTNA_{p,t}$	Promoter scale	Natural logarithm of Total Net Assets of the fund promoter $p$ in funds in Europe at the end of calendar year $t$ . All figures are in millions of Euros. This data is available from 2001. (source: Lipper FMI)
$EM_{i,t}$	Emerging Markets sector (dummy)	Dummy variable equals 1 if the fund sector of fund $i$ in calendar year $t$ is Emerging Markets equity and 0 if it is one of the developed markets (Global equity, Japan equity, North America equity, Pan-European equity and Euroland equity). The fund sector definition is based on Lipper (former Fitzrovia). (source: Lipper)
$LAGE_{i,t}$	Fund age	Natural logarithm of the age of fund $i$ in years at the end of calendar year $t$ . Age is calculated by subtracting the fund's inception date from the research date $t$ (end of calendar year $t$ ). (source: Lipper FMI)
$AD_{p,t}$	Affiliated distribution (dummy)	Dummy variable equals 1 if the promoter group has an affiliated distribution network in Europe, either banking or insurance. (source: own research)

The second set of control variables contains measures for scale. These measures capture possible economies of scale in the management of funds. There are three levels at which scale is measured for the analysis:

- **Fund level scale.** Several costs are specific for each fund. When these costs do not vary with fund assets under management, the costs in basis points declines with increasing assets. The variable included in the regression analysis is the natural logarithm of the average total net assets of each fund for the year of analysis.
- **Umbrella level scale.** All funds in the sample are part of a larger umbrella, together with other funds, forming one legal entity. Economies of scale could be driven by the size of the umbrella; for example, because service providers are generally appointed for the umbrella as a whole. More assets under management could then

imply more favourable deals with the service providers. Another advantage of an umbrella with more assets under management is that costs specific for the umbrella, such as the printing costs for prospectuses and annual reports, can be spread across more assets, lowering the relative cost burden. The variable included in the regression analysis is the natural logarithm of the total net assets of the umbrella for the year of analysis.

- **Promoter level scale.** Economies of scale could also play a role at a higher level of aggregation than the fund or the umbrella, specifically, the fund promoter as a whole. Larger fund promoters can, for example, leverage their portfolio management and research capabilities across a larger asset base. The measure used for the size of the fund promoter is the Total Net Assets of the promoter group in funds that are part of the European fund market. This measure is used because it is the best proxy for size available in a consistent way across promoters in the sample and over time. It should be noted that the data does not include assets under management of the same groups in regions other than Europe, nor does it include assets under management in other forms of asset management than funds, most notably institutional mandates. The variable included in the regression analysis is the natural logarithm of the total net assets at the end of the year of analysis.

The third category of control variables contains different product and promoter characteristics. The three characteristics distinguished for the analysis are:

- **Emerging Markets sector** (dummy). The cost level of funds in different fund sectors might be different. The analysis in section 5.3 showed that, in particular, costs for Emerging Markets equity are higher than the costs for developed markets funds. Thus, the distinction made here is between developed markets funds (funds investing in Global, Japan, North America, Pan-European or Euroland equity) and Emerging Markets equity. The fund sectors are based on the sector definition by Lipper Fitzrovia. The fund sector is captured in the analysis by assigning a dummy variable of one to funds investing in Emerging Markets equity.
- **Fund age.** Fund costs increased in the 2000–2008 research period. This might be the result of fee increases of existing funds, but also of a fund promoter strategy to launch new funds at a fee level higher than the average. New funds might also have the burden of start-up costs. On the other hand, newly launched funds might be subsidised by the fund promoter in order to help create a favourable track record. The fund age is determined by subtracting the inception date from the research date (last day of the analysis year). The inception date is obtained from Lipper FMI. The variable included in the regression analysis is the natural logarithm of the fund age in years.
- **Affiliated distribution** (dummy). Some of the promoters in the sample are part of larger financial groups, banks and/or insurance companies, with their own distribution networks in Europe. Fund promoters without an affiliated distribution network need to rely on direct and third party distribution<sup>106</sup>. An affiliated distribution network could be associated with lower costs of distribution. Promoters with an affiliated distribution network could have a different pricing strategy for their funds.

<sup>106</sup> Third part distribution is distribution via distribution channels owned by other companies.

The dummy variable takes the value of one when the promoter group has an affiliated distribution network in Europe. Whether or not a fund promoter belongs to a group with an affiliated distribution channel is determined based on own research.

#### *Variables not included*

The following variables were included in the regression analysis of one or more earlier studies, but are not included in this analysis:

- **Compensation and ownership.** (Independent) boards members with a high compensation could be more inclined to put the interest of the promoter first, rather than that of the investors. Board members investing in the funds they oversee could align the interests of board members and investors. It is not possible to include these variables in this analysis of Luxembourg funds because it is not required to disclose this information in this domicile.
- **Board concentration.** Several studies include variables measuring directors' span of oversight. A unitary board, where boards of the same composition oversee all funds in a fund management company's range, could be more effective. All funds in the Luxembourg UCITS sample for this study are set up as sub-funds in an umbrella structure, where the umbrella is a single legal entity. The board of directors of such an umbrella oversees all sub-funds in that entity so that at least for that part of the fund management company's product range, there is a unitary board by definition. The fund ranges of the promoters in the sample usually span across various legal entities in Luxembourg and other European fund domiciles. It was not feasible to collect governance data for these funds in order to determine the directors' span of oversight on the fund ranges of the promoters in the sample.
- **Past performance.** Some earlier studies of U.S. funds include a measure for past performance as a control variable in the regression analysis (e.g., Tufano and Sevvick, 1997; Meschke, 2007; Ferris and Yan, 2007b), whereas others do not (e.g., Kong and Tang, 2008; Adams et al., 2009). A reason for including a past performance variable is that U.S. boards set management fees per fund annually and are expected to take past performance explicitly into account. The results for this variable vary. Tufano and Sevvick (1997) find little to no evidence that fee differences are related to differences in past performance, whereas Meschke (2007) finds a positive relationship and Ferris and Yan (2007b) find a negative relationship. Because fees tend to be relatively stable, the causality is likely running in reverse in the case of a negative relationship: Boards do not set higher fees because of poor performance, but funds perform poorly – net of fees – because of the burden of high fees. In Luxembourg, boards do not set management fees annually and there is no explicit instruction or expectation that past performance is to be considered when setting fees. Lipper (2009c) shows that for funds in Europe, for the majority of promoters, fees are set at company level, not at individual fund level, and do not take individual fund performance into account. For fund-year combinations in the sample of this study where TER data and previous one-year performance is available, the correlation between TER and sector-adjusted performance<sup>107</sup> is -0.005. Because, economically, no influence of past performance on fee levels is expected

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<sup>107</sup> Defined in section 6.2.

and in order to avoid reverse causality influencing the coefficients of the governance variables, no past performance variable is included in the regression analysis. Furthermore, a disadvantage of including a past performance variable would be that it reduces the sample size, excluding an interesting category of funds, specifically, young funds that have not yet built up the required track record.

#### *Descriptive statistics of the sample*

Table 5.5 provides descriptive statistics of the funds in the sample for each of the nine years in the 2000–2008 research period. Panel a is for funds investing in developed markets. Panel b shows the results for funds investing in emerging markets. Funds for which not all variables for the regression analysis were available in a calendar year have been left out of the sample for that specific year. For all dummy variables and for each year in the research period, the mean value (in percentage terms) and sum are provided. The mean can be interpreted as the percentage of funds in the sample, for which the dummy variable is one, i.e., funds complying with the specific characteristic. The sum is the total number of funds with that characteristic. For the regular variables, the table displays the mean, maximum, minimum and standard deviation.

The development of the mean of the TER, Sum of Management and Distribution Fee and Other Costs in table 5.5 confirms the trends described in section 5.3. Noteworthy is the significant difference between the minimum and the maximum observation for these cost measures. In some years, the minimum Other Costs are below zero. This can be the case when promoters subsidise the cost level of a fund.

The mean number of board members fluctuated around seven. The lowest number of fund board members in the sample is three, the legal minimum. The largest board had, on average, 22.5 members in 2000. For the developed market funds, the mean percentage of independent board members at fund level has increased in the research period from 13.9% to 18.1%. The highest representation of independent board members on boards increased from 50.0% in 2000 to 73.5% in 2008. The minimum was 0% throughout the research period.

Of the percentage of semi-independent board members of developed market funds, the mean initially increased from 7.9% to 10.0%, but then fell back 7.3%. The percentage of funds in the sample with an independent chair increased both in the case of the developed and emerging markets funds. With regard to the percentage of funds with an independent depositary, the developments differed between the developed markets funds and the emerging markets funds, with a relative increase among the developed markets funds and a decrease among the emerging markets funds. There is also a deviating development with regard to the percentage of sub-funds of umbrellas with the legal form of an FCP, which is an increase for the developed markets funds and a decrease for the emerging markets funds. The experience of board members, measured as the percentage of board members with at least three years experience in their position on the board, increased in both subsets of the sample. The maximum of 100% and the minimum of 0% indicate that there are observations where all board members on a certain board have tenure of more than three years and observations where none of the board members has three-year tenure.

**Table 5.5:** Descriptive statistics of funds in the sample by calendar year  
**Panel a:** Funds investing in developed markets (EM=0)

Variable	Characteristic	2000	2001	2002	2003	2004	2005	2006	2007	2008
Number of funds	Total	220	232	280	292	313	332	374	396	340
<i>TER%</i> (in basis points)	Mean	172.5	179.5	185.0	185.7	183.8	183.4	184.2	184.1	187.0
	Maximum	282.5	319.2	281.7	296.7	343.5	307.3	284.5	260.1	286.9
	Minimum	97.1	117.1	124.5	126.3	125.1	109.6	79.6	83.4	108.8
	Standard deviation	31.9	32.7	29.7	29.0	25.0	24.3	24.3	23.3	25.3
<i>Mgt%+Distr%</i> (in basis points)	Mean	135.4	139.8	143.0	144.1	145.9	148.1	150.7	152.9	153.0
	Maximum	192.0	192.0	200.0	200.0	200.0	220.0	220.0	230.0	230.0
	Minimum	54.3	100.0	100.0	90.0	100.0	65.7	48.8	60.0	83.9
	Standard deviation	24.0	21.4	20.4	19.7	19.3	19.7	20.9	20.7	20.6
<i>Other%</i> (in basis points)	Mean	38.4	40.7	43.0	42.8	38.9	36.3	34.5	31.9	35.4
	Maximum	182.5	169.2	137.4	146.7	158.5	123.9	159.5	105.9	130.1
	Minimum	-25.7	7.4	5.8	8.3	1.0	8.0	8.4	-9.7	-15.2
	Standard deviation	24.7	24.3	21.7	21.1	17.2	15.7	17.3	14.2	15.5
<i>T</i>	Mean	6.8	6.9	7.0	6.9	7.0	7.1	6.9	6.9	7.2
	Maximum	22.5	19.0	18.1	18.5	19.3	18.8	18.7	19.1	20.5
	Minimum	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
	Standard deviation	3.8	3.1	3.1	3.3	3.4	3.2	3.2	3.2	3.3
<i>I%</i>	Mean	13.9%	14.1%	15.0%	14.9%	15.3%	16.5%	15.4%	15.7%	18.1%
	Maximum	50.0%	53.9%	59.0%	50.0%	53.1%	57.1%	58.3%	58.3%	73.5%
	Minimum	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Standard deviation	16.4%	17.0%	17.7%	18.0%	18.3%	19.6%	20.3%	20.1%	19.7%
<i>S%</i>	Mean	7.9%	9.3%	10.0%	9.3%	9.2%	9.3%	8.3%	8.6%	7.3%
	Maximum	50.0%	50.0%	50.0%	40.0%	40.0%	38.1%	40.6%	40.0%	39.1%
	Minimum	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Standard deviation	12.2%	13.0%	14.4%	12.7%	12.4%	12.0%	11.3%	11.7%	10.2%
<i>CH</i>	Mean	22.7%	28.9%	30.7%	37.3%	33.2%	30.7%	30.5%	27.3%	28.5%
	Total	50	67	86	109	104	102	114	108	97
<i>DEP</i>	Mean	62.7%	55.6%	59.3%	59.6%	60.1%	56.3%	62.6%	63.9%	65.0%
	Total	138	129	166	174	188	187	234	253	221
<i>TEN3%</i>	Mean			46.3%	48.9%	52.0%	56.1%	54.5%	56.8%	62.1%
	Maximum			100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Minimum			0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Standard deviation			25.5%	25.6%	24.8%	24.3%	26.2%	23.9%	25.7%
<i>LEG</i>	Mean	11.4%	14.2%	13.6%	15.1%	16.0%	16.3%	16.0%	15.2%	19.1%
	Total	25	33	38	44	50	54	60	60	65
<i>PF</i>	Mean	4.1%	4.3%	4.6%	5.8%	7.7%	6.9%	7.2%	7.3%	10.3%
	Total	9	10	13	17	24	23	27	29	35
<i>FIX</i>	Mean	7.7%	8.2%	12.1%	12.7%	15.7%	17.2%	20.1%	22.7%	32.1%
	Total	17	19	34	37	49	57	75	90	109
<i>TNAi</i>	Mean	428.1	374.5	305.3	269.1	378.1	486.7	594.9	594.2	372.7
	Maximum	6,071.8	7,395.7	8,713.9	8,822.7	14,420.9	18,314.2	22,163.6	16,089.9	10,197.3
	Minimum	0.4	0.7	0.5	0.5	0.9	0.1	0.1	1.4	1.1
	Standard deviation	769.8	806.0	725.5	646.7	983.8	1,270.3	1,509.8	1,304.5	790.8
<i>TNAu</i>	Mean	6,661.4	6,852.1	6,710.1	7,388.3	10,359.2	14,517.6	20,589.5	22,837.8	18,141.7
	Maximum	24,973.6	27,473.0	29,151.3	37,004.6	44,637.7	60,848.4	70,225.1	66,481.2	55,768.8
	Minimum	70.8	85.4	18.8	39.6	103.8	315.3	609.5	679.4	378.2
	Standard deviation	6,127.1	6,994.7	7,222.3	7,988.3	10,744.9	14,373.8	19,705.4	20,504.5	16,529.3
<i>TNAp</i>	Mean		38,635.0	37,936.5	44,489.2	51,213.4	70,714.5	80,160.4	80,903.7	65,489.3
	Maximum		141,507.9	139,519.1	155,374.0	178,200.1	252,365.8	276,596.9	213,174.1	171,025.3
	Minimum		519.4	614.9	954.4	1,224.7	1,963.2	2,426.9	3,471.2	1,923.8
	Standard deviation		28,364.5	29,905.4	35,804.5	38,608.7	51,675.8	56,652.1	54,470.8	49,192.5
<i>AGE</i>	Mean	5.2	5.8	5.9	6.6	7.0	7.4	7.4	7.7	8.3
	Maximum	38.5	39.5	40.5	41.5	42.5	43.5	37.0	38.0	39.0
	Minimum	0.3	0.5	0.2	0.2	0.3	0.3	0.3	0.4	0.3
	Standard deviation	5.0	5.1	5.1	5.3	5.4	5.6	5.4	5.7	6.2
<i>AD</i>	Mean	60.5%	63.4%	62.9%	59.2%	59.1%	59.3%	51.9%	50.8%	46.5%
	Total	133	147	176	173	185	197	194	201	158



**Table 5.5:** Descriptive statistics of funds in the sample by calendar year  
**Panel b:** Funds investing in emerging markets (EM=1)

Variable	Characteristic	2000	2001	2002	2003	2004	2005	2006	2007	2008
Number of funds	Total	25	26	28	27	28	30	33	34	34
<i>TER%</i> (in basis points)	Mean	213.3	226.6	227.9	219.4	212.7	210.7	209.4	208.1	207.1
	Maximum	281.1	319.5	323.3	279.7	263.7	257.9	256.5	266.4	290.0
	Minimum	131.0	130.7	129.8	143.5	157.8	157.2	170.5	165.9	167.9
	Standard deviation	40.5	50.9	49.2	40.0	31.4	27.0	24.5	26.7	28.0
<i>Mgt%+Distr%</i> (in basis points)	Mean	156.6	162.0	159.0	159.7	162.6	165.7	167.5	169.5	167.9
	Maximum	211.2	210.1	210.1	210.0	209.9	209.7	209.7	209.9	210.0
	Minimum	115.0	120.9	100.0	100.0	120.0	120.0	120.0	123.8	138.7
	Standard deviation	26.3	23.8	26.5	26.0	24.8	23.8	23.3	23.3	21.9
<i>Other%</i> (in basis points)	Mean	56.7	64.6	68.9	59.7	49.1	44.0	40.9	37.7	38.2
	Maximum	114.1	169.5	173.3	129.7	93.2	82.4	81.5	61.7	84.7
	Minimum	-6.1	1.5	8.4	16.0	19.0	16.9	15.3	15.3	13.7
	Standard deviation	29.8	44.8	45.6	32.2	20.4	16.1	16.4	13.6	14.6
<i>T</i>	Mean	7.4	6.9	6.8	7.2	7.3	7.2	7.0	6.8	7.5
	Maximum	22.5	13.9	13.7	18.5	19.3	18.8	18.7	19.1	20.5
	Minimum	3.0	3.8	3.0	3.0	3.0	3.0	3.0	3.0	3.0
	Standard deviation	3.8	2.3	2.4	3.6	3.7	3.4	3.4	3.3	3.5
<i>I%</i>	Mean	9.6%	12.8%	16.0%	16.5%	15.1%	15.7%	15.0%	14.3%	15.8%
	Maximum	43.7%	53.9%	59.0%	50.0%	50.0%	52.3%	58.3%	58.3%	51.2%
	Minimum	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Standard deviation	15.2%	17.8%	18.1%	17.6%	18.1%	19.5%	19.8%	19.2%	18.0%
<i>S%</i>	Mean	6.4%	6.8%	6.7%	7.7%	8.0%	7.0%	7.4%	7.9%	6.5%
	Maximum	32.5%	33.3%	40.0%	40.0%	40.0%	36.5%	40.6%	40.0%	28.6%
	Minimum	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Standard deviation	9.7%	10.4%	11.0%	11.2%	11.7%	10.5%	11.4%	11.9%	9.8%
<i>CH</i>	Mean	20.0%	23.1%	28.6%	37.0%	28.6%	26.7%	27.3%	23.5%	29.4%
	Total	5	6	8	10	8	8	9	8	10
<i>DEP</i>	Mean	72.0%	69.2%	67.9%	66.7%	60.7%	56.7%	60.6%	61.8%	64.7%
	Total	18	18	19	18	17	17	20	21	22
<i>TEN3%</i>	Mean			47.2%	52.4%	55.4%	53.6%	52.7%	54.2%	55.4%
	Maximum			100.0%	100.0%	100.0%	91.7%	100.0%	92.3%	100.0%
	Minimum			0.0%	0.0%	0.0%	10.0%	0.0%	0.0%	0.0%
	Standard deviation			28.2%	24.2%	21.7%	23.9%	25.7%	24.5%	26.8%
<i>LEG</i>	Mean	16.0%	19.2%	17.9%	18.5%	21.4%	23.3%	15.2%	14.7%	14.7%
	Total	4	5	5	5	6	7	5	5	5
<i>PF</i>	Mean	0.0%	3.8%	3.6%	7.4%	7.1%	3.3%	9.1%	11.8%	11.8%
	Total	0	1	1	2	2	1	3	4	4
<i>FIX</i>	Mean	4.0%	3.8%	7.1%	7.4%	17.9%	20.0%	24.2%	26.5%	38.2%
	Total	1	1	2	2	5	6	8	9	13
<i>TNAi</i>	Mean	175.9	162.6	152.6	164.1	303.5	438.0	645.8	801.8	695.1
	Maximum	642.0	717.0	774.1	761.9	1,320.8	1,876.7	3,262.7	4,985.8	3,930.3
	Minimum	6.2	4.3	1.1	4.9	7.7	10.8	3.7	12.3	6.2
	Standard deviation	193.5	190.5	190.4	208.2	334.3	457.0	731.2	958.4	804.0
<i>TNAu</i>	Mean	6,390.1	6,537.0	6,266.4	7,289.1	10,320.9	13,810.9	19,764.5	23,242.1	15,924.5
	Maximum	24,973.6	27,473.0	29,151.3	37,004.6	44,637.7	60,848.4	70,225.1	66,481.2	55,768.8
	Minimum	108.6	215.3	271.3	379.5	657.8	2,239.3	2,349.5	2,536.2	1,336.6
	Standard deviation	6,333.8	7,380.2	7,391.9	8,211.1	10,652.7	13,799.7	19,218.1	20,105.0	14,566.2
<i>TNAp</i>	Mean		34,387.3	30,846.5	38,871.9	52,075.7	68,931.3	79,368.8	78,355.5	69,261.1
	Maximum		75,163.9	75,560.5	130,037.0	178,200.1	252,365.8	276,596.9	213,174.1	171,025.3
	Minimum		6,067.1	1,544.4	5,248.6	7,063.3	2,464.5	2,426.9	3,471.2	2,638.2
	Standard deviation		20,907.7	20,508.6	28,518.5	40,221.7	57,508.4	62,338.7	56,262.5	55,239.0
<i>AGE</i>	Mean	4.9	5.7	6.3	7.4	7.9	8.4	8.8	9.3	9.3
	Maximum	11.5	12.5	13.5	14.5	14.0	15.0	16.0	17.0	18.0
	Minimum	0.3	0.4	0.7	0.9	1.3	0.8	0.3	0.9	0.8
	Standard deviation	3.3	3.5	3.6	3.8	3.6	3.9	4.3	4.7	5.6
<i>AD</i>	Mean	60.0%	57.7%	57.1%	55.6%	60.7%	60.0%	54.5%	52.9%	55.9%
	Total	15	15	16	15	17	18	18	18	19

The development of the two-fee structure related dummy variables shows that there has been a strong increase in both the use of performance fee schemes and the use of fixed TER schemes. Funds with performance fees were 4.1% of the development markets fund sample and 0.0% of the emerging markets sample in 2000. These percentages had increased to 10.3% and 11.8% respectively by 2008. The percentage of funds with a fixed TER scheme increased from 7.7% to 32.1% among the developed markets funds and from 4.0% to 38.2% among the emerging markets funds. The percentage of funds of promoters with an affiliated distribution channels dropped in both the developed and the emerging markets funds samples.

The statistics for scale show that for all three measures, there is a wide variation from small to large. The smallest funds are below EUR 1 million in size, while the largest fund size observation is over EUR 22 billion in 2006. The smallest umbrella size observation is a mere EUR 18.8 million in 2002, whereas the largest is over EUR 70 billion in 2006. For the promoters, the smallest observation is EUR 0.5 billion, the largest is almost EUR 277 billion.

For fund age, there is also significant variation in the sample. There are observations in the sample equal to 0.2 years, which follows from the selection criterion that a fund requires 90 days worth of data to be included in the sample. The oldest fund in the sample is the Mercury Selected Trust – Global Equity Fund, which was launched in 1962. As a result of promoter acquisitions, the fund first became part of Merrill Lynch and then BlackRock. In 2006, the fund, then called Merrill Lynch International Investment Funds – Global Equity Diversified Fund, merged into Merrill Lynch International Investment Funds – Global Equity Core Fund (with Global Equity Fund as its new name). The disappearing fund dropped from the sample, which explains the drop in the maximum value for fund age in that year.

In order to check whether there is collinearity across the variables, table 5.6 provides the correlation coefficients for the TER and all explanatory variables used in the regression analysis. Data is used for the years 2002 to 2008. The year 2008 is the last year analysed, while the year 2002 is the first year for which all regression variables are available. Coefficients in excess of 0.333 or -0.333 are highlighted in grey, with those in excess of -0.5 and 0.5 in a darker shade.

The TER and the percentage of independent board members are positively correlated, but not very strongly. The correlation between TER and fund size, as well as between TER and affiliated distribution, is negative, while the correlation between the TER and the Emerging Markets dummy is positive. There are two correlation coefficients exceeding 0.5 or -0.5. There is a strong positive correlation between umbrella scale and promoter scale, and a strong negative correlation between affiliated distribution and the independence of the depository. Promoters that are part of banking groups with affiliated distribution also tend to have that banking group as the depository for the funds. The correlation between the percentage of independent board members and the dummy for affiliated distribution is almost -0.5. This is consistent with the finding in chapter 4 that independent board members are more common among Anglo-Saxon promoters. At the same time, most Anglo-Saxon promoters are independent from any distribution channel, whereas continental European promoters are often part of banking or insurance groups, which also distribute investment funds.

Table 5.6: Correlation matrix for the period 2002–2008 (individual fund level)

TER	T	I%	S%	CH	DEP	TEN3%	LEG	PF	FIX	LTNAi	LTNAu	LTNAp	SEC	LAGE	AD
TER	1	0.078	0.114	-0.043	0.094	0.184	0.089	-0.061	0.149	-0.160	-0.217	-0.071	-0.102	0.287	-0.232
T	0.078	1	0.268	-0.263	0.013	-0.109	0.279	-0.228	-0.045	-0.104	0.139	0.365	0.296	0.009	0.044
I%	0.114	0.268	1	-0.036	0.438	0.189	0.407	-0.117	-0.071	-0.063	0.078	0.241	-0.079	-0.006	-0.471
S%	-0.043	-0.263	-0.036	1	0.208	0.017	-0.024	-0.185	-0.031	0.129	0.031	0.059	-0.097	-0.034	-0.166
CH	0.094	0.013	0.438	0.208	1	0.092	0.084	-0.074	-0.039	0.061	0.054	0.153	-0.137	-0.015	-0.403
DEP	0.184	-0.109	0.189	0.017	0.092	1	-0.025	-0.102	-0.082	-0.271	-0.025	0.011	-0.406	0.008	-0.505
TEN3%	0.089	0.279	0.407	-0.024	0.084	-0.025	1	-0.146	0.007	-0.029	0.104	0.270	-0.013	-0.012	-0.257
LEG	-0.061	-0.228	-0.117	-0.185	-0.074	-0.102	1	-0.098	0.098	0.054	0.028	0.105	0.014	0.014	0.196
PF	0.149	-0.045	-0.071	-0.031	-0.039	-0.082	0.007	-0.098	1	-0.054	-0.057	-0.050	0.071	0.008	0.005
FIX	-0.160	-0.104	-0.063	0.129	0.061	-0.271	-0.029	0.098	-0.054	1	0.081	0.104	0.349	0.012	0.093
LTNAi	-0.217	0.139	0.078	0.031	0.054	-0.025	0.104	0.054	0.081	1	0.376	0.212	0.080	0.450	-0.069
LTNAu	-0.071	0.365	0.241	0.059	0.153	0.011	0.270	0.028	0.104	0.376	1	0.507	0.001	0.008	-0.237
LTNAp	-0.102	0.296	-0.079	-0.097	-0.137	-0.406	-0.013	0.105	0.349	0.212	0.507	1	-0.012	0.061	0.338
SEC	0.287	0.009	-0.006	-0.034	-0.015	0.008	-0.012	0.014	0.008	0.012	0.080	-0.012	1	0.080	0.008
LAGE	-0.068	0.050	0.073	-0.050	0.048	-0.070	0.073	0.008	0.065	0.450	0.008	0.061	0.080	1.000	-0.020
AD	-0.232	0.044	-0.471	-0.166	-0.403	-0.505	-0.257	0.196	0.093	-0.069	-0.237	0.338	0.008	-0.020	1

■ Absolute value in excess of 0.500. ■ Absolute value between 0.333 and 0.500.

The correlation between the dummy variables for the chair position and the affiliation of the distribution channel is negative, i.e., affiliated distribution goes hand-in-hand with dependent chairs. The correlation between the percentage of independent board members and tenure is approximately 0.4, and is the result of independent board members tending to stay on boards longer. The chair dummy is strongly positively correlated with the percentage of independent board members and, to a lesser degree, the percentage of semi-independent board members. Funds that are part of larger umbrellas and belong to larger promoters tend to be overseen by larger boards. The umbrellas with an independent depositary tend to belong to smaller promoters. There is a strong positive correlation between fund size and fund age.

### *Model*

The multiple regression analyses are performed with an individual fund model in this section, and a variation of the family-average model in section 5.7. With the individual fund model, each fund is treated as a separate and independent observation. This treatment is consistent with the fact that for each individual fund, the level of costs has been determined. In addition, some of the control variables are fund specific, such as fund size and fund age. On the other hand, the funds' governance variables are identical across all funds in the same umbrella. The board sits at the level of the umbrella in the case of an SICAV, and the management company in the case of an FCP. As a result, the board composition is exactly the same for all funds in an umbrella. Also, the control variables that are umbrella or fund promoter specific are identical for all those funds that are part of the same umbrella.

The structure of the data is that of a typical panel dataset, consisting of repeated observations of certain variables for a number of *individuals* at different points in time. In this case, it concerns a sample of funds with observations for fund costs as dependent variable and various explanatory variables for the 2000 to 2008 calendar years. One of the advantages of the analysis of such a panel dataset, as compared to data for one point in time, is that it leads to a larger number of observations, resulting in increased precision in parameter estimation.

For the analysis at fund level, two model variations are used. The first variation, referred to as Model I, allows for fixed effects per calendar year, not per fund or umbrella, thereby focusing on cross-sectional variation. In the second variation, referred to as Model II, dummy variables per umbrella are added, thus focusing on variation within each umbrella. Because only one umbrella per promoter is included in the sample, it is equivalent to a dummy variable per promoter. In the case of Model II, variables are not included for the legal form of the umbrella and the promoter affiliation with a distribution channel. The reason is because normally, these variables do not vary in time for a given umbrella or promoter, except in exceptional circumstances. In fact, in the research period, both the legal form of an umbrella and the affiliation with a distributor changed only once. One umbrella changed from an FCP to an SICAV. The affiliation of one promoter changed when a promoter with affiliated distribution was acquired by a group without affiliated distribution.

With the individual fund model, the following equations are estimated:

Model I (time fixed effects):

$$\begin{aligned}
 C\%_{i,t} = & c_t + \beta_1 T_{u,t} + \beta_2 I\%_{u,t} + \beta_3 S\%_{u,t} + \beta_4 CH_{u,t} + \beta_5 DEP_{u,t} + \beta_6 TEN3\%_{u,t} \\
 & + \beta_7 LEG_{u,t} + \beta_8 PF_{i,t} + \beta_9 FIX_{i,t} + \beta_{10} LTNA_{i,t} + \beta_{11} LTNA_{u,t} + \beta_{12} LTNA_{p,t} \\
 & + \beta_{13} EM_{i,t} + \beta_{14} LAGE_{i,t} + \beta_{15} AD_{p,t} + \varepsilon_{i,t}
 \end{aligned} \tag{5.7}$$

Model II (time fixed effects and umbrella dummies):

$$\begin{aligned}
 C\%_{i,t} = & c_t + \alpha_u + \beta_1 T_{u,t} + \beta_2 I\%_{u,t} + \beta_3 S\%_{u,t} + \beta_4 CH_{u,t} + \beta_5 DEP_{u,t} + \beta_6 TEN3\%_{u,t} \\
 & + \beta_8 PF_{i,t} + \beta_9 FIX_{i,t} + \beta_{10} LTNA_{i,t} + \beta_{11} LTNA_{u,t} + \beta_{12} LTNA_{p,t} + \beta_{13} EM_{i,t} \\
 & + \beta_{14} LAGE_{i,t} + \varepsilon_{i,t}
 \end{aligned} \tag{5.8}$$

where:

$C\%_{i,t}$  is the cost of fund  $i$  in period  $t$ , either measured as *TER%*, *Mgt%+Distr%* or *Other%*.

$c_t$  is the constant per calendar year  $t$ .

$\alpha_u$  is the dummy variable per umbrella  $u$ .

For the explanatory variables, refer to tables 5.3 (governance variables) and 5.4 (control variables).

The two model variations are first estimated for the entire 2000-2008 research period, without the variables for board tenure (*TEN3%*) and promoter scale (*LTNA<sub>p</sub>*), because these two variables are not available for the whole period. This is referred to as Model Ia and Model IIa, respectively. The two variables are then added to the equation in what is referred to as Model Ib and Model IIb, limiting the analysis to the 2002-2008 period.

Because of correlation between several of the governance variables, the model is also estimated by adding governance variables one by one. These model specifications do not produce materially different results than those in table 5.7 and are therefore not reported.

Ordinary Least Squares (OLS) assumes homoscedasticity and no serial correlation. In this panel dataset, funds may have different variances and the errors for the same fund in subsequent periods may be correlated, hence, violating the assumptions of OLS standard errors. Standard errors that are robust to this type of heteroscedasticity and serial correlation were obtained using White's robust covariance estimator with cross-sectional clustering. Potential cross-sectional correlation, due to common time-specific shocks, is captured by the time fixed effects in the model specification. Using time fixed effects and a robust covariance estimator avoids the pitfall of underestimating standard errors, as described by Petersen (2009).

**Table 5.7:** Results analysis of fund costs and board characteristics (costs in basis points)

TER%	Model Ia (2000-2008)		Model Ib (2002-2008)		Model IIa (2000-2008)		Model IIb (2002-2008)	
	Coefficient	t	Coefficient	t	Coefficient	t	Coefficient	t
<i>c</i>	223.50	26.34	177.72	10.23				
<i>T</i>	1.65	11.92	1.39	6.04	0.41	0.51	0.24	0.39
<i>I%</i>	-4.65	-2.46	-8.33	-3.68	20.16	1.77	39.21	3.28
<i>S%</i>	0.37	0.09	4.94	1.23	7.90	0.86	17.07	1.53
<i>CH</i>	1.31	0.68	4.52	1.66	-7.91	-4.95	-9.07	-5.85
<i>DEP</i>	4.19	2.74	6.59	2.79	1.55	1.22	1.54	0.90
<i>TEN3%</i>			9.04	2.54			0.76	0.37
<i>LEG</i>	7.46	3.17	6.00	2.37				
<i>PF</i>	13.65	5.20	13.62	9.89	14.13	9.77	14.33	10.41
<i>FIX</i>	-6.27	-2.47	-8.82	-4.95	10.96	4.79	8.50	3.36
<i>LTNAi</i>	-4.02	-10.32	-4.01	-8.16	-3.09	-6.16	-2.87	-5.44
<i>LTNAu</i>	-3.05	-5.40	-4.76	-7.68	-4.23	-2.64	-5.71	-7.82
<i>LTNAp</i>			5.35	2.86			-2.28	-0.86
<i>EM</i>	31.94	17.50	30.61	18.90	31.11	15.46	28.99	15.16
<i>LAGE</i>	0.41	0.55	0.68	1.02	-0.73		-0.37	-0.60
<i>AD</i>	-16.43	-5.43	-16.03	-7.74				
Periods	9		7		9		7	
Funds	554		538		554		538	
Observations	3044		2541		3044		2541	
R <sup>2</sup>	0.277		0.280		0.559		0.565	
Adjusted R <sup>2</sup>	0.272		0.274		0.550		0.554	

Mgt%+Distr%	Model Ia (2000-2008)		Model Ib (2002-2008)		Model IIa (2000-2008)		Model IIb (2002-2008)	
	Coefficient	t	Coefficient	t	Coefficient	t	Coefficient	t
<i>c</i>	168.65	39.79	150.06	16.38				
<i>T</i>	0.64	5.53	0.53	4.04	0.05	0.10	-0.60	-1.39
<i>I%</i>	5.92	2.76	5.94	1.89	-2.06	-0.34	9.13	3.08
<i>S%</i>	-11.68	-2.16	-13.08	-1.91	17.99	3.52	25.13	4.63
<i>CH</i>	3.46	2.30	5.52	2.72	-2.89	-1.86	-3.11	-1.46
<i>DEP</i>	6.97	5.45	6.82	5.15	1.56	2.68	-0.73	-0.54
<i>TEN3%</i>			0.36	0.11			-3.04	-1.67
<i>LEG</i>	14.12	6.72	12.36	4.96				
<i>PF</i>	4.35	1.00	6.62	2.18	10.09	6.83	10.67	7.33
<i>FIX</i>	0.35	0.21	-1.62	-1.58	1.35	0.97	-0.46	-0.33
<i>LTNAi</i>	0.21	0.98	0.09	0.46	0.59	4.19	0.64	4.07
<i>LTNAu</i>	-3.42	-6.65	-5.06	-4.33	-1.30	-1.07	-2.93	-2.65
<i>LTNAp</i>			3.45	2.14			5.71	2.57
<i>EM</i>	16.73	30.42	16.32	35.68	17.50	28.93	16.68	65.23
<i>LAGE</i>	-1.39	-2.32	-1.32	-2.06	-1.73	-5.67	-1.68	-5.42
<i>AD</i>	-3.96	-3.11	-4.64	-5.42				
Periods	9		7		9		7	
Funds	530		514		530		514	
Observations	2907		2425		2907		2425	
R <sup>2</sup>	0.213		0.198		0.604		0.598	
Adjusted R <sup>2</sup>	0.207		0.191		0.595		0.587	

Table continues on the next page

<i>Other%</i>	Model Ia (2000-2008)		Model Ib (2002-2008)		Model IIa (2000-2008)		Model IIb (2002-2008)	
	Coefficient	t	Coefficient	t	Coefficient	t	Coefficient	t
<i>c</i>	65.83	6.30	42.34	3.31				
<i>T</i>	1.10	10.20	0.99	7.16	0.41	0.97	0.85	1.41
<i>I%</i>	-11.57	-7.44	-14.42	-8.33	23.22	3.16	30.46	2.42
<i>S%</i>	11.06	1.70	16.50	2.28	-13.84	-1.27	-8.00	-0.79
<i>CH</i>	-2.65	-3.38	-1.77	-1.57	-5.77	-4.65	-6.06	-4.37
<i>DEP</i>	-3.98	-2.66	-1.49	-0.91	-0.03	-0.03	2.27	1.14
<i>TEN3%</i>			8.02	3.66			3.48	1.81
<i>LEG</i>	-2.10	-1.18	-2.52	-1.36				
<i>PF</i>	8.99	4.31	6.91	3.43	3.92	3.36	3.59	3.60
<i>FIX</i>	-2.79	-1.57	-3.81	-2.39	9.88	7.13	9.12	4.07
<i>LTNAi</i>	-4.44	-10.97	-4.27	-8.77	-3.62	-7.89	-3.44	-6.88
<i>LTNAu</i>	-0.73	-0.91	-0.65	-0.90	-2.76	-4.11	-2.92	-3.60
<i>LTNAp</i>			1.43	2.01			-7.68	-4.39
<i>EM</i>	13.45	7.26	12.44	6.05	12.75	6.81	11.26	5.37
<i>LAGE</i>	2.13	4.13	2.31	4.11	0.79	1.95	1.11	2.34
<i>AD</i>	-13.77	-6.02	-12.43	-4.96				
Periods	9		7		9		7	
Funds	530		514		530		514	
Observations	2907		2425		2907		2425	
R <sup>2</sup>	0.276		0.300		0.536		0.561	
Adjusted R <sup>2</sup>	0.271		0.294		0.526		0.549	

■ Significant at 5% level. ■ Significant at 10% level.

### Results

The results of the analysis are displayed in table 5.7. The first panel provides the results for the TER. The second and third panel show the results for the Sum of Management and Distribution Fees and Other Costs, respectively. For all variables, the table gives the value for the coefficient from the regression analysis and the value for the t-statistic. When a coefficient is statistically significant at the level of 10%, it is highlighted in light grey. For values that are significant at the 5% level, a darker shade of grey is used. The regression results referred to in the text below are those for the analysis of the 2002–2008 period (Models Ib and IIb), including the variables for board tenure and promoter scale, unless specifically mentioned otherwise. For Model II, the results for the constant and umbrella dummies are suppressed.

In Model I, which focuses on cross-sectional variation, several of the governance variables are associated with the level of costs in a statistically significant manner. The primary interest in this dissertation is the relationship between the independence of board members and the level of costs. A higher percentage of independent directors is associated with a lower TER in a statistically significant manner. The economic significance is modest. At fund level, the mean number of board members in the sample is 7.0. Each additional independent board member, rather than a dependent board member, is associated with a TER approximately 1.2 basis points lower. The second and third panels of the table show that it is the Other Costs component of the TER that is responsible for the difference, not the Management and Distribution Fee. On the

contrary, the Management and Distribution Fee is higher for funds with more independent boards.

The result for the percentage of semi-independent board members is not statistically significant in either model Ia or Ib. The coefficient for the chair position is positive, but statistically significant only at the level of 10% in model Ib. In the case of both Model Ia and Ib, the coefficients for the Sum of Management and Distribution Fees on the one hand, and Other Costs on the other hand, have opposite signs, so that only a small net effect remains at TER level. Funds with an independent depositary have TERs almost 7 basis points higher. For this variable, the result is driven by the Sum of Management and Distribution Fee, not by the Other Costs. This is surprising, because the direct costs of the depositary are part of the Other Costs. A larger board is associated with higher costs. Each additional board member is associated with almost 1.4 basis points of additional TER. The Management and Distribution Fee, as well as the Other Costs, contribute to the difference. Funds with more experienced boards have higher TERs, which is driven by Other Costs. In line with the notion that FCPs have inferior governance as compared to SICAVs, FCPs have higher TERs. This is driven by Management and Distribution Fees, not by Other Costs.

Of the control variables, several of the coefficients are also statistically significant. Funds with performance fees have higher TERs, not lower as might be expected. This finding is the result of both higher Management and Distribution Fees and higher Other Costs. Funds with either a Fixed Service Fee or All-In Fee, resulting in a fixed TER, have a lower TER. For both the Management and Distribution Fees and Other Costs, the sign of the coefficient is negative, but only in the case of Other Costs is it statistically significant.

All three measures for scale have statistically significant coefficients. Larger funds are associated with lower Other Costs and lower TERs by the same order of magnitude. Fund size is unrelated to the level of Management and Distribution Fees. Bigger umbrellas are also associated with lower TERs. In this case, the Management and Distribution Fees coefficient, not that of Other Costs, is statistically significant negatively. Promoters with more assets under management are associated with higher TERs. In this case, both the coefficient for Management and Distribution Fee and that for Other Costs are positive and statistically significant. This finding is not consistent with the notion of economies of scale at the promoter level being passed on to investors, and could be the result of larger promoters being able to command premium pricing.

Funds investing in emerging markets have higher Management and Distribution Fees, as well as Other Costs, than funds investing in developed markets. The difference in TER is 31 basis points, to which both the Management and Distribution Fee and the Other Costs contribute approximately half. Funds with promoters with an affiliated distribution channel have TERs lower by 16 basis points, due to lower Management and Distribution Fees, as well as lower Other Costs. The relationship between fund age and TER is not statistically significant. In this case, the negative relationship for Management and Distribution fee and the positive relationship for Other Costs cancel out at the level of the TER.

The analyses of the development of governance in chapter 4 showed two main trends. On the one hand, the percentage of independent board members has increased on



boards that have independent members. On the other hand, there have been more umbrellas that developed from having independent members to having none than vice versa. Model II focuses on the variation of the governance and other variables within umbrellas.

The result for the coefficient for the percentage of independent board members is positive, and economically and statistically significant, with both the Management and Distribution Fees and the Other Costs contributing. This finding implies that in cases where funds had an increase in the percentage of independent board members, this increase did not coincide with a lowering of their TERs. Taking the average board size of 7.0 as a starting point, an increase by one independent board member is associated with an increase in TER by 5.6 basis points. This strong positive relationship makes it unlikely that the negative association between the percentage of independent board members and the level of TER found in the cross-sectional analysis of Model I is a causal relationship. The level of the dummy variables per umbrella ( $\alpha_u$ ) is not positively correlated to the percentage of independent board members of the umbrellas. In the case of Model IIb for the TER as dependent variable, the correlation between the dummy variables per umbrella and the average percentage of independent board members in the 2002-2008 period is -0.012.

The sign of the coefficient for the chair position is opposite to what was found in the cross-sectional analysis. The introduction of an independent chairman to the board is associated with a lowering of the TER. The coefficients for the number of board members, the percentage of semi-independent board members, the position of the depositary and the tenure are not statistically significant.

Different than the outcome of the cross-sectional analysis of Model I, funds that introduced a fixed TER have increased their TER, driven by higher Other Costs. The result for performance fees, however, is consistent with Model I. Funds that have introduced a performance fee have increased their TER excluding performance fees, with both the Management and Distribution Fee and the Other Costs contributing.

The result for the dummy for funds in the Emerging Markets sector is consistent with Model I. These funds have a TER that is approximately 30 basis points higher than funds in the sample investing in developed markets. The results for fund and umbrella scale are also consistent with Model I. For both, increased scale is associated with lower TERs. In the case of fund scale, this finding is driven only by Other Costs. In fact, larger funds have slightly higher Management and Distribution Fees. In the case of umbrella scale, the Management and Distribution Fee, as well as the Other Costs, contribute to the lower TER.

The relationship between TER and promoter scale is not statistically significant in Model II. There is a significant positive relationship for Management and Distribution fee and a significant negative relationship for Other Costs. This finding is evidence of economies of scale in the areas covered by Other Costs, such as fund administration and custody, being passed on to investors. That the part of the TER that includes the compensation for the fund management company, the Management and Distribution fee, is higher for larger promoters, could be a reflection of these players' ability to command premium pricing for their services.

## 5.6 Endogeneity

In section 5.5, the outcome of the cross-sectional analyses was that a higher percentage of independent board members is associated with a lower level of TER. However, the analysis focusing on the variability within umbrellas led to opposite conclusions, raising doubts as to whether board independence is driving costs down. Earlier studies into the relationship between fund costs and governance characteristics, such as Tufano and Sevick (1997) and Ferris and Yan (2007b), have noted that board structure might be endogenous. Both costs and board structure might be driven by one or more of the same underlying variables. For example, it could be the case that fund promoters aiming to set higher fees for the funds in their offering, tend to select less effective boards for their funds. Ferris and Yan (2007b) follow an instrumental approach to address the issue of endogeneity. As instrumental variables, they use fund family age, number of district investment objectives for each fund family, turnover of assets held by the fund, portfolio manager tenure, whether the fund management company is public or private, and fund ownership by insider and independent directors (Ferris and Yan, 2007b, p. 413). On the basis of this analysis, they conclude that their results are not plagued by endogeneity. Because most of these variables are not available for Luxembourg-domiciled funds, a different approach is followed here.

In order to address the possibility that promoter characteristics drive board characteristics and fund costs, an external assessment of the quality of the fund promoter is used. At the end of 2008, Morningstar launched the Morningstar Qualitative Ratings. For these fund ratings, Morningstar evaluates funds based on five aspects that it believes to be predictive of future performance: People, Parent, Process, Performance and Price. Morningstar describes the Parent score as follows (Morningstar, 2009, p. 3):

“Morningstar believes the quality of the investment firm can have a meaningful impact on a fund’s long-term chances for success. In analysing the fund company parent, analysts consider ownership structure, compensation schemes, and managerial stability. Analysts also assess the firm’s culture, preferring those that treat fund shareholders as partners and emphasise the investment process over profits.”

Morningstar publishes the overall score for funds, not its five components. However, Morningstar was so kind as to provide their Parent scores for the purpose of this dissertation. Morningstar does not take into account fund costs in determining the Parent Score, since Price is a separate element of the overall Morningstar Qualitative Rating. Additionally, Morningstar confirmed that for setting the Parent score, the composition of a promoter’s fund boards is not taken into account. This makes this variable a useful measure to check whether the promoter is simultaneously driving fund costs and governance characteristics behind the scenes.

First, the correlation coefficient is calculated between the Morningstar Parent score and the percentage of independent board members. Since it is only -0.019, the quality of the parent, as assessed by Morningstar, seems unrelated to the percentage of independent board members. As a next step, the Parent score of 1 to 5 (5 being the best) is added as a variable to the regression analysis. The reason for including this score is

that a possible relationship found with the regression analyses between governance characteristics and costs can, in reality, be driven by the *parent*, the fund promoter. A promoter carefully managing conflicts of interest, with the interests of the investor as primary driver, might have lower costs. Such a firm can also be expected to favour more independent boards. By including the Parent score in the regression analysis, the two relationships can be analysed simultaneously. Since the Morningstar Qualitative Rating was introduced at the end of 2008, the ratings have been given in the 2008–2010 period, based on the firms' manner of operation in the prior period. For that reason, the score is only be used for analysing 2008 costs, the last year for which sufficient fund costs data is available. Although Morningstar determined several of the Parent scores after 2008, these scores are relatively stable through time. Therefore, it is still worthwhile to perform the analysis using this additional variable. It should be noted that Morningstar did not rate all promoters in the sample in this period.

The results are presented in table 5.8. In the first two columns, the results are presented for all funds in the sample, without the Morningstar parent score. These are the results for the 2002–2008 period as presented in section 5.5, as well as the results for 2008 only. The third column presents the results of the same model, but on the sub-sample of funds for which a Morningstar Parent Score is available. That is the case for 31 out of the 38 promoters for which cost data is available in 2008. Out of the seven promoters without a Morningstar Parent Score, there are only two continental European players, while three are not affiliated with a distribution channel. The fourth column contains the results of the regression with the extended model, including the coefficient for the Morningstar Parent Score (*Mst*). The sample is the same as for the third column, which are the funds for which a Morningstar Parent Score is available.

The results for 2008 for the whole sample are largely consistent with those for the entire research period, although several of the coefficients are economically larger than those for the 2002–2008 period. More independent boards are associated with lower TERs, whereas larger boards, more experienced boards and independent depositaries are associated with higher TERs. As was the case for the entire research period, the result for the percentage of semi-independent board members is not statistically significant. The coefficient for the chair is again positive, but at a higher level of statistical significance. The result for the dummy for the legal form of the umbrella is no longer statistically significant.

When the sample is restricted to those funds for which a Morningstar Parent Score is available, there are a number of striking differences. The coefficient for the percentage of independent board members changes sign from negative to positive and is not statistically significant. The coefficient for the percentage of semi-independent board members also changes sign, in this case from positive to negative, and is marginally significant. The coefficients for the number of board members, the position of the chair and the depositary become smaller and lose their significance. For the control variables, there are no noteworthy changes in the coefficients.

When the variable for the Morningstar Parent Score (*Mst*) is added, noteworthy changes occur again. The coefficient for the percentage of semi-independent board members becomes more negative, still statistically significant. The coefficient for the percentage of independent board members becomes more positive and statistically significant. The coefficient for the Morningstar variable is positive and statistically

significant. This is noteworthy because it implies that funds of promoters with a higher parent score have higher costs, rather than lower. This result for the Morningstar variable is inconsistent with the possibility that inferior promoters, as measured with the Morningstar Parent Score, charge higher fees. From this finding, combined with the low negative correlation between the Morningstar Parent Score and the percentage of independent board members on the board, it can be concluded that the relationship between board characteristics and cost levels is unlikely to be driven by the endogenous factor of the quality of the promoter.

**Table 5.8:** Fund costs and board characteristics (TER in basis points)

TER%	Model Ib (2002-2008) Full sample		Model Ib (2008) Full sample		Model Ib (2008) Promoters with Morningstar rating		Model Ib (2008) Model with Morning- star variable	
	Coefficient	t	Coefficient	t	Coefficient	t	Coefficient	t
<i>c</i>	177.72	10.23	119.03	6.22	112.07	5.43	113.95	5.84
<i>T</i>	1.39	6.04	1.19	2.36	0.75	1.43	0.71	1.32
<i>I%</i>	-8.33	-3.68	-15.93	-2.08	11.25	0.92	31.51	2.24
<i>S%</i>	4.94	1.23	7.76	0.56	-29.88	-1.79	-31.92	-1.92
<i>CH</i>	4.52	1.66	10.56	3.73	4.95	1.45	2.04	0.57
<i>DEP</i>	6.59	2.79	13.80	3.40	4.97	1.10	-2.20	-0.44
<i>TEN3%</i>	9.04	2.54	17.27	2.76	4.65	0.66	-8.95	-1.01
<i>LEG</i>	6.00	2.37	1.59	0.50	-5.81	-1.21	-3.20	-0.67
<i>PF</i>	13.62	9.89	18.67	4.41	19.52	4.25	18.83	4.19
<i>FIX</i>	-8.82	-4.95	-8.69	-2.70	-8.58	-2.71	-7.66	-2.38
<i>LTNA<sub>i</sub></i>	-4.01	-8.16	-3.42	-3.83	-2.72	-2.92	-2.82	-3.13
<i>LTNA<sub>u</sub></i>	-4.76	-7.68	-8.87	-5.04	-8.13	-4.16	-10.46	-4.72
<i>LTNA<sub>p</sub></i>	5.35	2.86	13.25	5.29	14.78	5.79	15.44	5.88
<i>EM</i>	30.61	18.90	25.39	4.91	23.61	4.24	24.93	4.42
<i>LAGE</i>	0.68	1.02	2.26	1.49	0.54	0.36	0.46	0.32
<i>AD</i>	-16.03	-7.74	-16.44	-3.45	-21.12	-4.24	-23.65	-4.66
<i>Mst</i>							7.27	3.08
Periods	7		1		1		1	
Funds	538		374		331		331	
Observations	2541		374		331		331	
R <sup>2</sup>	0.280		0.332		0.376		0.393	
Adjusted R <sup>2</sup>	0.274		0.304		0.347		0.362	

■ Significant at 5% level. ■ Significant at 10% level.

## 5.7 Multiple regression analysis – Umbrella level

In this section, the multiple regression analysis is performed at the umbrella level, rather than fund level. For the analysis at umbrella level, the average RCI of the umbrellas in the sample is used as a measure for the umbrellas' cost level. To calculate the RCI, funds with a performance-related fee schedule are left out of the sample. Fund size is aggregated at umbrella level, by taking the natural logarithm of the average total net assets of the funds included in the sample in a specific year (*LATNA<sub>it</sub>*).

Other explanatory and control variables included are umbrella-specific and therefore do not require any adjustment.

### Descriptive statistics

Table 5.9 provides descriptive statistics of the umbrellas in the sample for each of the nine years in the 2000–2008 research period. Whereas table 5.5 describes the sample at fund level, table 5.9 provides similar statistics at umbrella level. For dummy variables, the mean value (in percentage terms) and sum for each calendar year are provided. For the other variables, the mean, maximum, minimum and standard deviation for each calendar year are tabled.

**Table 5.9:** Descriptive statistics of umbrellas in the sample by calendar year

Variable	Characteristic	2000	2001	2002	2003	2004	2005	2006	2007	2008
Number of umbrellas	Total	43	41	43	43	43	43	43	43	37
<i>RClu</i>	Mean	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
	Maximum	2.1	1.9	2.0	2.0	3.1	2.7	1.6	1.9	2.0
	Minimum	-1.6	-1.6	-1.9	-1.9	-1.9	-1.8	-2.1	-1.4	-1.4
	Standard deviation	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8
<i>T</i>	Mean	6.3	6.6	6.7	6.3	6.4	6.7	6.7	6.7	6.8
	Maximum	22.5	19.0	18.1	18.5	19.3	18.8	18.7	19.1	20.5
	Minimum	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
	Standard deviation	3.3	3.0	2.9	3.1	3.2	3.1	3.1	3.1	3.3
<i>I%</i>	Mean	14.0%	13.5%	13.6%	13.1%	14.0%	14.7%	14.3%	14.4%	16.1%
	Maximum	50.0%	53.9%	59.0%	50.0%	53.1%	57.1%	58.3%	58.3%	73.5%
	Minimum	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Standard deviation	15.8%	16.6%	17.1%	17.1%	17.8%	19.4%	19.6%	19.1%	19.7%
<i>S%</i>	Mean	8.3%	9.5%	9.3%	8.3%	8.2%	8.4%	7.3%	7.4%	7.1%
	Maximum	50.0%	50.0%	50.0%	40.0%	40.0%	38.1%	40.6%	40.0%	39.1%
	Minimum	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Standard deviation	12.0%	12.6%	12.7%	11.6%	11.4%	11.2%	10.3%	10.9%	10.5%
<i>CH</i>	Mean	18.6%	24.4%	25.6%	30.2%	27.9%	25.6%	27.9%	23.3%	24.3%
	Total	8	10	11	13	12	11	12	10	9
<i>DEP</i>	Mean	67.4%	63.4%	65.1%	67.4%	67.4%	62.8%	67.4%	67.4%	67.6%
	Total	29	26	28	29	29	27	29	29	25
<i>TEN3%</i>	Mean			46.7%	46.4%	52.6%	54.8%	54.0%	55.6%	59.1%
	Maximum			100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Minimum			0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Standard deviation			28.2%	28.2%	26.9%	26.3%	26.7%	24.7%	27.2%
<i>LEG</i>	Mean	16.3%	17.1%	16.3%	16.3%	16.3%	16.3%	14.0%	14.0%	16.2%
	Total	7	7	7	7	7	7	6	6	6
<i>FIX</i>	Mean	9.3%	7.3%	9.3%	9.3%	14.0%	16.3%	18.6%	20.9%	29.7%
	Total	4	3	4	4	6	7	8	9	11
<i>ATNAi</i>	Mean	392.7	366.3	282.9	225.5	304.3	391.4	478.4	498.6	335.3
	Maximum	1,630.0	1,572.2	1,480.6	1,260.8	1,821.7	2,170.1	2,460.1	2,269.1	1,253.6
	Minimum	2.5	19.2	6.6	14.0	17.0	32.9	49.1	49.6	46.5
	Standard deviation	418.7	407.7	318.4	247.2	336.1	417.2	502.8	475.4	279.8
<i>TNAu</i>	Mean	5,373.8	5,644.3	5,184.6	5,562.6	7,605.7	10,516.3	14,904.0	16,648.8	13,029.9
	Maximum	24,973.6	27,473.0	29,151.3	37,004.6	44,637.7	60,848.4	70,225.1	66,481.2	55,768.8
	Minimum	70.8	85.4	18.8	39.6	103.8	315.3	682.0	679.4	378.2
	Standard deviation	5,828.0	6,685.2	6,539.7	7,183.5	9,436.0	12,546.7	17,318.8	18,086.6	14,464.8
<i>TNAp</i>	Mean		34,010.6	33,199.0	39,360.9	44,726.8	62,010.9	71,993.0	73,529.1	56,539.2
	Maximum		141,507.9	139,519.1	155,374.0	178,200.1	252,365.8	276,596.9	213,174.1	171,025.3
	Minimum		519.4	614.9	954.4	1,224.7	1,963.2	2,426.9	3,471.2	1,923.8
	Standard deviation		28,857.3	30,935.7	37,328.4	40,878.9	55,250.9	60,233.9	57,294.6	46,967.4
<i>AD</i>	Mean	60.5%	63.4%	62.8%	60.5%	60.5%	62.8%	58.1%	58.1%	56.8%
	Total	26	26	27	26	26	27	25	25	21

The mean  $RCI_u$  is always zero or close to zero. It should be remembered that the RCI is calculated by fund as the distance in standard deviations of the cost level of a fund from the mean cost level of funds in the same sector. The mean RCI of all funds in the sample is therefore zero by definition. The mean  $RCI_u$  of the umbrellas in the sample can deviate from zero since the RCI per umbrella is calculated as the mean of the RCIs of funds belonging to that umbrella. The number of funds per umbrella differs.

The mean number of board members fluctuated between six and seven. As seen in table 5.5, the minimum number of board members is three, the legal minimum, whereas the largest board had, on average, 22.5 members in 2000. The mean percentage of independent board members has increased in the research period from 14.0% to 16.1%. The mean percentage of semi-independent board members dropped from 8.3% to 7.1%. The percentage of umbrellas in the sample with an independent or semi-independent chair increased, whereas the percentage of umbrellas with an independent depositary was stable. In line with the observation at fund level, the experience of board members has increased.

The percentage of fixed TER schemes increased from 9.3% to 29.7% of the umbrellas. The percentage of promoter umbrellas with an affiliated distribution channel dropped from 60.5% to 56.8%. The statistics for the measures for scale at umbrella level confirm the observation at fund level, that there is a wide variation from small to large. In each calendar year, there was an umbrella with an average fund size of below EUR 50 million, whereas the umbrellas with the highest average fund size had funds with, on average, in excess of EUR 1 billion of assets. It should be noted that this observation concerns funds included in the sample, i.e., funds investing in one of the six sectors selected, not all funds in the umbrellas in the sample. There is also a large variation in scale at umbrella and promoter levels.

Table 5.10 is the correlation matrix for the variables at umbrella level for the years 2002-2008. Coefficients between 0.333 and 0.5 or -0.333 and -0.5 are shaded in light grey, while those in excess of -0.5 and 0.5 are shaded in a darker grey.

The correlation coefficients at umbrella level are largely consistent with those at fund level as reported in table 5.6. The percentage of independent board members is positively correlated with the board tenure and the chair dummy, which is one when the position of chairman is held by a semi-independent or independent person. There is a strong positive correlation between the three different measures for scale.

Table 5.10: Correlation matrix for the period 2002–2008 (umbrella level)

	RCI	T	I%	S%	CH	DEP	TEN3%	LEG	FIX	LATNAi	LTNAu	LTNAp	AD
RCI	1	0.094	0.140	0.011	0.142	0.204	0.089	-0.061	-0.200	-0.142	-0.153	-0.124	-0.232
T	0.094	1	0.190	-0.192	0.019	-0.181	0.190	-0.222	-0.003	0.213	0.338	0.295	0.044
I%	0.140	0.190	1	0.045	0.419	0.143	0.349	-0.109	-0.245	0.112	0.094	-0.157	-0.305
S%	0.011	-0.192	0.045	1	0.207	0.091	0.034	-0.163	-0.007	0.082	0.023	-0.143	-0.101
CH	0.142	0.019	0.419	0.207	1	0.052	0.051	-0.067	-0.125	0.195	0.087	-0.128	-0.225
DEP	0.204	-0.181	0.143	0.091	0.052	1	-0.027	-0.209	-0.271	-0.046	-0.094	-0.410	-0.412
TEN3%	0.089	0.190	0.349	0.034	0.051	-0.027	1	-0.079	-0.060	0.232	0.222	-0.079	-0.202
LEG	-0.061	-0.222	-0.109	-0.163	-0.067	-0.209	-0.079	1	0.131	0.184	0.100	0.147	0.161
FIX	-0.200	-0.003	-0.245	-0.007	-0.125	-0.271	-0.060	0.131	1	0.075	0.127	0.357	0.006
LATNAi	-0.142	0.213	0.112	0.082	0.195	-0.046	0.232	0.184	0.075	1	0.774	0.346	-0.110
LTNAu	-0.153	0.338	0.094	0.023	0.087	-0.094	0.222	0.100	0.127	0.774	1	0.586	-0.038
LTNAp	-0.124	0.295	-0.157	-0.143	-0.128	-0.410	-0.079	0.147	0.357	0.346	0.586	1	0.360
AD	-0.232	0.044	-0.305	-0.101	-0.225	-0.412	-0.202	0.161	0.006	-0.110	-0.038	0.360	1

■ Absolute value in excess of 0.500. ■ Absolute value between 0.333 and 0.500.

*RCI Model*

A disadvantage of the individual fund model is that all funds are treated as independent observations. Because funds in the same umbrella share the same governance characteristics, this treatment is not really the case. The drawback of the individual fund model is that standard errors for variables that are the same across funds in the sample are likely to be underestimated, and that the statistical significance of these variables could be overstated. To avoid this issue, the analysis is also performed with the average Relative Cost Indicator per umbrella. This regression model can be seen as a variation on the family-average model used by e.g., Ferris and Yan (2007b). The average RCI is a measure that summarises the relative cost level of all funds in the same umbrella, included in the sample, in one figure. As a result, each umbrella is represented in the analysis only once each calendar year, ensuring that the observations are independent. While this approach analyses fund promoter characteristics at the proper level and clearly avoids the pitfalls of the individual fund model of overstating statistical significance, the price is that valuable variation at the fund level is not used and thus, coefficients are estimated inefficiently.

The following equations are estimated:

RCI Model I (time fixed effects):

$$\begin{aligned}
 RCI_{u,t} = & c_t + \beta_1 T_{u,t} + \beta_2 I\%_{u,t} + \beta_3 S\%_{u,t} + \beta_4 CH_{u,t} + \beta_5 DEP_{u,t} + \beta_6 TEN3\%_{u,t} \\
 & + \beta_7 LEG_{u,t} + \beta_8 FIX_{i,t} + \beta_9 LATNA_{i,t} + \beta_{10} LTNA_{u,t} + \beta_{11} LTNA_{p,t} \\
 & + \beta_{12} AD_{p,t} + \varepsilon_{u,t}
 \end{aligned} \tag{5.9}$$

RCI Model II (time fixed effects and umbrella dummies):

$$\begin{aligned}
 RCI_{u,t} = & c_t + \alpha_u + \beta_1 T_{u,t} + \beta_2 I\%_{u,t} + \beta_3 S\%_{u,t} + \beta_4 CH_{u,t} + \beta_5 DEP_{u,t} + \beta_6 TEN3\%_{u,t} \\
 & + \beta_8 FIX_{i,t} + \beta_9 LTNA_{i,t} + \beta_{10} LTNA_{u,t} + \beta_{11} LTNA_{p,t} + \varepsilon_{u,t}
 \end{aligned} \tag{5.10}$$

*Results*

The results of the analyses at umbrella level are displayed in table 5.11. When interpreting the results, it should be noted that the cost level of an umbrella in the RCI model is measured in standard deviations from the sample mean, whereas in the individual fund model, the dependent variables are in basis points. In order to better understand the economic significance of the results and compare them to the individual fund model results, the coefficients are multiplied by the average standard deviation of the TERs in basis points. This product of coefficient and standard deviation is shown in the column indicated with bp.

The results of Model Ib at umbrella level are largely consistent with those at individual fund level in section 5.5. Boards with a higher percentage of independent directors have a lower TER. The economic significance is practically the same as in the individual fund model. Given the average board size of 7.0, each additional independent board member is associated with approximately 1.3 basis points lower TER. At individual fund level, this outcome was 1.2 basis points. As in the individual fund model, the



coefficient of the dummy variable for the chair position is positive. In this case, the coefficient is somewhat higher and significant at the 5% level. The coefficient for the percentage of semi-independent board members is positive, but significant only at the level of 10%. Umbrellas with larger boards, as well as those with more experienced boards and an independent depositary, have higher TERs. Umbrellas with the legal form of an FCP also have higher TERs.

The results for the control variables are very similar to those found for the individual fund model. Larger funds and funds in larger umbrellas have lower TERs. The coefficient for promoter assets is statistically significant positive. This indicates that funds of larger promoters have higher costs. Umbrellas of promoters with an affiliated distribution channel and those using a fixed TER fee structure have lower TERs. It should be remembered that the RCI is calculated without funds in the sample that charge performance fees. Therefore, there is no performance fee dummy included in the RCI model. Because the RCI is calculated in standard deviations from the respective sector means, no Emerging Markets sector dummy needed to be included either.

The results for Model IIb at umbrella level deviate more from those at the individual fund level. The reason for this difference is that by having a dependent variable at umbrella level and dummy variables per umbrella, practically all variability is captured in the dummy variables. This results in a high R-squared, but less meaningful results for the explanatory variables. The statistically significant coefficients found do point in the same direction as for specification II of the individual fund model.

**Table 5.11:** Relative Cost Indicator per umbrella and board characteristics

RCI	RCI Model Ib (2002-2008)			RCI Model IIb (2002-2008)		
	Coefficient	t	bp	Coefficient	t	bp
<i>c</i>	-0.52	-0.98	-13.5			
<i>T</i>	0.06	5.99	1.5	0.01	0.44	0.3
<i>I%</i>	-0.34	-3.65	-8.8	0.85	1.86	22.1
<i>S%</i>	0.46	1.67	12.1	0.98	2.02	25.4
<i>CH</i>	0.30	3.07	7.9	-0.41	-3.38	-10.8
<i>DEP</i>	0.33	2.78	8.7	0.08	0.85	2.0
<i>TEN3%</i>	0.43	3.06	11.1	0.05	0.67	1.2
<i>LEG</i>	0.32	2.92	8.4			
<i>FIX</i>	-0.44	-7.51	-11.6	-0.07	-0.88	-1.8
<i>LATNAi</i>	-0.12	-4.28	-3.1	-0.04	-0.71	-1.2
<i>LTNAu</i>	-0.20	-6.11	-5.2	-0.26	-4.37	-6.8
<i>LTNAp</i>	0.21	3.59	5.6	0.01	0.13	0.3
<i>AD</i>	-0.44	-5.13	-11.5			
Periods	7			7		
Funds	44			44		
Observations	295			295		
R <sup>2</sup>	0.215			0.822		
Adjusted R <sup>2</sup>	0.164			0.778		

■ Significant at 5% level. ■ Significant at 10% level.

## 5.8 Robustness checks

This section presents two robustness checks of the results found in section 5.5. The first robustness check defines independence in an alternative way. The second check splits the sample by origin of the promoter and performs the regressions analyses in the two sub-samples.

### *Independence as a dummy variable*

In section 5.5, three variables for the independence of the board were included in the regression analysis: the percentage of independent board members, the percentage of semi-independent board members and a dummy variable for the position of the chair. One could argue that in determining how effective boards operate for the interest of investors, it might matter more whether there is representation on the board from someone not employed by the promoter than the level of representation by non-employees. To capture this effect, the analyses of section 5.5 are repeated in this section, replacing the three variables for board independence by just one dummy variable for Board Independence (*BI*), indicating whether there is any board member on the board of an umbrella who is either independent or semi-independent. This is identical to the definition for dependent boards versus independent and semi-independent boards in section 4.4.

The results of the analysis are shown in table 5.12. For this robustness test, only the results for the TER are presented and only for the 2002–2008 period, when data for all variables was available. The top panel shows the results according to Model I, the cross-sectional approach. The bottom panel provides the results for Model II, which is the model with dummy variables for the different umbrellas. For easy reference, the results for the original model specification for the same period are also displayed.

The results for Model I in the original specification and with the dummy variable for board independence are highly consistent. In the alternative model specification, there is a negative and marginally significant relationship between the board independence dummy variable (*BI*) and the TER. Funds with boards that have some influence from outsiders have a TER 2 basis points lower. In the original model specification, the coefficients were much larger, but with a negative sign for the percentage of board independence and a positive sign for both the percentage of semi-independent board members and the chair position. The results for the other governance variables and the control variables are substantially the same as in the original model specification. The explanatory power of the alternative specification, where three variables are replaced by one, is practically the same as under the original specification.

Comparing results for the two specifications of Model II, the result for the board independence dummy variable is noteworthy. Because of the inclusion of dummy variables per umbrella in Model II, the robustness check with the dummy variable for independence picks up on situations where this variable changed, either from a fully dependent board to one with at least one semi-independent or independent board member or vice versa. The economically small and statistically insignificant coefficient shows that in those situations, such a change did not coincide with a change in fund

TER levels. As was the case for Model I, the results for the other variables and the explanatory power of this alternative model specification and the original specification are substantially the same.

**Table 5.12:** Results analysis of fund costs and board characteristics with alternative independence definition – Board Independence dummy variable for funds with at least one (semi-) independent board member

TER%	Model Ib (2002-2008)		Model Ib (2002-2008)	
	Original model specification		Board Independence dummy	
	Coefficient	t	Coefficient	t
<i>c</i>	177.72	10.23	182.50	12.51
<i>T</i>	1.39	6.04	1.22	7.45
<i>I% / BI</i>	-8.33	-3.68	-2.06	-1.85
<i>S%</i>	4.94	1.23		
<i>CH</i>	4.52	1.66		
<i>DEP</i>	6.59	2.79	6.11	2.56
<i>TEN3%</i>	9.04	2.54	7.22	1.74
<i>LEG</i>	6.00	2.37	5.13	2.51
<i>PF</i>	13.62	9.89	13.49	8.90
<i>FIX</i>	-8.82	-4.95	-7.92	-4.76
<i>LTNAi</i>	-4.01	-8.16	-4.02	-8.69
<i>LTNAu</i>	-4.76	-7.68	-4.20	-7.74
<i>LTNAp</i>	5.35	2.86	4.89	3.01
<i>EM</i>	30.61	18.90	30.41	18.66
<i>LAGE</i>	0.68	1.02	0.73	1.01
<i>AD</i>	-16.03	-7.74	-17.04	-10.51
Periods	7		7	
Funds	538		538	
Observations	2541		2541	
$R^2$	0.280		0.276	
Adjusted $R^2$	0.274		0.271	
TER%	Model IIb (2002-2008)		Model IIb (2002-2008)	
	Original model specification		Board Independence dummy	
	Coefficient	t	Coefficient	t
<i>T</i>	0.24	0.39	0.23	0.59
<i>I% / BI</i>	39.21	3.28	1.18	0.51
<i>S%</i>	17.07	1.53		
<i>CH</i>	-9.07	-5.85		
<i>DEP</i>	1.54	0.90	2.67	2.78
<i>TEN3%</i>	0.76	0.37	1.19	0.53
<i>PF</i>	14.33	10.41	14.74	11.01
<i>FIX</i>	8.50	3.36	8.35	4.18
<i>LTNAi</i>	-2.87	-5.44	-2.83	-5.50
<i>LTNAu</i>	-5.71	-7.82	-6.28	-7.44
<i>LTNAp</i>	-2.28	-0.86	-2.99	-1.21
<i>EM</i>	28.99	15.16	28.95	15.16
<i>LAGE</i>	-0.37	-0.60	-0.37	-0.61
Periods	7		7	
Funds	538		538	
Observations	2541		2541	
$R^2$	0.565		0.560	
Adjusted $R^2$	0.554		0.549	

■ Significant at 5% level. ■ Significant at 10% level.

*Sample split by promoter origin*

In chapter 4, it was concluded that independent board members on fund boards are more common for promoters of Anglo-Saxon origin than for continental European promoters. In order to rule out that the origin of the promoter is driving the results for the percentage of independent board members, the following robustness check was performed. The regression analysis was repeated for two sub-samples separately, specifically, the funds of Anglo-Saxon promoters and the funds of continental European promoters.

The results of the analysis for the TER as dependent variable on data for the 2002-2008 period are shown in table 5.13. The top panel shows the results according to Model I and the bottom panel provides the results for Model II. The results for the full sample of funds are shown as well, next to the results for the two sub-samples by promoter origin.

When comparing the results for the whole sample with those for the two sub-samples according to the promoter origin, noteworthy differences occur. Of the results for Model I, the cross-sectional model specification, the most surprising result concerns the percentage of independent board members. Whereas in the whole sample the coefficient is negative and statistically significant, it is positive in the Anglo-Saxon sub-sample and negative in the continental European sub-sample, but not statistically significant in either of the two.

Consistent with the results for the whole sample is that larger boards, independent depositaries and funds set up as FCPs are associated with higher TERs, even though the relationship between board size and TER in the sub-sample for Anglo-Saxon promoters is significant only at the level of 10%. The relationship between board tenure and TER is positive in both sub-samples, but significant only in the Anglo-Saxon sub-sample. The coefficient for the chair position is not statistically significant in either sub-sample. The relationship between the percentage of semi-independent board members and the TER is significantly positive in the Anglo-Saxon sub-sample.

For the control variables, the results for the two sub-samples based on promoter origin support the results for the sample as a whole. The sign of each of the coefficients is the same in the whole sample as in the two sub-samples, and the level of economical and statistical significance is comparable. In both sub-samples, affiliated distribution is associated with a lower TER. In the continental European sub-sample the difference is 21 basis points, in the Anglo-Saxon sub-sample 6 basis points. Only in the case of the Fixed TER dummy variable, is the coefficient not statistically significant in one of the two sub-samples, specifically that for Anglo-Saxon promoters.

With Model II, analysing variation within the umbrellas, the results for the control variables in the sub-samples are consistent with the results for the sample as a whole. The most striking difference again for the two sub-samples is the result for the percentage of independent board members. The positive and significant relationship between this percentage and the TER in the sample as a whole consists, in fact, of a negative and significant relationship in the continental European sub-sample and a strongly positive and significant relationship in the Anglo-Saxon sub-sample. This result raises further doubts with regard to the existence of any causal relationship between independent governance and the level of the TER.

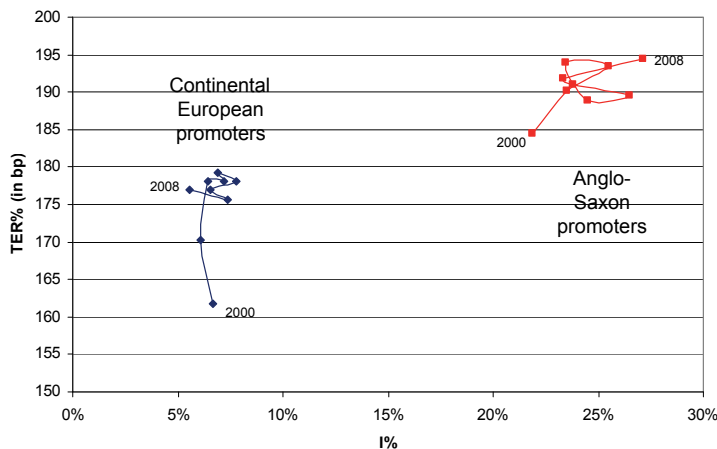
**Table 5.13:** Results analysis of fund costs and board characteristics for sub-samples – Full sample, funds of continental European promoters and funds of Anglo-Saxon promoters

TER%	Model Ib (2002-2008) Full sample		Model Ib (2002-2008) Continental European		Model Ib (2002-2008) Anglo-Saxon	
	Coefficient	t	Coefficient	t	Coefficient	t
<i>c</i>	177.72	10.23	180.43	14.03	164.72	7.31
<i>T</i>	1.39	6.04	1.47	5.29	0.66	1.94
<i>I%</i>	-8.33	-3.68	-15.35	-1.38	3.13	0.63
<i>S%</i>	4.94	1.23	1.71	0.25	18.46	2.60
<i>CH</i>	4.52	1.66	1.62	0.27	4.68	1.65
<i>DEP</i>	6.59	2.79	4.48	2.25	16.73	2.78
<i>TEN3%</i>	9.04	2.54	7.93	1.06	11.14	2.42
<i>LEG</i>	6.00	2.37	5.23	1.98	8.55	1.73
<i>PF</i>	13.62	9.89	11.69	2.54	14.74	4.70
<i>FIX</i>	-8.82	-4.95	-10.02	-3.03	-5.05	-1.22
<i>LTNAi</i>	-4.01	-8.16	-4.07	-6.61	-3.56	-7.05
<i>LTNAu</i>	-4.76	-7.68	-3.37	-3.75	-6.38	-4.51
<i>LTNAp</i>	5.35	2.86	4.69	4.76	7.04	2.40
<i>EM</i>	30.61	18.90	36.06	20.35	23.91	11.38
<i>LAGE</i>	0.68	1.02	0.05	0.03	-0.26	-0.39
<i>AD</i>	-16.03	-7.74	-21.43	-3.18	-6.04	-2.34
Periods	7		7		7	
Funds	538		282		256	
Observations	2541		1264		1277	
R <sup>2</sup>	0.280		0.225		0.303	
Adjusted R <sup>2</sup>	0.274		0.212		0.291	
TER%	Model IIb (2002-2008) Full sample		Model IIb (2002-2008) Continental European		Model IIb (2002-2008) Anglo-Saxon	
	Coefficient	t	Coefficient	t	Coefficient	t
<i>T</i>	0.24	0.39	-1.59	-1.28	2.51	1.79
<i>I%</i>	39.21	3.28	-19.15	-2.60	53.09	3.29
<i>S%</i>	17.07	1.53	5.09	0.59	41.51	1.95
<i>CH</i>	-9.07	-5.85	2.26	0.58	-18.57	-4.77
<i>DEP</i>	1.54	0.90	4.04	1.07	4.70	0.87
<i>TEN3%</i>	0.76	0.37	-0.79	-0.29	3.92	1.05
<i>PF</i>	14.33	10.41	14.85	5.63	10.86	6.27
<i>FIX</i>	8.50	3.36	5.43	2.08	9.78	3.79
<i>LTNAi</i>	-2.87	-5.44	-2.32	-2.74	-3.22	-8.29
<i>LTNAu</i>	-5.71	-7.82	-4.39	-3.11	-6.51	-5.48
<i>LTNAp</i>	-2.28	-0.86	-2.98	-0.64	-0.52	-0.26
<i>EM</i>	28.99	15.16	33.60	16.81	24.96	11.31
<i>LAGE</i>	-0.37	-0.60	-0.78	-1.22	-0.21	-0.29
<i>AD</i>						
Periods	7		7		7	
Funds	538		282		256	
Observations	2541		1264		1277	
R <sup>2</sup>	0.565		0.539		0.563	
Adjusted R <sup>2</sup>	0.554		0.523		0.549	

■ Significant at 5% level. ■ Significant at 10% level.

What could be driving these results? Figure 5.3 provides clarification by means of a *snail trail* for the two sub-samples. This chart plots the average TER of funds investing in developed markets against the average percentage of independent board members in each of the calendar years in the research period, separately for the continental European and the Anglo-Saxon sub-sample. As was shown in section 5.3, TERs in-

creased in the research period. The upward development is visible in both sub-samples, although TERs in the continental European sub-sample are lower than in the Anglo-Saxon sub-sample. The chart also reflects the conclusion in chapter 4 that the governance of Anglo-Saxon promoter umbrellas became more independent in the research period, whereas more umbrellas among continental European promoters developed from having some independence to being fully dependent than vice versa. This finding implies that among Anglo-Saxon promoters, the increasing TERs coincided with increasing board independence, whereas among continental European promoters, increasing TERs coincided with decreasing independence. In the results for Model II, this finding is expressed as a negative coefficient in the continental European sub-sample and a positive coefficient in the Anglo-Saxon sub-sample. These results are not supportive for the existence of any causal relationship between board independence and the level of the TER.



**Figure 5.3:** Development of fund costs and independence in the two sub-samples  
Sub-sample of funds investing in developed markets, without a performance fee schedule.

### 5.9 Conclusions

In the period from 2000 until 2008, average Management and Distribution Fees increased for all sectors in the sample. In the same period, average Other Costs decreased. In the case of the Emerging Markets sector, the net effect of the increase of average Management and Distribution Fee and the decrease of average Other Costs was a decrease of the TER. For all developed market sectors, the decrease of average Other Costs did not offset the increase of the average Management and Distribution Fees, resulting in an increase of the TER.

Mesche (2007), Ferris and Yan (2007b) and Kong and Tang (2008) are examples of studies finding a statistically significant negative relationship between fund size, as well as fund family size and costs. The results of the various regression analyses presented in this chapter were consistent with that finding, at least for the measures for fund size and umbrella size. Larger funds have lower TERs, driven by Other Costs.

Funds in larger umbrellas have lower TERs, driven by a combination of lower Management and Distribution Fees and lower Other Costs. There is evidence of the scale of the promoter being positively related to the TER, in particular its Management and Distribution fees component. This finding can be explained by larger promoters being able to command premium pricing for their funds.

The main question in this chapter was whether or not fund investors benefit from independent governance in the form of lower costs. The results from earlier empirical studies are inconsistent. Tufano and Sevick (1997) find evidence consistent with independent governance contributing to lower costs for open-end funds. Del Guercio et al. (2003) and Gemmill and Thomas (2006) come to similar results for closed-end funds. These results, however, are not confirmed by Meschke (2007), Ferris and Yan (2007b), Cremers et al. (2009) and Adams et al. (2010). An interesting aspect of this Luxembourg fund study is that there is greater variation in the level of board independence. In the U.S., funds are required to have more than 40% independent board members and most have more than two-thirds, whereas in Luxembourg, there is no requirement to have independent board members. In 2008, the percentage of independent board members for funds in the sample ranged between 0% and 73.5%.

The study failed to find consistent evidence that independent governance contributes to lower costs. With a cross-sectional analysis at individual fund level, it was shown that the percentage of independent board members was associated with lower TERs, due to lower Other Costs. The economic significance of the coefficient was modest. A fund with a fully independent board would have an approximately 8 basis points lower TER than a fund with a fully dependent board. However, not in line with the hypothesis that independent governance drives costs down, was the positive relationship between the percentage of independence and the Management and Distribution fee, as well as the positive relationship between the chair position and the TER. Using the average Relative Cost Indicator as the measure for costs at the umbrella level, these results were confirmed, finding a negative relationship between TER and the percentage of independent board members and a positive relationship between the TER and the chair position. In a model specification in which the three variables for board independence (percentage of independent board members, percentage of semi-independent board members and dummy variable for the chair position) were replaced by one dummy variable indicating whether there is any representation on a certain board by someone who is not employed by the promoter or promoter group, there was a negative relationship between the TER and this Board Independence dummy.

Inconsistent results were found when the sample was split based on the promoter origin into a continental European and an Anglo-Saxon sub-sample. The results for the level of board independence and the chair position were not statistically significant in the two sub-samples, with opposite signs in the two sub-samples for the coefficient of the variable for the percentage of board independence.

Results not supportive of the hypothesis that independent governance leads to lower costs were also found with the model specification in which dummy variables per umbrella were added, thus focusing on variation within umbrellas. Analysing the whole sample with this methodology, a positive, and economically and statistically

significant, relationship was found between the percentage of independent board members and the TER. This finding implied that umbrella boards where the percentage of independent board members increased, also had an increase of TERs, not a decrease. When the total sample was split into two sub-samples based on promoter origin, it turned out that the relationship between the percentage of independence and the TER differed in both sub-samples. There was a negative and significant relationship in the continental European sub-sample, and a strongly positive and significant relationship in the Anglo-Saxon sub-sample.

These results are consistent with two developments happening in parallel, specifically, the increase of TERs on the one hand and, on the other hand, deviating developments with regard to independent governance in the sub-samples of continental European and Anglo-Saxon promoters. The level of independent governance is higher in the Anglo-Saxon sub-sample and increased during the research period. Independent governance is less common on boards of continental European promoter umbrellas and has decreased during the research period. Whereas increasing TERs coincided with increasing independence in the one sub-sample, they coincided with decreasing independence in the other. These results are not supportive of the existence of any causal relationship between board independence and the TER level.

Governance characteristics of a fund are related to the promoter's country of origin. The higher average TER of Anglo-Saxon promoter funds over those of continental European promoters seems to be driven by whether or not the promoter has an affiliated distribution channel within the group. Continental European promoters have in most cases, but not all, an affiliated distribution channel within their banking or insurance group, whereas Anglo-Saxon promoters are, more often than not, independent from any distribution channel. In both the continental European and the Anglo-Saxon sub-samples, affiliated distribution is associated with statistically significantly lower TERs. With the individual fund model, the difference was estimated at 16 basis points. Fund and umbrella scale, as well as the distribution model of the promoter, seem to be more important drivers for fund TER levels than the composition of the board.



## Chapter 6

# Governance and performance

*Principle #6: “As long as you’re picking a fund, you might as well pick a good one”.*<sup>108</sup>

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<sup>108</sup> One of 25 investor principles of Peter Lynch, star manager of the Fidelity Magellan Fund in the period 1977–1990, published in: Peter Lynch with John Rothchild, 1993, *Beating the Street* (Simon & Schuster, New York), p. 59.

## 6.1 Introduction

In this chapter, investment performance is used as a measure for the effectiveness of fund boards. Ultimately, performance is what investors are after when they invest in a fund. Performance is also where all possible agency costs converge. In the end, the costs of any conflict of interest will be at the expense of the performance achieved by the fund. Independent board members should be the most effective category of board members in pursuing the interests of the investors; they are the least hampered by conflicts of interest and most inclined to prioritise the investors' interests. The hypothesis being tested in this chapter is that funds with more independent boards have better investment performance than funds with less independent boards. The relevance for investors is whether governance characteristics should be taken into account as a selection criterion when one wants to pick a *good fund*.

A disadvantage of analysing fund performance is that due to the volatility of the equity markets, fund returns have a low signal-to-noise ratio. This might make it difficult to attribute differences in returns to the added value of the board.

This study is most related to Meschke (2007), Ferris and Yan (2007b) and Kong and Tang (2008). These studies of U.S.-domiciled funds analyse the relationship between fund performance and board independence, measured as the percentage of independent board members and with a dummy variable for the chair position. Their results do not support the hypothesis that independent governance contributes positively to performance. Analysing ten years of performance data, Meschke (2007) finds that both these measures for board independence are associated with lower performance. On the basis of one year of performance data, Kong and Tang (2008) also find that a higher percentage of independence is related to lower performance, whereas the relationship for the chair position is not statistically significant. Ferris and Yan (2007b) find no statistically significant relationship for either measure of board independence. Analysing the performance of long/short portfolios of funds selected on the basis of governance criteria, Cremers et al. (2009) find that a higher proportion of independent directors is not associated with a significantly higher or lower performance. However, they find that fund ownership by both independent and dependent directors is associated with better performance.

There are several studies more supportive of the hypothesis that independent governance contributes positively to performance. Wellman and Zhou (2007) find that funds with a good stewardship grade from Morningstar perform better than funds with a poor stewardship grade. Out of the five components of the overall grade, Board Quality and Fees have most explanatory power. It should be noted that a *good quality* board, as assessed by Morningstar, does not equal a *highly independent* board. Although the level of independence is taken into account, Morningstar also appreciates board members investing in the funds they oversee, and dislikes board members overseeing too many funds. Ding and Werners (2005) conclude that boards with more outside directors are more likely to replace managers with poor performance, which has a positive effect on subsequent performance. Khorana et al. (2007) find that more independent boards tolerate less underperformance before engaging in across-family mergers. Analysing closed-end funds, Del Guercio et al. (2003) find that boards with a

higher portion of independent members are more likely to approve a share repurchase programme when discounts are large.

The results for the relationship between board size and performance are also not consistent across the various studies. The results of Kong and Tang (2008) and Adams et al. (2010) support the hypothesis that larger boards are less effective in their decision-making, finding that larger boards are associated with lower performance. For closed-end funds, Del Guercio et al. (2003) find that larger boards are associated with bigger discounts and are more likely to make decisions against the interest of shareholders. Contradictory results come from Ding and Wermers (2005), who find that funds with larger boards perform better and are less tolerant of poor performance before replacing poorly performing managers. In the case of Ferris and Yan (2007b) and Meschke (2007), the relationship is not statistically significant.

This study adds to the existing literature by analysing funds in a different market and regulatory environment, specifically, Luxembourg-domiciled funds distributed on a cross-border basis. In the U.S., the variation of the percentage of independent board members is relatively low and is always above the regulatory minimum of 40%, whereas in this sample of Luxembourg funds, it varies between zero and 80.0%. Ten years of performance data and governance data is available for the analysis.

Two performance measures are used to compare the performance across the sample of funds. The first consists of a practitioner and consumer view on fund performance. In this case, the return of a fund is compared to the average return of funds in the same sector. It is a simple and intuitive peer group comparison, where the return of a fund is corrected for that of similar funds available to investors at the same moment in time. The second measure is a risk-adjusted fund return, which provides a more academic view on fund performance. Risk-adjusted performance is determined as the alpha from the Carhart 4-factor model and is used as the primary measure for excess return in this study. The definitions of excess return and the sources of the data used are elaborated in section 6.2.

Section 6.3 analyses the performance of funds in the sample in the research period, using descriptive statistics. Section 6.4 is dedicated to a multiple regression analysis at fund level, analysing performance data for periods of one year. The two sections thereafter provide robustness checks of the results found in section 6.4, analysing performance at umbrella level in section 6.5 and analysing performance over a longer period in section 6.6. Section 6.7 provides the conclusions for this chapter.

## 6.2 Performance definitions and data

### *Excess return measures*

In order to be able to compare the investment performance of funds across different sectors, two measures are used for a fund's excess return. The first measure is the fund's sector-adjusted return, which is the return of a fund in a certain period, relative to the average return of funds in the same sector. Since, in practice, investors compare the results achieved to that of available alternatives, this measure for the relative performance of a fund is intuitive and practical. The Average Sector-Adjusted Return of a fund can be seen as the return in excess of the return of an equally weighted portfolio

of all funds in the same sector, rebalanced monthly. By adjusting fund returns for the returns of funds in the same sector, the excess returns found can be compared across sectors. The monthly Average Sector-Adjusted Return (hereafter also referred to as ASAR) for fund  $i$  over period  $t$  is calculated as follows:

$$ASAR_{i,t} = \left( \prod_{t=1}^T (1 + r_{i,t}) \right)^{1/T} - \left( \prod_{t=1}^T \left( 1 + \frac{1}{m_t} \sum_{j=1}^{m_t} r_{j,t} \right) \right)^{1/T} \quad t = 1, 2, \dots, T \quad (6.1)$$

where:

$r_{i,t}$  is the return of fund  $i$  in month  $t$ .

$r_{j,t}$  is the return of fund  $j$ , belonging to the same sector as fund  $i$ , in month  $t$ .

$m_t$  is the number of funds within the given sector in month  $t$ .

The second measure used to compare the return of funds is more sophisticated in that it takes into account fund risk. The risk-adjusted performance measure used is the alpha from the Carhart 4-factor model, in this dissertation also referred to as the Carhart alpha or 4-factor alpha (hereafter also CFFA). It corrects the return of a fund for the return of a market portfolio and for the return on three simple strategies, specifically, investing in small capitalisation stocks, investing in value stocks and investing in momentum stocks. The Carhart model (see Carhart, 1997) is an empirical extension of the Capital Asset Pricing Model and builds on work by Fama and French (1993). The Carhart model reads as follows:

$$r_{i,t}^e = \alpha_{i,t} + b_{i,t} RMRF_t + s_{i,t} SMB_t + h_{i,t} HML_t + p_{i,t} PR1YR_t + e_{i,t} \quad t = 1, 2, \dots, T \quad (6.2)$$

where:

$r_{i,t}^e$  is the return of fund  $i$  in month  $t$  in excess of the risk-free rate.

$\alpha_{i,t}$  is the monthly Carhart alpha of fund  $i$  in period  $t$ , for the purpose of this dissertation interpreted as a measure of excess return.

$RMRF_t$  is the return in excess of the risk-free rate on a value-weighted market proxy in month  $t$ .

$SMB_t$ ,  $HML_t$  and  $PR1YR_t$  are a size, a book-to-market and a momentum factor, respectively.

These three factors can be seen as the returns on a zero-investment portfolio, long in one type of securities and short in another type. In the case of  $SMB$ , which stands for small minus big, it is long in small capitalisation and short in large capitalisation stocks. In the case of  $HML$ , high minus low book-to-market ratio stocks, it is long in value and short in growth stocks. The momentum factor ( $PR1YR$ ) is a portfolio investing long in the past year's winners and short in past year's losing stocks. Carhart (1997, p. 61) writes the following about the interpretation of his model:

"The 4-factor model is consistent with a model of market equilibrium with four risk factors. Alternatively, it may be interpreted as a performance attribution model, where the coefficients and premia on the factor-mimicking portfolios

indicate the proportion of the mean return attributable to four elementary strategies: high versus low beta stocks, large versus small market capitalization stocks, value versus growth stocks, and one-year return momentum versus contrarian stocks. I employ the model to “explain” returns, and leave risk interpretation to the reader.”

#### *Factor construction and data*

The sample of umbrellas and funds is the same as for the analysis of governance and costs in chapter 5. Monthly total returns for these funds were taken from Morningstar Direct. However, for the limited number of funds in the sample for which fund returns were not available from Morningstar Direct, these have been provided by Lipper. For the sectors Global, U.S. and Emerging Markets equity, the return currency is U.S. dollars (US\$). The returns for the sectors Pan-European and Euroland equity are in Euros (EUR), while for Japan equity, the returns are in Japanese Yen (JPY).

Several academic studies evaluating the performance of U.S.-based funds with the Fama-French 3-factor or the Carhart 4-factor model, such as Barber et al. (2005) and Bello (2007), use the factor returns for the U.S. stock market constructed using data from the CRSP database and made available by Dr. Kenneth French<sup>109</sup>. For this study of Luxembourg funds, in addition to funds investing in U.S. equity, performance of funds investing in the sectors Global equity, Japan equity, Pan-European equity, Euroland equity and Emerging Markets equity needs to be evaluated. This requirement implies that for applying the Carhart model, factors need to be constructed that reflect the investment opportunity set available to these funds in the sample.

To construct the factors for the 4-factor model, indices were used from MSCI<sup>110</sup> for each of the six sectors in the sample: MSCI World NR, MSCI USA NR, MSCI Europe NR, MSCI EMU NR, MSCI Japan NR and MSCI Emerging Markets NR. These MSCI total return indices are available for the entire 2000-2009 research period. The MSCI World index is a stock market index consisting of over 6,000 equities from 24 developed countries. This market capitalisation weighted index has been calculated since 1969 and is commonly used as *benchmark* by investment funds investing globally in developed markets. The MSCI country indices for the U.S., Japan and 16 European countries are among the constituents of the MSCI World index. The 16 developed European countries together form the MSCI Europe index. The MSCI EMU is formed by the eleven of these countries that are part of the European Economic and Monetary Union. The MSCI Emerging Markets Index is a market capitalisation index that consists of 21 emerging market country indices.

The abbreviation NR stands for net returns, indicating that the returns are calculated with dividend reinvested, after subtracting withholding tax. This approach gives a better proxy for the actual tax status of Luxembourg funds than the gross dividends reinvested benchmarks that are also available from MSCI. The reason is that for most investment markets, a Luxembourg-domiciled fund cannot reclaim withholding tax on

<sup>109</sup> See website [http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data\\_library.html](http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html).

<sup>110</sup> Formerly known as Morgan Stanley Capital International.

dividends<sup>111</sup>. The monthly returns of these indices for each of the sectors are used for the market proxy  $RMRF_t$  of the Carhart 4-factor model. The risk free rates used for US\$, EUR and JPY, respectively, are 3-month U.S. Treasury Bills, 1-month Euro Libor and 1-month Japanese Yen Libor.

For all six MSCI indices used, sub-indices are available for growth and value stocks, allowing the construction of the HML factors. The value and growth indices are constructed using a style definition with eight fundamental data points for each security. Based on this data, the various broad indices are split into a value and growth index, each with one-half of the market capitalisation. For each of the fund sectors, MSCI small cap indices are also available. These small cap indices are constructed from small capitalisation companies from the same markets, which are not included in the broad indices. For each sector, HML is the return of the value minus the growth version of the index. SMB is calculated as the return of the small cap index minus the return of the broad market index. Monthly returns for the various MSCI indices, as well as the risk-free rates, were obtained from Morningstar Direct.

Momentum factors are not readily available from MSCI and are calculated following Carhart (1997). For each of the six broad MSCI indices mentioned above, the returns of the index constituents are calculated over the past 11 months, lagged one month, and then sorted. An equally weighted portfolio is formed with the 30% best performers and the 30% worst performers. The momentum factor is the return of the best performer portfolio in the subsequent month, minus the return of the worst performer portfolio. The list of index constituents is updated annually as of the end of the year. MSCI provided these annual lists of index constituents upon request. The returns for the index constituents were obtained from Morningstar Direct.

The factor returns for each of the six fund sectors thus calculated are used to estimate equation 6.2. The factor loadings  $b$ ,  $s$ ,  $h$  and  $p$  and the Carhart 4-factor alpha of individual funds and fund portfolios were estimated using Ordinary Least Squares (OLS) regressions. The method of constructing factors from market indices is unconventional, but allows the use of one approach for all fund sectors analysed in this study for the whole research period. Furthermore, Cremers, Petajisto and Zitzewitz (2010) show that a factor model whereby market indices are used to construct the factors is appropriate, and is preferred over commonly used factor models in performance evaluation applications.

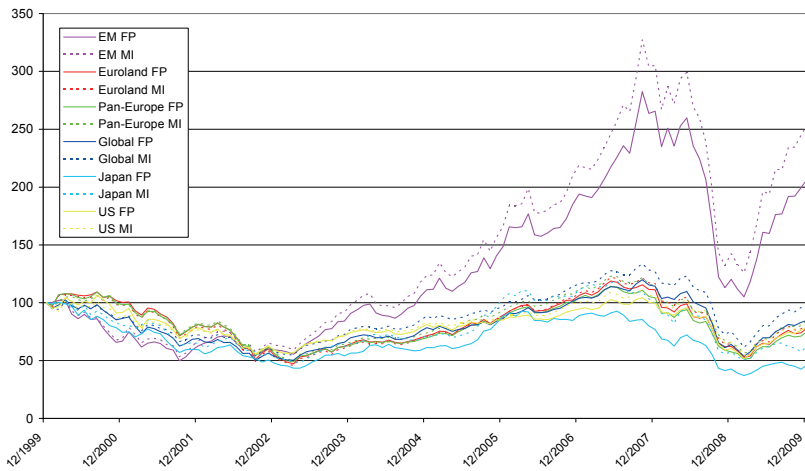
In order to check how the factors calculated with the MSCI indices compare to the traditional factors used in the Carhart model, correlations were calculated between the factors constructed for this study for the U.S. equity sector for the 2000-2009 period and those available on French's website. The correlation between the factors for the excess market return is 0.977 and that for the risk-free rate 0.986. The correlations for the size and momentum factors are 0.887 and 0.927, respectively. It is not unexpected that with 0.747, the correlation for the valuation factor is the lowest of the factors, because distinguishing value and growth companies is more subjective than distinguishing large and small capitalisation companies. From these high correlations, it can be concluded that the factors used are similar to those of Dr. Kenneth French.

<sup>111</sup> There are some markets for which withholding tax can be reclaimed, such as for e.g., the German market. As a result, the withholding tax situation of the funds in the sample might be marginally better than what is assumed with the various NR indices.

### 6.3 Fund performance in the research period

#### *Performance compared to market indices*

Figure 6.1 compares the average performance of the funds in the sample to the broad market indices of MSCI. The solid lines represent the performance of the funds in the sample. For each sector and for each month, the simple average performance is determined for all active funds. These return series can be seen as those of equally weighted portfolios of all active funds, rebalanced monthly. The return series are used to create a series of values, with December 1999 set at 100, in the chart indicated as Fund Portfolio (FP). The Market Indices (MI) are shown as dotted lines.



**Figure 6.1:** Performance of fund portfolios in the sample by fund sector and market indices (December 1999=100)

During the research period, investors were confronted with two bear market periods. All six market indices had negative returns in the years 2000, 2001 and 2002, as a result of the market correction that followed the *technology bubble*. In 2008, the markets suffered significant losses following the *financial crisis*. Despite recovery in the 2003-2006 period and in 2009, the Emerging Markets sector was the only sector with a positive return over the entire research period.

Table 6.1 provides the fund portfolio returns by sector for each calendar year and for the entire period, and compares these to the respective market indices. In all sectors, the fund portfolio underperformed the market index over the entire research period. The fund portfolio returns are net of ongoing costs, whereas the returns of the market indices do not include costs. The average TER for Pan-European, Euroland, Global and U.S. equity was 1.82%, 1.76%, 1.86% and 1.80%, respectively. For these sectors, the underperformance of the fund portfolio of the relevant market indices was less than the TER, implying that gross of these costs, the funds outperformed the market indices. The average TER for the Emerging Markets and Japan equity sectors amounted to 2.15% and 1.84%, respectively. The fund portfolios for these sectors underperformed the market indices by more than the average TER.

**Table 6.1:** Returns of equally-weighted fund portfolio of all active funds, rebalanced monthly, compared to market indices for the same sectors

Fund sector	Period	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2000-2009 (annualised)
EM	Fund Portfolio (return in %)	-33.20	-5.94	-5.66	53.11	22.52	33.58	30.59	36.95	-54.73	72.30	7.56
	Market Index (return in %)	-30.83	-2.61	-6.17	55.82	25.55	34.00	32.17	39.39	-53.33	78.51	9.78
	Arithmetic difference (in %)	-2.37	-3.32	0.51	-2.71	-3.03	-0.41	-1.58	-2.44	-1.40	-6.21	-2.23
	Average number of funds	22.6	25.9	28.7	29.4	28.3	29.8	31.7	35.3	39.1	39.5	31.0
Global	Fund Portfolio (return in %)	-13.52	-20.14	-22.45	30.31	12.43	10.02	20.26	10.13	-44.17	32.94	-1.63
	Market Index (return in %)	-13.18	-16.82	-19.89	33.11	14.72	9.49	20.07	9.04	-40.71	29.99	-0.24
	Arithmetic difference (in %)	-0.34	-3.32	-2.56	-2.80	-2.29	0.54	0.19	1.10	-3.46	2.95	-1.38
	Average number of funds	49.7	61.0	69.6	72.6	67.9	73.7	82.5	91.3	91.8	90.8	75.1
US	Fund Portfolio (return in %)	-8.29	-14.63	-24.95	26.47	9.14	4.94	11.09	5.50	-39.42	30.54	-2.34
	Market Index (return in %)	-12.84	-12.39	-23.09	28.41	10.14	5.14	14.67	5.44	-37.57	26.25	-1.82
	Arithmetic difference (in %)	4.56	-2.23	-1.86	-1.94	-0.99	-0.20	-3.59	0.06	-1.85	4.29	-0.52
	Average number of funds	50.1	59.5	76.5	86.4	90.7	95.3	102.6	104.5	103.7	97.1	86.6
Euroland	Fund Portfolio (return in %)	0.24	-18.78	-33.18	18.32	11.12	24.58	19.18	4.78	-44.05	25.74	-2.42
	Market Index (return in %)	-2.55	-18.29	-33.77	19.10	12.67	25.38	21.92	7.82	-44.85	27.32	-1.98
	Arithmetic difference (in %)	2.79	-0.49	0.58	-0.77	-1.55	-0.80	-2.74	-3.05	0.80	-1.58	-0.44
	Average number of funds	50.2	59.9	65.5	74.6	81.8	94.8	105.7	117.4	124.0	114.7	88.9
Pan-Europe	Fund Portfolio (return in %)	-1.54	-17.58	-31.17	13.42	10.12	25.70	18.71	0.10	-44.86	31.04	-2.80
	Market Index (return in %)	-2.20	-15.54	-30.74	15.26	12.18	26.09	19.61	2.69	-43.65	31.60	-1.62
	Arithmetic difference (in %)	0.66	-2.04	-0.43	-1.84	-2.05	-0.38	-0.90	-2.60	-1.21	-0.56	-1.18
	Average number of funds	25.6	26.9	28.4	28.3	28.6	31.9	32.7	33.3	38.7	40.1	31.5
Japan	Fund Portfolio (return in %)	-25.61	-20.21	-19.90	18.82	8.59	44.15	0.52	-13.71	-44.26	8.56	-7.39
	Market Index (return in %)	-19.85	-18.98	-18.76	22.74	10.78	44.58	7.26	-10.21	-42.56	9.12	-4.58
	Arithmetic difference (in %)	-5.76	-1.23	-1.14	-3.91	-2.19	-0.43	-6.74	-3.50	-1.70	-0.56	-2.81
	Average number of funds	38.7	45.3	46.6	46.8	47.5	49.8	57.5	61.9	61.3	57.9	51.3



As a next step, for the fund portfolios for each sector, the alpha ( $\alpha$ ) and coefficients  $b$ ,  $s$ ,  $h$  and  $p$  were estimated using the Carhart 4-factor model (see formula 6.2) for the entire 2000-2009 period. This approach is similar to the performance analysis using a 1-factor model of Grinold and Kahn (1992, p. 10) and as applied by Carhart (1997, p. 62-65) with his 4-factor model. The results are provided in table 6.2. For each sector, the alpha ( $\alpha$ ) and coefficients  $b$ ,  $s$ ,  $h$  and  $p$  are provided along with their t-values. When a coefficient is statistically significant at the level of 10%, it is highlighted in light grey. For coefficients that are significant at the 5%-level, a darker shade of grey is used.

**Table 6.2:** Monthly alpha and coefficients  $b$ ,  $s$ ,  $h$  and  $p$  estimated with the Carhart model (2000–2009)

Fund sector	$\alpha$	t	$b$	t	$s$	t	$h$	t	$p$	t	R <sup>2</sup>
EM	-0.17	-2.69	0.99	112.71	-0.01	-0.21	-0.03	-0.96	0.02	1.93	0.992
Global	-0.14	-2.55	1.02	75.49	0.13	6.46	-0.11	-4.76	0.01	0.90	0.987
U.S.	-0.10	-1.37	0.98	50.47	0.12	6.93	-0.11	-4.69	0.00	0.15	0.974
Euroland	-0.15	-2.83	0.95	90.03	0.10	5.24	0.04	2.18	0.00	0.17	0.990
Pan-Europe	-0.18	-3.37	0.99	73.55	0.18	9.23	-0.07	-2.66	0.02	1.40	0.987
Japan	-0.21	-3.51	0.98	82.27	0.07	4.02	-0.10	-5.14	-0.02	-2.06	0.986

■ Significant at 5% level. ■ Significant at 10% level.

For all sectors, the beta ( $b$ ) for the relationship of the fund portfolios with their respective market return is close to one. The t-values are high, but of the same order of magnitude as those of Carhart (1997, p. 64) in a similar analysis. Except for Emerging Markets equity, the coefficients for the SML factor are statistically significant positively, indicating that the fund portfolios were exposed to small capitalisation stocks. The Emerging Markets fund portfolio had a positive exposure to momentum stocks, significant at the level of 10%, while the Japan portfolio had a negative exposure to momentum, significant at the level of 5%. For the other sectors, the coefficient  $p$  for momentum is not statistically significant. The factor loadings for the HML factor are statistically significant negatively in four out of six fund sectors, indicating that these portfolios were exposed to growth stocks. In the case of the Euroland equity sector, the HML factor loading was statistically significant positively, while for the Emerging Markets sector, it was not statistically significant. The resulting alphas were negative for all sectors, with t-statistics well below two in five out of six sectors, indicating statistically significant underperformance for the funds as a group. Only in the case of the U.S. equity sector was the underperformance not statistically significant.

#### *Performance of subsets of the sample*

In order to have a first impression of whether board independence contributes positively to fund performance, the fund portfolios are split into two parts for each of the sectors. The first part are fund portfolios consisting of funds of umbrellas with at least one independent or semi-independent board member, while the second part are fund portfolios of funds that are part of umbrellas with dependent board members only. The former are referred to as (semi-) independent fund portfolios, the latter as dependent fund portfolios. A fund is included in the (semi-) independent fund portfolio when, for at least part of the month, it has a (semi-) independent board member. For each of the sectors, equally weighted fund portfolios are formed for the two subsets of

funds. In addition to long portfolios of funds in (semi-) independent umbrellas and funds in dependent umbrellas, a long/short zero investment portfolio is formed consisting of a long portfolio of funds in (semi-) independent umbrellas and a short portfolio of funds in dependent umbrellas. The performance of these portfolios is evaluated using the Carhart 4-factor model. This methodology is similar to what Grinold and Kahn's (1992, p. 4–11) refer to as information analysis, where information is first used to form portfolios and then the performance of those portfolios is analysed and evaluated. Cremers et al. (2009) apply the same methodology using the Carhart 4-factor model to compare the performance of fund portfolios of funds with a high versus a low director ownership.

The results are provided in tables 6.3 and 6.4. Table 6.3 shows that in all sectors except Emerging Markets, the portfolio of funds with (semi-) independent governance outperformed the portfolio of funds with dependent governance. The maximum return difference occurred in the Global equity sector, resulting in an annualised performance of 1.84% of the long/short portfolio.

**Table 6.3:** Annualised returns and standard deviations for fund portfolios by sector over the 2000–2009 period. For each sector, the returns and standard deviations of four fund portfolios are provided, specifically, portfolios consisting of all funds, funds belonging to (semi-) independent umbrellas (I), funds belonging to dependent umbrellas (D) and a long/short portfolio, long in funds with independent governance and short in funds without (I/D Long/Short).

Fund sector	Fund Portfolio	Return 2000-2009	Standard deviation 2000-2009
		annualised (in %)	annualised (in %)
EM	All funds	7.56	24.64
	(Semi-) independent (I)	7.48	24.33
	Dependent (D)	7.57	25.08
	I/D Long/Short	-0.30	2.18
Global	All funds	-1.63	17.14
	(Semi-) independent (I)	-0.97	16.87
	Dependent (D)	-2.94	17.75
	I/D Long/Short	1.84	2.06
U.S.	All funds	-2.34	16.43
	(Semi-) independent (I)	-2.07	16.44
	Dependent (D)	-2.95	16.47
	I/D Long/Short	0.89	1.87
Euroland	All funds	-2.42	18.74
	(Semi-) independent (I)	-1.67	18.43
	Dependent (D)	-3.31	19.23
	I/D Long/Short	1.51	2.56
Pan-Europe	All funds	-2.80	16.88
	(Semi-) independent (I)	-2.38	16.81
	Dependent (D)	-3.70	17.02
	I/D Long/Short	1.31	1.66
Japan	All funds	-7.39	18.06
	(Semi-) independent (I)	-7.32	18.10
	Dependent (D)	-7.48	18.09
	I/D Long/Short	0.15	2.22

Table 6.4 provides an overview of the results of the performance evaluation with the Carhart 4-factor model. For all six sectors, the alpha of the portfolio long in funds with (semi-) independent governance and short in funds with dependent governance was positive. However, only in the case of the Global equity sector did it differ from zero in a statistically significant manner. With 10 basis points per month, the level of alpha is also economically significant.

Noteworthy is that for all sectors, the beta with market index of the long/short portfolio was negative and statistically significant. This finding indicates that the funds with (semi-) independent governance had a lower risk profile, as measured by their beta, than funds with dependent governance. The beta ranged from minus 0.02 in the case of U.S. and Pan-European equity to minus 0.05 in the case of Global equity. The differences in factor loadings for the other factors between (semi-) independent and dependent fund portfolios are not consistent across fund sectors. In Emerging Markets equity, the long/short portfolio's SML factor loading is statistically significant negatively, whereas in U.S. equity, Euroland equity and Pan-European equity, it is statistically significant positively. For the HML factor loading of long/short portfolios, the outcome is statistically significant positively for two sectors and statistically significant negatively for two sectors. Only in the case of the long/short portfolio for Japan equity did the PR1YR factor have a statistically significant coefficient.

**Table 6.4:** Monthly alpha and coefficients  $b$ ,  $s$ ,  $h$  and  $p$  estimated with the Carhart 4-factor model over the 2000–2009 period for fund portfolios by sector, split into sub-samples based on governance characteristics.

Fund sector	Fund portfolio	$\alpha$	$t$	$b$	$t$	$s$	$t$	$h$	$t$	$p$	$t$	$R^2$
EM	(Semi-) independent (I)	-0.16	-2.37	0.97	103.37	-0.02	-0.83	-0.05	-1.33	0.01	1.32	0.990
	Dependent (D)	-0.18	-2.63	1.01	101.11	0.02	0.66	-0.01	-0.27	0.02	2.43	0.990
	I/D Long/Short	0.03	0.50	-0.03	-4.40	-0.05	-1.83	-0.04	-1.25	-0.01	-1.51	0.169
Global	(Semi-) independent (I)	-0.11	-1.89	1.01	73.10	0.13	6.44	-0.07	-2.95	0.01	0.97	0.986
	Dependent (D)	-0.21	-3.22	1.05	66.13	0.13	5.46	-0.19	-7.07	0.01	0.75	0.983
	I/D Long/Short	0.10	2.27	-0.05	-4.12	0.00	0.16	0.12	6.48	0.00	0.13	0.397
U.S.	(Semi-) independent (I)	-0.08	-1.03	0.97	45.42	0.13	6.90	-0.13	-4.87	0.00	0.10	0.969
	Dependent (D)	-0.13	-2.03	1.00	56.89	0.09	5.74	-0.08	-3.52	0.01	0.57	0.979
	I/D Long/Short	0.05	1.12	-0.02	-1.94	0.04	3.91	-0.05	-3.52	0.00	-0.64	0.216
Euroland	(Semi-) independent (I)	-0.15	-2.25	0.93	70.00	0.17	7.14	0.07	2.76	0.00	0.17	0.984
	Dependent (D)	-0.15	-3.09	0.97	96.22	0.03	1.45	0.02	1.08	0.00	0.17	0.991
	I/D Long/Short	0.01	0.13	-0.05	-4.38	0.14	7.63	0.05	2.45	0.00	0.04	0.477
Pan-Europe	(Semi-) independent (I)	-0.16	-2.85	0.98	68.56	0.22	10.17	-0.07	-2.64	0.02	1.56	0.985
	Dependent (D)	-0.22	-3.97	1.00	70.90	0.12	5.86	-0.06	-2.15	0.01	1.02	0.986
	I/D Long/Short	0.06	1.55	-0.02	-1.72	0.09	6.46	-0.01	-0.78	0.01	0.82	0.295
Japan	(Semi-) independent (I)	-0.18	-2.71	0.97	72.07	0.08	3.74	-0.14	-6.14	-0.03	-2.54	0.982
	Dependent (D)	-0.26	-4.32	1.00	84.94	0.07	3.73	-0.04	-1.87	-0.01	-0.56	0.986
	I/D Long/Short	0.07	1.45	-0.03	-3.14	0.01	0.64	-0.10	-6.09	-0.02	-2.77	0.347

■ Significant at 5% level. ■ Significant at 10% level.

In chapter 5, analysing the cost level of funds, the explanatory power of the variable for affiliated distribution turned out to be higher than that of the various variables for the independence of governance. In addition, it was shown that the correlation between independent governance and affiliated distribution is highly negative. For this

reason, the analysis above is repeated for the sub-samples of funds of promoters with affiliated distribution and those of promoters without.

For each of the sectors, equally weighted fund portfolios are formed of the two sub-samples of funds: promoters with and without affiliated distribution. In addition, a long/short portfolio is formed, investing long in affiliated distribution funds and short in non-affiliated distribution funds. Table 6.5 provides the annualised returns and standard deviations of these portfolios over the 2000-2009 period. In all sectors, the funds of promoters without affiliated distribution outperformed the funds of promoters with affiliated distribution. This is surprising, because in chapter 5, it was shown that affiliated distribution was associated with lower costs<sup>112</sup>. This finding implies that the funds of promoters who are independent from any distribution channel, compensated for the higher cost level charged and outperformed net of costs.

**Table 6.5:** Annualised returns and standard deviations for fund portfolios by sector over the 2000–2009 period. For each sector, the returns and standard deviations of four fund portfolios are provided, specifically, portfolios consisting of all funds, funds of promoters with affiliated distribution channel (A), funds of promoters without an affiliated distribution channel (NA) and a long/short portfolio, long in funds with affiliated distribution and short in funds without (A/NA Long/Short).

Fund sector	Fund Portfolio	Return	Standard deviation
		2000-2009 annualised (in %)	2000-2009 annualised (in %)
EM	All funds	7.56	24.64
	Affiliated distribution (A)	7.35	24.83
	Non-affiliated distribution (NA)	7.84	24.42
	A/NA Long/Short	-0.35	2.08
Global	All funds	-1.63	17.14
	Affiliated distribution (A)	-2.95	17.65
	Non-affiliated distribution (NA)	0.10	16.62
	A/NA Long/Short	-2.90	2.63
U.S.	All funds	-2.34	16.43
	Affiliated distribution (A)	-2.60	16.27
	Non-affiliated distribution (NA)	-2.16	16.78
	A/NA Long/Short	-0.56	2.27
Euroland	All funds	-2.42	18.74
	Affiliated distribution (A)	-2.99	18.94
	Non-affiliated distribution (NA)	-0.76	18.42
	A/NA Long/Short	-2.21	3.71
Pan-Europe	All funds	-2.80	16.88
	Affiliated distribution (A)	-3.79	17.00
	Non-affiliated distribution (NA)	-1.32	16.81
	A/NA Long/Short	-2.49	1.97
Japan	All funds	-7.39	18.06
	Affiliated distribution (A)	-7.84	17.98
	Non-affiliated distribution (NA)	-6.75	18.26
	A/NA Long/Short	-1.23	2.26

<sup>112</sup> Approximately 16 basis points lower TER.

In table 6.6, the performance of these fund portfolios is analysed and evaluated using the Carhart 4-factor model. For all six sectors, the alpha of the portfolio long in funds with affiliated distribution and short in funds without was negative, ranging from minus 5 basis points per month in the case of the U.S. equity sector, to minus 16 basis points per month for Global equity. In four out of six cases, the alphas were statistically significant, although in one case only at the 10% level. Note that this finding does not imply that the long-only portfolios of the funds of promoters without affiliated distribution outperformed their market index. For all sectors, the alphas of both the affiliated distribution sub-sample and the non-affiliate distribution sub-sample were negative.

The factor loadings for the portfolios long in funds of promoters with affiliated distribution and short in funds of promoters without affiliated distribution, show no consistency across fund sectors. The factor loadings of these long/short portfolios for the HML factor, for example, are statistically significant positively in three cases, statistically significant negatively in one case and insignificant in two cases. Also for the three other factors, no consistent picture emerges.

In section 6.4, the performance of funds will be analysed using a multiple regression analysis, thereby allowing analysis of the relationship between performance and governance, distribution and other characteristics simultaneously.

**Table 6.6:** Monthly alpha and coefficients *b*, *s*, *h* and *p*, estimated with the Carhart 4-factor model over the 2000–2009 period for fund portfolios by sector, split into sub-samples based on distribution characteristics.

Fund sector	Fund portfolio	$\alpha$	$t$	$b$	$t$	$s$	$t$	$h$	$t$	$p$	$t$	$R^2$
EM	Affiliated distribution (A)	-0.20	-3.13	1.00	108.86	0.02	0.76	0.00	-0.10	0.02	2.72	0.991
	Non-affiliated distribution (NA)	-0.11	-1.65	0.97	98.35	-0.05	-1.45	-0.07	-1.88	0.01	0.62	0.989
	A/NA Long/Short	-0.09	-1.69	0.03	3.55	0.07	2.93	0.06	2.41	0.02	2.58	0.204
Global	Affiliated distribution (A)	-0.21	-3.56	1.04	71.06	0.12	5.48	-0.19	-7.67	0.00	-0.32	0.986
	Non-affiliated distribution (NA)	-0.05	-0.81	1.00	64.13	0.15	6.42	0.00	-0.01	0.02	1.84	0.982
	A/NA Long/Short	-0.16	-3.00	0.04	3.18	-0.03	-1.50	-0.19	-8.52	-0.03	-2.54	0.480
U.S.	Affiliated distribution (A)	-0.13	-2.14	0.98	60.81	0.10	7.51	-0.07	-3.58	0.00	0.03	0.982
	Non-affiliated distribution (NA)	-0.08	-0.82	0.99	39.57	0.13	6.16	-0.16	-5.11	0.00	0.13	0.959
	A/NA Long/Short	-0.05	-0.95	-0.01	-0.47	-0.03	-2.22	0.09	4.73	0.00	-0.19	0.225
Euroland	Affiliated distribution (A)	-0.17	-3.21	0.94	90.17	0.05	2.41	0.04	2.06	-0.02	-1.53	0.991
	Non-affiliated distribution (NA)	-0.08	-0.97	0.95	53.39	0.24	7.61	0.06	1.73	0.05	3.09	0.971
	A/NA Long/Short	-0.08	-0.97	-0.01	-0.38	-0.20	-6.57	-0.02	-0.55	-0.07	-4.23	0.361
Pan-Europe	Affiliated distribution (A)	-0.24	-4.47	1.00	74.09	0.14	7.10	-0.07	-2.77	0.01	0.84	0.987
	Non-affiliated distribution (NA)	-0.09	-1.43	0.98	60.54	0.25	10.28	-0.06	-2.06	0.03	1.87	0.981
	A/NA Long/Short	-0.15	-3.12	0.02	1.44	-0.10	-5.98	-0.01	-0.34	-0.02	-1.60	0.264
Japan	Affiliated distribution (A)	-0.27	-4.66	0.98	86.98	0.05	3.11	-0.07	-3.66	-0.02	-1.69	0.987
	Non-affiliated distribution (NA)	-0.13	-1.77	0.97	65.57	0.11	4.57	-0.15	-6.10	-0.03	-2.48	0.979
	A/NA Long/Short	-0.13	-2.44	0.01	1.12	-0.05	-3.00	0.08	4.52	0.01	1.63	0.245

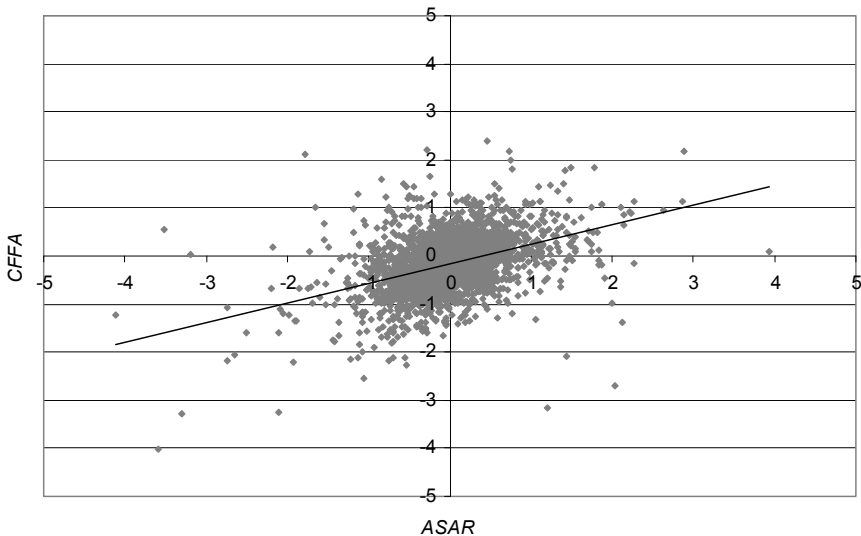
■ Significant at 5% level. ■ Significant at 10% level.

*Average Sector-Adjusted Return and Carhart 4-factor alpha*

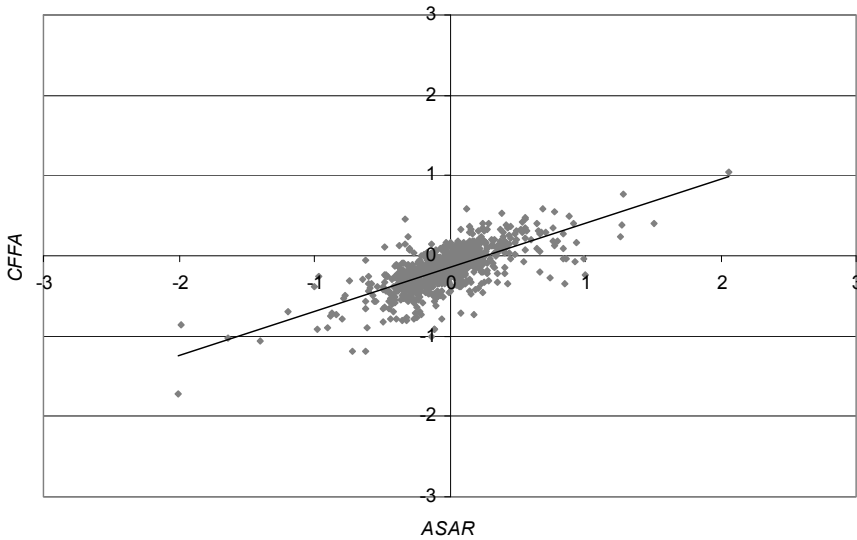
In the multiple regression analysis of section 6.4, two measures for a fund’s excess return are used, the Average Sector-Adjusted Return (ASAR) and the Carhart alpha (CFFA), both defined in section 6.2. These two measures are calculated for all funds in the sample for each calendar year in the 2000–2009 research period, as well as for the three-year periods 2000–2002, 2003–2005 and 2006–2008.

A disadvantage of using the Carhart alpha as a dependent variable in the regression analysis is that this measure is estimated and, as a result, uncertain. This two-step approach could lead to underestimated standard errors in the regression analysis. For this reason, the analysis is also performed with the Average Sector-Adjusted Return as the dependent variable. This performance measure is *observable* and therefore does not have the same drawback. Because Carhart alpha is a more sophisticated, risk-adjusted measure, it is used as the primary measure in this study. The Average Sector-Adjusted Return is used as the secondary measure, at the same time providing a robustness check of the results found on the basis of the Carhart alpha. In first instance, the multiple regression is used to analyse whether differences in governance characteristics explain the variation in excess return over one-year periods. Subsequently, the three-year data analysis is used as a robustness check for the results found on the basis of the one-year performance data. These results are presented in section 6.6.

Figures 6.2 and 6.3 plot the monthly Average Sector-Adjusted Return (ASAR) on the x-axis against the risk-adjusted fund return (CFFA) on the y-axis. While figure 6.2 is based on 3,377 calendar year observations, figure 6.3 is based on 812 observations for fund performance over three three-year intervals.



**Figure 6.2:** Monthly Average Sector-Adjusted Return (ASAR) and monthly Carhart alpha (CFFA) per calendar year (2000–2009) of funds in the sample.



**Figure 6.3:** Monthly Average Sector-Adjusted Return (ASAR) and monthly Carhart alpha (CFFA) per three-year interval (2000–2002, 2003–2005, 2006–2008) of funds in the sample.

Using the one-year intervals, the monthly ASAR is -0.008%, on average, while the average CFFA is -0.156%. This difference is likely the result of fund costs, which are part of the correction in the case of the ASAR calculation, since the performance of a fund is corrected for the average performance of funds in the same sector, which is also after costs. The CFFA calculation is different because it is calculated using market indices, excluding costs. The average CFFA of -1.87% on an annual basis is of the same order of magnitude as the average TER of the funds in the sample, which range from 1.76% for the Euroland fund sector to 2.15% for Emerging Markets, which is a further indication that the difference is cost-related. When analysing the three-year intervals, the results are similar, which are -0.024% for the monthly ASAR and -0.157% for the CFFA.

Outliers for the average sector-adjusted returns are slightly larger than those determined with the Carhart 4-factor model. This finding is likely an indication that large deviations of fund returns compared to the sector average result from higher risk-taking, i.e., higher exposure to the factors of the Carhart model. On a one-year basis, the outliers are larger than on a three-year basis, indicating that over longer periods, the excess returns average out.

The two measures for excess return are correlated highly positively, but by no means perfectly. Using calendar year data, the correlation between the two measures is 0.422, while on the basis of three-year data, it is much higher at 0.700.

## 6.4 Multiple regression analysis – Individual fund level

This section is dedicated to the multiple regression analysis at the individual fund level. Two performance measures are used as dependent variables: the Carhart alpha and the Average Sector-Adjusted Return. The purpose of this analysis is to establish whether the funds' governance characteristics explain differences in fund performance.

### *Governance and control variables*

The seven governance characteristics that are used as explanatory variables are identical to those used in chapter 5:

- Size of the board of directors ( $T$ )
- Percentage of independent board members ( $I\%$ )
- Percentage of semi-independent board members ( $S\%$ )
- Chair dummy ( $CH$ )
- Depositary dummy ( $DEP$ )
- Board tenure ( $TEN\%$ )
- Legal form dummy ( $LEG$ )

The control variables of the cost analysis of chapter 5 are also used for the analysis of performance:

- Performance Fee dummy ( $PF$ )
- Fixed TER dummy ( $FIX$ )
- Log of Fund level scale ( $LTNA_i$ )
- Log of Umbrella level scale ( $LTNA_u$ )
- Log of Promoter level scale ( $LTNA_p$ )
- Emerging Markets sector dummy ( $EM$ )
- Log of Fund age ( $LAGE$ )
- Affiliated distribution dummy ( $AD$ )

The formal definitions of the governance variables and control variables, as well as the sources of the data, are provided in tables 5.3 and 5.4. One control variable is added, which is the  $TER\%$  as defined in chapter 5 (see formula 5.1) as a measure for the ongoing expenses of a fund. In the regression analysis, the TER per month ( $TERM$ ) is used, defined as the  $TER\%$  from chapter 5 divided by 12. The reason for using the monthly TER is that both performance measures are also on a monthly basis.

### *Descriptive statistics of the sample*

Table 6.7 provides descriptive statistics of the funds in the sample for each of the ten years in the 2000–2009 research period. The mean value and sum are given for dummy variables, which can be interpreted as the percentage and the total number of funds in the sample that complied with the specific characteristic in that year. For the regular variables, the mean, maximum, minimum and standard deviation are provided.



Although the sample of funds and umbrellas is the same as that used for the analysis of costs in chapter 5, there are still small differences with the descriptive statistics provided in that chapter. The reason is that one of the conditions for a fund to be included in the cost analysis was that at least 90 days of cost data was available for a specific calendar year. For the performance analysis, the condition is that performance data is available for the full calendar year. This leads to small differences in the sample of funds in each of the calendar years in the research period. Furthermore, 2009 is included in the performance analysis, whereas it was not included in the cost analysis. The reason is that performance data for 2009 was available at the moment of analysis, while cost data was not yet available for a large enough sample.

The number of funds in the sample more than doubled during the research period, from 200 to 420 funds. The values of the maximum and minimum sector-adjusted returns in the different years show that there is a large difference each year between the performance of the most successful fund in that specific year and the least successful fund. The largest outperformance achieved versus the sector average in any of the calendar years in the research period was in 2008. In that year, the fund World Express Funds I – US Dynamic Equities outperformed the average US equity fund by 3.9 percentage points on average per month. The largest underperformance in a calendar year was by 4.1 percentage points on average per month, achieved in that same year by Fortis L Fund – OBAM Equity World.

The development of the governance and control variables is largely the same as seen in chapter 5. The mean number of board members was stable at approximately seven in each of the years in the research period. Both the mean and the maximum percentage of independent board members increased. In 2009, the representation of independent board members was 18.4% on average and maximum 80.0%, compared to an average of 15.0% and a maximum of 50.0% in 2000. Of the percentage of semi-independent board members, both the mean and the maximum declined. The percentage of boards with an independent or semi-independent chair, as well as the board tenure, measured as the percentage of board members serving for at least three years, increased. The percentage of funds that are part of an FCP increased as well, while the percentage of funds with an independent depositary recovered at the end of the research period, after an initial decline.

Both the use of fixed TER schemes and performance fees increased. The size of the average fund fluctuated with the development of market valuations and investors' willingness to invest in equity funds. The size of the average umbrella and of the average promoter grew considerably in the research period. As noted in chapter 5, for all three measures for scale, there is a significant variation from small to large in each year of the research period. The proportion of Emerging Markets funds in the sample declined slightly, while the proportion of funds of promoters with affiliated distribution declined more strongly. The minimum fund age is one year, resulting from the fact that it is measured at the end of the year and that a full year of performance data is required to be included in the sample for a specific year.

**Table 6.7:** Descriptive statistics of funds in the sample by calendar year

Variable	Characteristic	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
ASAR (in %)	Number of funds	200	240	283	306	318	353	374	415	422	420
	Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Mean	2.1	2.9	2.1	1.4	1.0	2.0	0.9	2.3	3.9	2.0
	Maximum	-2.7	-3.6	-2.1	-1.3	-1.0	-1.1	-1.9	-2.1	-4.1	-2.1
	Minimum	0.8	0.7	0.6	0.4	0.3	0.3	0.4	0.5	0.8	0.5
CFFA (in %)	Standard deviation	-0.1	-0.4	-0.3	-0.1	-0.2	-0.1	-0.2	-0.1	-0.1	-0.1
	Mean	2.2	1.1	1.8	1.5	1.1	1.8	1.5	1.1	2.4	1.5
	Maximum	-2.3	-4.0	-3.3	-1.7	-1.5	-1.2	-1.7	-1.6	-2.0	-3.2
	Minimum	0.7	0.6	0.6	0.4	0.4	0.3	0.4	0.4	0.6	0.6
	Standard deviation	6.8	7.1	7.1	6.8	7.1	7.0	7.0	6.9	7.1	6.8
T	Mean	22.5	19.0	18.1	18.5	19.3	18.8	18.7	19.1	20.5	20.1
	Maximum	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
	Minimum	3.2	3.4	3.2	3.2	3.4	3.3	3.3	3.2	3.3	3.2
	Standard deviation	15.0%	14.0%	14.7%	14.9%	16.0%	16.2%	16.1%	15.3%	16.0%	18.4%
	Maximum	50.0%	53.9%	59.0%	50.0%	53.1%	57.1%	58.3%	58.3%	73.5%	80.0%
I%	Minimum	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Standard deviation	16.6%	17.2%	17.2%	17.8%	18.5%	19.5%	20.4%	20.0%	19.2%	21.5%
S%	Mean	8.2%	9.6%	9.8%	9.1%	9.1%	8.8%	7.8%	8.3%	7.7%	7.1%
	Maximum	50.0%	50.0%	50.0%	40.0%	40.0%	38.1%	40.6%	40.0%	39.1%	38.8%
	Minimum	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Standard deviation	12.1%	13.5%	14.2%	12.6%	12.4%	11.7%	11.1%	11.7%	11.0%	11.4%
	Maximum	22.5%	29.2%	30.7%	36.9%	34.0%	31.7%	28.3%	27.2%	27.5%	29.8%
CH	Total	45	70	87	113	108	112	106	113	116	125
DEP	Mean	65.0%	58.3%	58.3%	61.1%	58.8%	56.7%	61.2%	62.9%	65.2%	65.2%
	Total	130	140	165	187	187	200	229	261	275	274
	Mean	47.2%	48.9%	47.2%	48.9%	52.5%	55.4%	54.8%	56.3%	60.9%	61.4%
TEN3%	Maximum	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Minimum	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Standard deviation	25.3%	25.5%	25.3%	25.5%	24.5%	25.3%	26.3%	23.8%	26.0%	28.7%
LEG	Mean	10.0%	12.5%	14.8%	15.4%	16.7%	16.4%	14.4%	15.7%	15.2%	16.4%
	Total	20	30	42	47	53	58	54	65	64	69

Table continues on the next page.

<i>PF</i>	Mean	4.0%	4.6%	4.9%	5.6%	6.9%	5.9%	6.4%	8.2%	8.8%	9.0%
	Total	8	11	14	17	22	21	24	34	37	38
<i>FIX</i>	Mean	8.0%	5.4%	12.4%	12.1%	15.4%	17.8%	20.9%	23.6%	26.5%	27.6%
	Total	16	13	35	37	49	63	78	98	112	116
<i>TNAi</i>	Mean	452.9	377.4	315.0	271.8	389.6	496.8	643.9	627.5	380.9	278.1
	Maximum	6,071.8	7,395.7	8,713.9	8,822.7	14,420.9	18,314.2	22,163.6	16,089.9	10,197.3	7,135.7
	Minimum	5.0	1.3	1.5	0.5	0.9	0.9	1.1	1.4	1.1	0.9
	Standard deviation	773.0	792.3	721.0	633.8	977.4	1,236.4	1,515.7	1,299.8	758.3	531.8
<i>TNAu</i>	Mean	6,339.9	7,401.1	6,942.7	7,317.0	10,296.0	13,968.1	20,711.2	23,178.4	15,728.4	15,214.9
	Maximum	24,973.6	27,473.0	29,151.3	37,004.6	44,637.7	60,848.4	70,225.1	66,481.2	55,768.8	45,477.8
	Minimum	70.8	85.4	18.8	39.6	103.8	315.3	609.5	483.3	131.8	121.2
	Standard deviation	5,955.0	7,168.3	7,294.2	8,057.9	10,690.6	14,203.9	19,947.5	20,584.5	15,769.0	13,742.7
<i>TNAp</i>	Mean		38,064.9	35,299.1	43,313.5	50,689.4	69,497.3	81,422.4	82,607.7	61,029.8	79,021.0
	Maximum		141,507.9	123,191.7	155,374.0	178,200.1	252,365.8	276,596.9	213,174.1	171,025.3	237,216.7
	Minimum		519.4	614.9	954.4	1,224.7	1,963.2	2,426.9	3,471.2	1,923.8	2,691.6
	Standard deviation		28,466.4	25,404.5	34,975.1	38,998.4	52,791.4	56,834.9	54,025.8	47,931.3	60,352.8
<i>EM</i>	Mean	10.0%	10.0%	9.5%	8.8%	8.5%	8.2%	8.0%	8.2%	8.8%	9.0%
	Total	20	24	27	27	27	29	30	34	37	38
<i>AGE</i>	Mean	6.1	6.1	6.4	7.0	7.5	7.8	8.1	8.2	8.6	9.4
	Maximum	38.5	39.5	40.5	41.5	42.5	43.5	37.0	38.0	39.0	40.0
	Minimum	1.0	1.0	1.0	1.0	1.1	1.0	1.0	1.0	1.0	1.1
	Standard deviation	4.9	4.9	5.0	5.1	5.2	5.3	5.2	5.5	5.7	6.0
<i>AD</i>	Mean	58.5%	60.8%	62.9%	59.8%	58.2%	59.2%	53.7%	51.3%	50.0%	49.5%
	Total	117	146	178	183	185	209	201	213	211	208

Table 6.8 provides the correlation coefficients for the excess returns measured as ASAR and CFFA, as well as the explanatory and control variables used in the regression analysis. Correlation coefficients with an absolute value between 0.333 and 0.5 are shaded in light grey, while those in excess of 0.5 are shaded in a darker grey.

The correlation between the measures for excess return and the different explanatory and control variables is below 0.1 in all cases. As was the case in chapter 5 with the dataset used for the analysis of costs, there are two correlation coefficients with an absolute value higher than 0.5. Umbrella scale and promoter scale are strongly positively correlated, while there is a strong negative correlation between affiliated distribution and the independence of the depository. Highly negatively correlated as well, but below 0.5, are the percentage of independent board members and the dummy variable for affiliated distribution. The percentage of independent board members is strongly positively correlated with the chair dummy and with the variable for the board tenure. The chair dummy is negatively correlated with the affiliated distribution dummy, which indicates that affiliated distribution goes together with dependent chairs. Both umbrella scale and promoter scale are strongly positively correlated with the size of the board. Fund size and fund age are positively correlated as well. Larger promoters tend to have affiliated distribution in the group, use affiliated depositories and apply fixed TER fee schedules.

**Table 6.8:** Correlation matrix for the period 2002–2009 (individual fund level)\*

	ASAR	CFFA	T	I%	S%	CH	DEP	TEN3%	LEG	PF	FIX	LTNAi	LTNAu	LTNap	EM	LAGE	AD	TERM
ASAR	1	0.350	0.009	0.077	0.002	0.038	0.061	0.009	-0.054	0.006	0.024	0.031	0.036	-0.014	0.004	-0.072	-0.098	0.020
CFFA	0.350	1	-0.019	0.047	-0.020	0.019	0.045	0.035	-0.023	-0.003	0.054	0.014	0.062	0.002	0.027	-0.026	-0.092	0.018
T	0.009	-0.019	1	0.259	-0.231	0.016	-0.130	0.263	-0.234	-0.046	-0.094	0.148	0.371	0.307	0.017	0.034	0.059	0.077
I%	0.077	0.047	0.259	1	-0.007	0.465	0.204	0.377	-0.107	-0.071	-0.039	0.080	0.256	-0.048	-0.011	0.069	-0.488	0.129
S%	0.002	-0.020	-0.231	-0.007	1	0.216	0.022	-0.027	-0.168	-0.036	0.090	0.031	0.029	-0.086	-0.033	-0.029	-0.148	-0.043
CH	0.038	0.019	0.016	0.465	0.216	1	0.083	0.102	-0.061	-0.053	0.080	0.063	0.163	-0.106	-0.018	0.043	-0.408	0.095
DEP	0.061	0.045	-0.130	0.204	0.022	0.083	1	-0.006	-0.104	-0.089	-0.257	-0.019	0.031	-0.400	0.012	-0.075	-0.514	0.199
TEN3%	0.009	0.035	0.263	0.377	-0.027	0.102	-0.006	1	-0.103	-0.022	-0.009	0.095	0.260	-0.012	-0.020	0.057	-0.270	0.102
LEG	-0.054	-0.023	-0.234	-0.107	-0.168	-0.061	-0.104	-0.103	1	-0.097	0.095	0.057	0.015	0.095	0.010	0.015	0.187	-0.066
PF	0.006	-0.003	-0.046	-0.071	-0.036	-0.053	-0.089	-0.022	-0.097	1	-0.057	-0.056	-0.065	0.069	0.015	-0.114	0.028	0.143
FIX	0.024	0.054	-0.094	-0.039	0.090	0.080	-0.257	-0.009	0.095	-0.057	1	0.071	0.125	0.375	0.016	0.058	0.081	-0.154
LTNAi	0.031	0.014	0.148	0.080	0.031	0.063	-0.019	0.095	0.057	-0.056	0.071	1	0.384	0.204	0.089	0.357	-0.076	-0.206
LTNAu	0.036	0.062	0.371	0.256	0.029	0.163	0.031	0.260	0.015	-0.065	0.125	0.384	1	0.505	0.008	-0.012	-0.233	-0.072
LTNap	-0.014	0.002	0.307	-0.048	-0.086	-0.106	-0.400	-0.012	0.095	0.069	0.375	0.204	0.505	1	-0.007	0.079	0.334	-0.113
EM	0.004	0.027	0.017	-0.011	-0.033	-0.018	0.012	-0.020	0.010	0.015	0.016	0.089	0.008	-0.007	1	0.063	0.013	0.294
LAGE	-0.072	-0.026	0.034	0.069	-0.029	0.043	-0.075	0.057	0.015	-0.114	0.058	0.357	-0.012	0.079	0.063	1	-0.028	-0.044
AD	-0.098	-0.092	0.059	-0.488	-0.148	-0.408	-0.514	-0.270	0.187	0.028	0.081	-0.076	-0.233	0.334	0.013	-0.028	1	-0.232
TERM	0.020	0.018	0.077	0.129	-0.043	0.095	0.199	0.102	-0.066	0.143	-0.154	-0.206	-0.072	-0.113	0.294	-0.044	-0.232	1

■ Absolute value in excess of 0.500. ■ Absolute value between 0.333 and 0.500.

\* With the exception of the correlations with the TER per month (TERM), which is determined in the period 2002–2008 based on the sub-sample of funds for which both return and cost data is available.

### Model

The structure of the data is similar to that analysed in chapter 5. For the funds in the sample, there are repeated observations for the excess return as dependent variables and various explanatory and control variables for the 2000 to 2009 calendar years. As in chapter 5, two model variations are used, Models I and II. Both models allow for fixed effects per calendar year. In Model II, dummy variables per umbrella are added. As a result, Model I focuses on cross-sectional variation, whereas Model II focuses on variation within umbrellas. The dummy variable for the legal form of the umbrella and the dummy variable for the affiliation of the promoter with a distribution channel are not included in Model II. These variables normally do not vary within an umbrella or promoter. The following equations are estimated:

Model I (time fixed effects):

$$ER_{i,t} = c_t + \beta_1 T_{u,t} + \beta_2 I\%_{u,t} + \beta_3 S\%_{u,t} + \beta_4 CH_{u,t} + \beta_5 DEP_{u,t} + \beta_6 TEN3\%_{u,t} \\ + \beta_7 LEG_{u,t} + \beta_8 PF_{i,t} + \beta_9 FIX_{i,t} + \beta_{10} LTNA_{i,t} + \beta_{11} LTNA_{u,t} + \beta_{12} LTNA_{p,t} \\ + \beta_{13} EM_{i,t} + \beta_{14} LAGE_{i,t} + \beta_{15} AD_{p,t} + \beta_{16} TERM_{i,t} + \varepsilon_{i,t} \quad (6.3)$$

Model II (time fixed effects and umbrella dummies):

$$ER_{i,t} = c_t + \alpha_u + \beta_1 T_{u,t} + \beta_2 I\%_{u,t} + \beta_3 S\%_{u,t} + \beta_4 CH_{u,t} + \beta_5 DEP_{u,t} + \beta_6 TEN3\%_{u,t} \\ + \beta_8 PF_{i,t} + \beta_9 FIX_{i,t} + \beta_{10} LTNA_{i,t} + \beta_{11} LTNA_{u,t} + \beta_{12} LTNA_{p,t} \\ + \beta_{13} EM_{i,t} + \beta_{14} LAGE_{i,t} + \beta_{16} TERM_{i,t} + \varepsilon_{i,t} \quad (6.4)$$

where:

$ER\%_{i,t}$  is the excess return of fund  $i$  in period  $t$ , either measured as Average Sector-Adjusted Return (ASAR) or as the Carhart 4-factor alpha (CFFA)

$c_t$  is the constant per calendar year  $t$ .

$\alpha_u$  is the dummy variable per umbrella  $u$ .

For the independent variables, refer to tables 5.3 (governance variables) and 5.4 (control variables).

The two model variations are first estimated for the entire 2000-2009 research period, without the variables for the board tenure ( $TEN3\%$ ), promoter scale ( $LTNA_p$ ) and TER per month ( $TERM$ ). The tenure is not available for 2000 and 2001, promoter scale is not available for 2000 and the TER is not available for 2009. As a result, when board tenure and promoter scale are added in Model Ib and Model IIb, the analysis is limited to the 2002-2009 period. In Model Ic and IIc, the TER is added as control variable, further reducing the research period to 2002-2008. In addition, the number of observations in the 2002-2008 period is reduced because the TER is not available for all fund-calendar year combinations for which return data is available.

As recommended by Petersen (2009) and as in the analysis of costs in the previous chapter, standard errors are adjusted for within-cluster correlation in order to have robust variance estimates. This adjustment avoids underestimating the standard errors and overstating the statistical significance of the coefficients.

### Results

The results of the regression analyses are presented in table 6.9. The top panel shows the results for the risk-adjusted fund return (CFFA). The bottom panel provides the results for the sector-adjusted return (ASAR). The three columns to the left provide the results for Model Ia, Ib and Ic, respectively, while the three columns to the right show the results for Model IIa, IIb and IIc, respectively. For all variables, the table shows the value for the coefficient from the regression analysis and the value for the t-statistic. Coefficients that are statistically significant at the level of 10% are shaded in light grey, while those statistically significant at the level of 5% are shaded in a darker grey. For Model II, the results for the constant and umbrella dummies are suppressed.

In model variations Ia and Ib, a higher percentage of independent directors is associated with a higher excess return when measured as the return adjusted for the sector return (ASAR). The coefficients are economically significant, but only statistically significant at the level of 10%. At fund level, the mean number of board members in the sample is 7.0. Each additional independent board member, instead of a dependent board member, is associated with a performance approximately 24 to 27 basis points better per annum. When the TER is added to the equation in Model Ic and, as a consequence, 2009 is dropped from the research period, the coefficient for *1%* continues to be positive, but loses its statistical significance. When measuring excess return as Carhart's alpha (CFFA), the coefficients are positive, but smaller, and marginally significant only in Model Ib. The coefficients for the dummy variable for the chair position are not statistically significant.

The results for the percentage of independent board members with Model II, which focuses on the variation of variables within umbrellas and promoters, provide at most weak support for those of Model I. Model II picks up on boards where the percentage of independent board members varied through the research period and analyses whether this is associated with different levels of performance. With the excess return measured as the Average Sector-Adjusted Return, the coefficients are negative, contrary to Model I, but statistically significant only in Model variation IIa.

With Carhart alpha as the dependent variable, there is a positive and statistically significant relationship between excess return and the percentage of independent board members, but only in Model variation IIc. An explanation for the different sign of the coefficient in the analyses of the sector-adjusted and the risk-adjusted return could be a lower level of risk of the funds that have independent board members. This would be consistent with the result presented in table 6.4, which is that funds with dependent boards have a higher risk profile than funds with a (semi-) independent board, as measured by their beta from the Carhart model. This is detailed in section 6.6, where three-year data is analysed. As in Model I, the coefficients for the chair position are not statistically significant.

In Model I, the coefficient for the percentage of semi-independent board members is always negative, but is statistically significant only when excess return is measured as Carhart's alpha. In Model II, the sign of the coefficients for the percentage of semi-independent board members is also negative, but it is statistically significant only in two of the three model specifications with excess returns measured on a risk-adjusted basis (CFFA), once at the 10% level and once at the 5% level.

In Model II, the relationship between CFFA and the position of the depositary is also negative, indicating that when funds change to an independent depositary, they perform worse on a risk-adjusted basis. In the cross-sectional analysis of Model I, none of the coefficients for the position of the depositary was statistically significant. The results for the other governance variables are not statistically significant in any of the specifications of Model I, and not in more than one out of six specifications of Model II.

The most consistent results are those for fund age and the dummy variable for affiliated distribution. Older funds perform worse, measured with both measures for excess return. This result is consistent with that of Meschke (2007), analysing funds in the U.S. The average fund in this sample is 7.7 years old. A fund 3 years younger, for example, would perform 24 basis points (risk-adjusted) to 44 basis points (versus sector average) better per annum. With Model II, which focuses on the variation of variables within each umbrella and promoter, similar results are found.

Funds of promoters with affiliated distribution perform worse than their counterparts of promoters independent from a distribution channel. The return difference, net of fees, is 1.0 (risk-adjusted) to 1.2 percentage point (sector-adjusted) per annum. This is consistent with the results of section 6.3, where in each of the six sectors analysed, funds of promoters with affiliated distribution as a group underperformed funds of promoters without. Note that this is despite the fact that on average funds of promoters with affiliated distribution charge lower fees. The performance differences of funds, depending on whether the promoter is affiliated with a distribution channel, are more pronounced than the results of Frye (2001). She found that bank-managed bond funds underperformed funds of non-banks on an unadjusted basis, but that on a risk-adjusted basis the differences were not statistically significant.

The relationship between fund size and excess returns determined with the Carhart 4-factor model is not statistically significant in either Model I or II. Fund size is positively related to excess return measured versus the sector average in a statistically significant manner in Models Ia, Ib and IIa. When the TER is added in Model Ic, the coefficient continues to be positive, but loses its statistical significance. This could well be because without the TER variable in the equation, fund size serves as a proxy for lower Other Costs. In Model II, the scale of the umbrella is negatively related to fund performance, in particular with excess return measured versus the sector average. With risk-adjusted performance as dependent variable, the result is not statistically significant in Model variation IIc and only marginally significant in IIa. The coefficients for promoter scale are not statistically significant.



**Table 6.9:** Results analysis of excess returns at fund level and governance characteristics (excess return in percentage points per month)

CFFA	Model Ia (2000-2009)		Model Ib (2002-2009)		Model Ic (2002-2008)		Model IIa (2000-2009)		Model IIb (2002-2009)		Model IIc (2002-2008)	
	Coefficient t		Coefficient t		Coefficient t		Coefficient t		Coefficient t		Coefficient t	
<i>c</i>	-0.15	-1.51	-0.01	-0.06	-0.09	-0.77						
<i>T</i>	0.00	-1.22	-0.01	-1.43	-0.01	-1.13	0.00	0.13	0.00	0.52	-0.01	-1.04
<i>I%</i>	0.03	0.99	0.06	1.68	0.05	1.51	-0.07	-0.51	0.11	0.77	0.35	2.25
<i>S%</i>	-0.14	-1.96	-0.18	-2.60	-0.23	-2.43	-0.32	-2.10	-0.25	-1.31	-0.33	-1.96
<i>CH</i>	0.01	0.20	-0.03	-1.54	-0.03	-1.41	-0.02	-0.95	-0.02	-0.51	-0.03	-0.52
<i>DEP</i>	0.00	-0.26	-0.01	-0.62	-0.01	-0.64	-0.05	-0.62	-0.19	-3.31	-0.16	-2.40
<i>TEN3%</i>			-0.02	-0.82	-0.02	-0.66			0.04	1.84	0.04	1.02
<i>LEG</i>	-0.03	-0.68	-0.04	-0.78	-0.06	-0.86						
<i>PF</i>	-0.05	-1.47	-0.02	-0.70	-0.02	-0.76	0.01	0.18	0.02	0.39	-0.02	-0.40
<i>FIX</i>	0.04	1.80	0.07	3.41	0.09	3.13	0.04	1.68	0.07	2.13	0.05	1.63
<i>LTNAi</i>	0.01	1.30	0.01	0.74	0.01	0.73	0.01	0.87	0.00	0.24	0.00	0.44
<i>LTNAu</i>	0.01	0.88	0.02	1.03	0.02	0.81	-0.05	-1.93	-0.06	-2.63	-0.04	-1.11
<i>LTNAp</i>			-0.01	-0.84	-0.01	-0.27			-0.03	-1.08	-0.03	-0.85
<i>EM</i>	0.07	1.21	0.05	0.71	0.06	1.00	0.07	1.13	0.05	0.70	0.06	0.91
<i>LAGE</i>	-0.04	-2.34	-0.03	-1.86	-0.04	-1.96	-0.03	-1.59	-0.03	-1.69	-0.03	-1.95
<i>AD</i>	-0.07	-3.40	-0.07	-2.46	-0.08	-3.05						
<i>TERM</i>					0.08	0.18					0.05	0.09
Periods	10		8		7		10		8		7	
Funds	562		554		505		562		554		505	
Observations	3331		2891		2354		3331		2891		2354	
R <sup>2</sup>	0.056		0.045		0.057		0.079		0.073		0.089	
Adjusted R <sup>2</sup>	0.050		0.038		0.048		0.060		0.051		0.064	
ASAR	Model Ia (2000-2009)		Model Ib (2002-2009)		Model Ic (2002-2008)		Model IIa (2000-2009)		Model IIb (2002-2009)		Model IIc (2002-2008)	
	Coefficient t		Coefficient t		Coefficient t		Coefficient t		Coefficient t		Coefficient t	
<i>c</i>	0.11	1.07	0.13	1.96	0.00	0.01						
<i>T</i>	0.00	0.45	0.00	-0.07	0.00	0.33	0.02	1.94	0.02	1.58	0.01	0.79
<i>I%</i>	0.14	1.72	0.16	1.87	0.17	1.32	-0.53	-2.12	-0.24	-1.03	-0.44	-1.48
<i>S%</i>	-0.05	-0.62	-0.09	-1.25	-0.09	-0.96	-0.20	-1.20	-0.05	-0.32	-0.02	-0.08
<i>CH</i>	0.02	0.47	-0.02	-0.63	-0.02	-0.56	-0.04	-0.88	0.00	-0.03	0.02	0.77
<i>DEP</i>	0.02	0.97	0.01	0.44	0.04	1.39	0.04	0.83	-0.03	-0.53	-0.03	-0.39
<i>TEN3%</i>			-0.07	-1.20	-0.05	-0.91			-0.09	-1.25	-0.08	-0.81
<i>LEG</i>	-0.04	-1.05	-0.07	-1.53	-0.07	-1.32						
<i>PF</i>	-0.04	-0.67	0.00	-0.10	-0.04	-1.04	0.03	0.47	0.05	0.71	0.01	0.24
<i>FIX</i>	0.04	1.19	0.05	1.18	0.06	0.98	0.05	0.82	0.08	1.41	0.09	1.32
<i>LTNAi</i>	0.02	2.00	0.02	1.77	0.02	1.28	0.02	1.93	0.02	1.62	0.02	1.04
<i>LTNAu</i>	-0.02	-1.15	-0.01	-0.62	-0.03	-1.59	-0.08	-3.54	-0.07	-2.35	-0.11	-3.54
<i>LTNAp</i>			0.01	0.25	0.03	0.84			-0.04	-1.42	-0.03	-0.70
<i>EM</i>	0.02	2.37	0.01	1.42	0.02	1.47	0.01	1.30	0.01	0.67	0.03	1.42
<i>LAGE</i>	-0.06	-2.89	-0.07	-3.06	-0.07	-3.22	-0.05	-1.86	-0.07	-2.32	-0.07	-2.63
<i>AD</i>	-0.09	-3.05	-0.09	-2.59	-0.10	-4.47						
<i>TERM</i>					-0.05	-0.08					-0.61	-0.84
Periods	10		8		7		10		8		7	
Funds	562		554		505		562		554		505	
Observations	3331		2891		2354		3331		2891		2354	
R <sup>2</sup>	0.024		0.025		0.033		0.056		0.050		0.068	
Adjusted R <sup>2</sup>	0.017		0.018		0.024		0.036		0.028		0.041	

■ Significant at 5% level. ■ Significant at 10% level.

The coefficients for the TER are not statistically significant in any of the model specifications, either for excess returns measured versus the sector average or determined with the Carhart model. This is surprising, because table 6.1 showed that the underperformance of the funds in the sample as a group was of the same order of magnitude as their TER. Funds with a fixed TER fee schedule have a superior Carhart alpha of over 1 percentage point per annum in Model 1c, but when the excess return is calculated versus the sector average, the results are not statistically significant. In Model II, the coefficient for the fixed TER is statistically significant in two model variations, both with the risk-adjusted performance as dependent variable, but not when the TER is included as variable in the analysis. The coefficients for the performance fee dummy and other control variables are not statistically significant.

## 6.5 Multiple regression analysis – Umbrella level

A disadvantage of the analysis at individual fund level in section 6.4 is that the individual funds are treated as independent observations, which, although several control variables are fund-specific, is not really the case. All governance characteristics, as well as several control variables, are the same for all funds in a specific umbrella. In addition, the number of funds with which each umbrella is represented in the sample varies. To avoid this issue, and as robustness check for the results at fund level in section 6.4, the multiple regression analysis in this section is performed at the level of the umbrellas in the sample. In this way, each umbrella is represented in the sample only once in each year. As a measure for excess return at umbrella level, the simple average of the excess returns of all funds included in a particular umbrella is calculated. Fund size is aggregated at umbrella level by taking the natural logarithm of the average total net assets (*LATNA<sub>it</sub>*) of the funds included in the sample in a specific year. No performance fee dummy is included in the analysis at umbrella level, because it is a fund-specific variable. All governance variables, as well as the other control variables, are umbrella-specific and therefore, do not require any recalculation. The results are provided in table 6.10.

The results of the analysis at umbrella level are similar to those at fund level. The relationship between excess return and the percentage of independent directors is not statistically significant in the model specifications of Model I. In Model II, there is a positive relationship between excess return measured on a risk-adjusted basis and the percentage of independent directors, but a negative relationship when excess return is measured versus the sector average. The results for the dummy for the chair position are not statistically significant in any model specification.

The relationship of the affiliated distribution dummy with excess return found at fund level is confirmed at umbrella level. Funds of promoters with affiliated distribution perform worse than funds without.

**Table 6.10:** Results analysis of excess returns at umbrella level and governance characteristics (excess return in percentage points per month)

CFFA	Model Ia (2000-2009)		Model Ib (2002-2009)		Model Ic (2002-2008)		Model IIa (2000-2009)		Model IIb (2002-2009)		Model IIc (2002-2008)	
	Coefficient t		Coefficient t		Coefficient t		Coefficient t		Coefficient t		Coefficient t	
<i>c</i>	-0.13	-0.81	0.13	0.73	0.06	0.24						
<i>T</i>	0.00	0.08	0.00	-0.38	0.00	-0.87	0.00	0.40	0.01	0.50	-0.02	-1.68
<i>I%</i>	-0.01	-0.16	-0.01	-0.21	-0.03	-0.59	0.20	0.74	0.60	2.38	1.02	3.08
<i>S%</i>	-0.14	-1.29	-0.19	-1.58	-0.28	-1.91	-0.16	-0.81	0.11	0.37	0.01	0.02
<i>CH</i>	0.01	0.42	-0.02	-0.96	-0.03	-1.16	-0.06	-1.25	-0.05	-0.91	-0.08	-0.74
<i>DEP</i>	0.00	0.23	-0.02	-1.11	-0.02	-0.95	0.01	0.11	-0.16	-1.97	-0.11	-1.14
<i>TEN3%</i>			-0.03	-0.78	-0.03	-0.78			-0.02	-0.40	-0.02	-0.39
<i>LEG</i>	0.02	0.30	-0.01	-0.13	-0.02	-0.38						
<i>FIX</i>	0.03	0.92	0.08	2.44	0.10	2.32	0.05	1.28	0.09	1.90	0.06	1.63
<i>LATNAi</i>	0.02	1.15	0.00	0.04	0.01	0.40	-0.04	-1.82	-0.03	-0.91	-0.03	-1.09
<i>LTNAu</i>	-0.01	-0.56	0.01	0.50	0.01	0.41	-0.03	-0.70	-0.05	-1.15	-0.05	-0.76
<i>LTNAp</i>			-0.03	-1.75	-0.03	-1.58			-0.03	-0.86	-0.05	-1.38
<i>AD</i>	-0.10	-2.56	-0.11	-2.35	-0.11	-2.26						
<i>TERM</i>					0.69	0.88					-1.05	-0.71
Periods	10		8		7		10		8		7	
Promoters	48		47		46		48		47		46	
Observations	445		360		306		445		360		306	
R <sup>2</sup>	0.190		0.182		0.205		0.315		0.325		0.370	
Adjusted R <sup>2</sup>	0.154		0.136		0.152		0.200		0.182		0.209	
ASAR	Model Ia (2000-2009)		Model Ib (2002-2009)		Model Ic (2002-2008)		Model IIa (2000-2009)		Model IIb (2002-2009)		Model IIc (2002-2008)	
	Coefficient t		Coefficient t		Coefficient t		Coefficient t		Coefficient t		Coefficient t	
<i>C</i>	0.22	1.58	0.38	1.37	0.27	0.71						
<i>T</i>	0.01	1.59	0.01	1.04	0.01	1.16	0.04	3.28	0.03	1.94	0.01	0.59
<i>I%</i>	0.04	0.55	0.01	0.10	0.01	0.05	-0.52	-1.63	-0.16	-0.56	-0.19	-0.38
<i>S%</i>	-0.11	-1.21	-0.15	-1.16	-0.13	-0.91	-0.37	-1.67	-0.23	-0.88	-0.19	-0.48
<i>CH</i>	0.05	1.26	0.00	0.09	-0.02	-0.45	-0.03	-0.59	0.01	0.20	-0.03	-0.70
<i>DEP</i>	0.05	2.18	0.03	0.87	0.05	1.45	0.12	2.00	0.02	0.24	0.03	0.27
<i>TEN3%</i>			-0.06	-0.87	-0.06	-0.70			-0.11	-1.40	-0.11	-0.88
<i>LEG</i>	0.02	0.40	-0.02	-0.46	-0.03	-0.56						
<i>FIX</i>	0.05	1.22	0.07	1.38	0.07	1.14	0.11	1.86	0.13	2.09	0.11	1.75
<i>LATNAi</i>	-0.01	-0.45	-0.02	-1.18	0.00	-0.13	-0.10	-4.63	-0.09	-3.37	-0.07	-1.44
<i>LTNAu</i>	-0.03	-1.22	-0.01	-0.45	-0.03	-1.52	-0.04	-1.32	-0.06	-1.66	-0.10	-2.18
<i>LTNAp</i>			-0.01	-0.60	0.00	-0.12			-0.07	-1.37	-0.06	-0.68
<i>AD</i>	-0.11	-2.89	-0.12	-2.79	-0.12	-3.06						
<i>TERM</i>					0.63	1.01					-1.44	-1.43
Periods	10		8		7		10		8		7	
Promoters	48		47		46		48		47		46	
Observations	445		360		306		445		360		306	
R <sup>2</sup>	0.077		0.081		0.107		0.292		0.309		0.401	
Adjusted R <sup>2</sup>	0.036		0.029		0.048		0.173		0.162		0.248	

■ Significant at 5% level. ■ Significant at 10% level.

## 6.6 Multiple regression analysis – Three-year excess returns

In this section, the relationship is analysed between three-year excess returns of funds in the sample and their governance characteristics. This analysis is done as a further robustness check for the results presented in section 6.4, where one-year excess returns were used. Boards might require more time than a one-year period to prove their added value for investors. In addition, using monthly returns, a 12-month period is short to estimate the Carhart model.

The monthly Average Sector-Adjusted Return and the Carhart alphas are calculated for three three-year intervals: 2000–2002, 2003–2005 and 2006–2008. In addition, the regression analyses are performed with the beta from the Carhart model ( $\beta$ , in formula 6.2) as the dependent variable. The purpose of this analysis is to determine whether or not differences in governance characteristics are associated with differences in risk levels, as measured by the Carhart beta.

The sample includes funds that were active throughout the entire three-year period. In addition, the sample includes funds that either entered the sample during the three-year interval or were terminated before the end of the period, as long as at least 12 months of returns are available. The reason for including this second group is to avoid survivorship bias. This bias is introduced by using longer periods to calculate excess returns. Funds that were closed before the end of the specific period, possibly because of disappointing performance, would not be included in the analysis. The regression analysis is performed both with, and without a dummy variable, indicating whether a fund drops from the sample before the end of a three-year period. This dummy variable captures if these non-surviving funds perform worse than their surviving counterparts.

The governance and control variables for the three-year intervals are determined in the following way:

- For the number of board members, the percentage of independent board members, as well as the percentage of semi-independent board members, the averages are calculated for the months in which the fund was active.
- When the chair was held by an independent or semi-independent board member for more than half the period in which the fund was active, the chair is characterised as (semi-) independent. Similarly, the depositary is characterised as independent when that was the case for more than half the period.
- The measure for the board tenure is calculated on the last day of the three-year period in question as the percentage of board members with at least three years of experience in the position on the board of the umbrella.
- For the scale measures at the fund, umbrella and promoter levels, the averages are taken of the calendar year values of the calendar years in which the fund was active. The variables included in the regression analysis are the natural logarithm of the averages. Because the promoter level scale is not available for the year 2000, the value for the period 2000–2002 is determined taking the average of the years 2001 and 2002.
- For the Total Expense Ratio (TER), the average is taken of the calendar year values of the calendar years in which the fund was active. Including the TER in the regres-

sion analysis reduces the sample size because TER data was not available for all funds for all calendar years the fund was active. For this reason, the regression analyses are performed both without (Model specifications Ia, Ib, as well as IIa and IIb) and with the TER as control variable (Model specifications Ic and IIc).

- Fund age is determined on the last day of the last full month in which the fund was active during the three-year period analysed.
- When funds had a performance fee in place for the whole or part of the period in question, the Performance Fee dummy variable takes the value of one. Similarly, when funds had a fixed TER fee schedule in place for at least part of the period, the Fixed TER dummy takes the value of one.
- The dummy variables for the Legal form of the umbrella, the Emerging Markets sector and Affiliated distribution are determined as in chapter 5. These characteristics normally do not change, and as a result, these variables are constant during the whole research period. Exceptions are one change of Legal form dummy and one change of the Affiliated distribution dummy that occurred in the research period. The change of legal form concerns the Pictet umbrella, which happened on 1 January 2006, the starting date of the last three-year period analysed. Before this date, the Pictet umbrella was an FCP, thereafter it is an SICAV. The one change of the affiliation with a distribution channel was a result of the acquisition of Citigroup Asset Management by Legg Mason on 1 December 2005. In the periods 2000–2002 and 2003–2005, the Citigroup funds are categorised as funds of a promoter with affiliated distribution. Thereafter, these funds became part of the Legg Mason offering, which is treated as a promoter without affiliated distribution.

Table 6.11 shows the results of the regression analysis using three-year performance intervals.

**Table 6.11:** Results analysis of excess returns at fund level over three-year intervals and board characteristics (excess return annualised in percentage points)

CFFA	Model Ia (2000-2008)		Model Ib (2002-2008)		Model Ic (2002-2008)		Model IIa (2000-2008)		Model IIb (2000-2008)		Model IIc (2000-2008)	
	Coefficient t		Coefficient t		Coefficient t		Coefficient t		Coefficient t		Coefficient t	
<i>c</i>	0.12	1.63	0.12	1.60	0.05	0.35						
<i>T</i>	0.00	0.10	0.00	0.08	0.00	0.56	0.00	0.55	0.00	0.54	0.00	0.26
<i>I%</i>	0.00	0.03	0.01	0.19	0.03	0.98	-0.39	-12.72	-0.39	-20.88	-0.44	-11.26
<i>S%</i>	-0.10	-0.96	-0.09	-0.96	-0.02	-0.15	-0.08	-1.53	-0.07	-1.95	-0.10	-1.07
<i>CH</i>	0.04	1.46	0.03	1.40	0.03	1.56	-0.01	-0.36	-0.01	-0.32	0.00	-0.03
<i>DEP</i>	0.01	0.20	0.01	0.17	0.02	0.60	-0.03	-0.43	-0.03	-0.43	-0.04	-0.49
<i>TEN3%</i>	-0.02	-0.56	-0.02	-0.57	-0.02	-0.46	-0.03	-0.60	-0.03	-0.60	-0.04	-0.92
<i>LEG</i>	-0.01	-0.22	-0.02	-0.24	-0.01	-0.20						
<i>PF</i>	-0.07	-1.62	-0.07	-1.61	-0.05	-1.69	-0.04	-0.55	-0.04	-0.56	0.01	0.18
<i>FIX</i>	0.10	2.80	0.10	2.96	0.09	2.86	0.09	4.86	0.09	11.45	0.12	6.10
<i>LTNAi</i>	0.03	2.21	0.03	2.12	0.03	1.97	0.03	2.06	0.03	1.98	0.02	1.84
<i>LTNAu</i>	0.00	-0.54	0.00	-0.39	-0.01	-1.29	-0.01	-0.17	-0.01	-0.17	0.00	0.04
<i>LTNAp</i>	-0.02	-3.31	-0.02	-3.53	-0.01	-1.15	0.01	0.43	0.01	0.42	0.05	1.47
<i>EM</i>	0.01	0.29	0.01	0.27	0.03	1.57	0.01	0.37	0.01	0.37	0.06	2.55
<i>LAGE</i>	-0.07	-3.93	-0.07	-3.91	-0.07	-3.96	-0.06	-2.33	-0.06	-2.36	-0.06	-2.40
<i>AD</i>	-0.08	-2.11	-0.08	-2.00	-0.08	-3.17						
<i>Closed</i>			-0.04	-2.60	-0.02	-1.37			-0.03	-0.55	-0.03	-0.80
<i>TERM</i>					-0.38	-0.58					-1.54	-2.14
Periods	3		3		3		3		3		3	
Funds	484		484		464		484		484		464	
Observations	1009		1009		954		1009		1009		954	
R <sup>2</sup>	0.094		0.094		0.087		0.166		0.166		0.168	
Adjusted R <sup>2</sup>	0.078		0.078		0.069		0.113		0.113		0.110	
ASAR	Model Ia (2000-2008)		Model Ib (2000-2008)		Model Ic (2000-2008)		Model IIa (2000-2008)		Model IIb (2000-2008)		Model IIc (2000-2008)	
	Coefficient t		Coefficient t		Coefficient t		Coefficient t		Coefficient t		Coefficient t	
<i>c</i>	0.28	1.59	0.29	1.63	0.15	0.58						
<i>T</i>	0.00	0.44	0.00	0.43	0.01	0.80	0.03	1.32	0.03	1.36	0.03	1.72
<i>I%</i>	0.16	2.61	0.17	2.83	0.22	3.96	-0.75	-2.18	-0.77	-2.18	-0.65	-1.48
<i>S%</i>	-0.11	-1.08	-0.11	-1.00	0.01	0.15	-0.32	-6.75	-0.35	-5.12	-0.33	-1.97
<i>CH</i>	0.02	0.52	0.01	0.42	0.01	0.32	-0.11	-0.95	-0.11	-0.96	-0.14	-1.62
<i>DEP</i>	0.03	1.03	0.02	0.94	0.04	1.51	0.03	0.43	0.03	0.45	0.02	0.33
<i>TEN3%</i>	0.00	-0.16	0.00	-0.23	-0.03	-2.15	-0.02	-0.36	-0.02	-0.35	-0.07	-1.66
<i>LEG</i>	-0.04	-0.46	-0.04	-0.48	-0.04	-0.48						
<i>PF</i>	-0.06	-0.86	-0.06	-0.87	-0.04	-0.78	-0.02	-0.13	-0.01	-0.11	0.07	0.61
<i>FIX</i>	0.10	1.40	0.10	1.43	0.10	1.36	0.07	3.26	0.05	1.56	0.08	3.95
<i>LTNAi</i>	0.04	2.01	0.04	1.98	0.04	1.94	0.04	1.85	0.04	1.85	0.04	1.69
<i>LTNAu</i>	-0.03	-2.11	-0.03	-1.99	-0.03	-3.37	-0.08	-3.43	-0.08	-3.51	-0.07	-2.75
<i>LTNAp</i>	0.00	-0.16	0.00	-0.19	0.01	0.26	-0.03	-0.84	-0.03	-0.82	0.00	-0.03
<i>EM</i>	0.03	2.14	0.03	2.06	0.04	1.33	0.03	2.14	0.03	2.19	0.08	1.72
<i>LAGE</i>	-0.10	-10.46	-0.10	-10.40	-0.11	-7.70	-0.10	-18.94	-0.10	-20.77	-0.10	-19.82
<i>AD</i>	-0.12	-3.13	-0.11	-3.13	-0.11	-4.82						
<i>Closed</i>			-0.03	-0.59	0.03	0.62			0.09	1.06	0.20	2.70
<i>TERM</i>					-0.09	-0.16					-1.37	-1.50
Periods	3		3		3		3		3		3	
Funds	484		484		464		484		484		464	
Observations	1009		1009		954		1009		1009		954	
R <sup>2</sup>	0.078		0.079		0.083		0.174		0.175		0.183	
Adjusted R <sup>2</sup>	0.063		0.062		0.064		0.122		0.122		0.126	

Table continues on the next page.

BETA	Model Ia (2000-2008)		Model Ib (2002-2008)		Model Ic (2002-2008)		Model IIa (2000-2008)		Model IIb (2002-2008)		Model IIc (2002-2008)	
	Coefficient t		Coefficient t		Coefficient t		Coefficient t		Coefficient t		Coefficient t	
<i>c</i>	1.01	9.91	1.01	9.50	1.11	7.51						
<i>T</i>	0.00	0.38	0.00	0.32	0.00	0.49	0.00	-0.81	0.00	-0.73	0.00	-0.76
<i>I%</i>	-0.01	-0.51	0.00	-0.14	-0.02	-0.77	0.27	6.30	0.28	7.06	0.24	3.84
<i>S%</i>	-0.01	-0.60	0.00	0.12	0.00	-0.21	-0.01	-0.08	0.02	0.25	0.02	0.26
<i>CH</i>	-0.04	-4.83	-0.04	-8.08	-0.04	-10.43	-0.02	-1.41	-0.02	-1.34	-0.02	-1.33
<i>DEP</i>	0.00	-1.38	0.00	-1.25	-0.01	-0.84	0.00	1.49	0.00	0.80	0.00	0.88
<i>TEN3%</i>	-0.01	-0.51	-0.01	-0.64	0.00	-0.03	-0.02	-1.01	-0.02	-1.25	-0.02	-1.19
<i>LEG</i>	0.01	0.87	0.01	0.71	0.01	0.83						
<i>PF</i>	0.02	1.36	0.02	1.29	0.02	1.53	0.03	1.47	0.02	1.38	0.03	1.36
<i>FIX</i>	0.02	1.37	0.03	1.47	0.03	1.23	0.04	2.03	0.05	2.70	0.05	2.73
<i>LTNAi</i>	-0.01	-1.61	-0.01	-1.98	-0.01	-2.32	-0.01	-1.66	-0.01	-1.76	-0.01	-1.83
<i>LTNAu</i>	0.01	2.31	0.01	3.54	0.01	3.49	0.02	6.98	0.03	8.84	0.03	10.24
<i>LTNAp</i>	-0.01	-0.77	-0.01	-0.82	-0.01	-0.84	-0.03	-3.09	-0.03	-2.84	-0.02	-1.44
<i>EM</i>	-0.02	-2.19	-0.02	-2.16	-0.01	-1.18	-0.02	-2.50	-0.02	-2.59	-0.02	-1.27
<i>LAGE</i>	0.01	2.14	0.01	2.43	0.01	1.84	0.02	5.29	0.02	5.66	0.02	5.18
<i>AD</i>	-0.01	-2.67	-0.01	-0.86	-0.01	-1.86						
<i>Closed</i>			-0.08	-7.12	-0.10	-10.34			-0.08	-4.41	-0.09	-4.72
<i>TERM</i>					-0.40	-1.60					-0.21	-0.71
Periods	3		3		3		3		3		3	
Funds	484		484		464		484		484		464	
Observations	1009		1009		954		1009		1009		954	
R <sup>2</sup>	0.035		0.043		0.051		0.155		0.160		0.163	
Adjusted R <sup>2</sup>	0.018		0.025		0.032		0.101		0.106		0.105	

■ Significant at 5% level. ■ Significant at 10% level.

The relationship between the dummy variable for the chair position and excess return is not statistically significant in any of the model specifications. A higher percentage of independent directors is associated with higher sector-adjusted returns in all specifications of Model 1. This finding is in line with the outcome of the analysis of one-year performance data, although the statistical significance is higher. The economic significance of the coefficients is similar to the analysis of one-year performance. Each additional independent board member, instead of a dependent board member, given an average board size of 7.0, is associated with a better performance by approximately 28 to 38 basis points per annum.

When measuring excess return as Carhart's alpha (CFFA), the primary performance measure in this study, the coefficients are close to zero and not statistically significant. This finding is also in line with the outcome of the analysis of one-year data. The results of Model II, which focuses on the variation of variables within each umbrella and promoter, do not support the conclusion that more independence leads to better performance, measured either on a sector-adjusted or on a risk-adjusted basis. Both when measuring excess return versus the sector average and when correcting for risk with the Carhart model, the coefficients are significantly negative in all variations of Model II. This finding indicates that, for promoters in the sample, when the percentage of independence on their boards increased, performance deteriorated, rather than improved.

This difference in results for sector-adjusted (ASAR) and risk-adjusted (CFFA) excess returns in the cross-sectional approach, leads to the question whether or not this is the result of differences in the level of risk taken. This explanation does not seem to be the case, because when using Carhart beta as dependent variable, the coefficients for the percentage of independent directors are close to zero and not statistically significant. A surprising result is the statistically significant relationship between the chair position and the Carhart beta. Funds with a semi-independent or independent chair have a beta that is 4 basis points lower. In Model II, the relationship is also negative, but not statistically significant. The relationship between Carhart beta and the percentage of independent board members is statistically significant in Model II, but negative and not significant in Model I. All in all, these results are not sufficiently consistent to support the result of the information analysis approach in section 6.3 (table 6.4) that funds with more independent governance have a lower risk profile, measured by the funds' Carhart beta.

Unlike the analysis using one-year performance intervals, the results for the percentage of semi-independent board members are never statistically significant in the cross-sectional analyses of Model I. In Model II, there is a negative relationship between the percentage of semi-independent board members and sector-adjusted excess returns. For the other governance variables, including the board size, the coefficients are not statistically significant. For the number of board members, this finding is in line with the statistically insignificant results for this variable found by Ferris and Yan (2007b) and Meschke (2007) for the U.S. It contradicts the results of Kong and Tang (2008) and Adams et al. (2010), who find that larger boards are associated with lower performance, possibly as a result of larger teams being less effective in their decision making.

As in section 6.4, where one-year performance was analysed, the most consistent results are found for the control variables for affiliated distribution and fund age. Funds of promoters with affiliated distribution underperform their counterparts that are independent from a distribution channel. The results are statistically significant both when sector-adjusted, and when risk-adjusted returns are used as dependent variables. The level of underperformance in economic terms is 1.3 to 1.4 percentage point per annum when measured versus the fund sector average, and 0.9 to 1.0 percentage point when measured based on the Carhart model. The variable for affiliated distribution is not included in Model II, because it does not vary at the umbrella or promoter level.

Younger funds outperform their older counterparts in a statistically and economically significant manner. In 2008, the average fund in the sample was 8.6 years old. A fund three years younger would perform approximately 34 basis points per annum better on a risk-adjusted basis, and approximately 54 basis points per annum better on a sector-adjusted basis. Older funds have a higher risk profile, as measured as the Carhart beta. With Model II, consistent results for fund age are found.

Fund scale is positively related to both measures of excess return in both Model I and II. This finding is consistent with the existence of economies of scale at fund level and is in line with the results by Meschke (2007). The Carhart beta of larger funds is lower. Umbrella scale is related negatively with excess return measured versus the



sector average in both Model I and II. When measured as the alpha from the Carhart model, the coefficients are not statistically significant. In two model specifications the relationship between promoter scale and Carhart alpha is negative. This finding seems to indicate that fund level scale is a more significant driver of economies of scale than scale at the umbrella or promoter level. This result contradicts that of Ferris and Yan (2009), who find that fund performance for U.S. funds in the 1992-2004 period is inversely related to fund size, but positively related to the size of the fund family.

When analysing one-year performance intervals, the coefficients for the TER were not statistically significant, whereas there is slightly more evidence when analysing three-year performance data that higher TERs are associated with lower performance. In all four model specifications in which the TER is included, the coefficient for the TER is negative. In one of these four, the relationship is statistically significant. It might well be the case that one-year performance data is too *noisy* to pick up the negative impact of costs and that it requires longer-term data for the negative relationship between performance and costs to become statistically significant. A fixed TER fee schedule is positively associated with excess returns in a statistically significant manner in most model specifications. The results for a performance fee schedule are not statistically significant.

Surprisingly, the coefficient for the dummy variable indicating whether a fund was closed before the end of the three-year period is not consistently negative. One would expect that funds underperforming their peers would be the ones to be closed by means of a liquidation or merger into another fund. The results do not support this expectation. The closed funds do have a Carhart beta that is lower. The difference of 0.08 to 0.10 is economically and statistically significant. This finding could be explained by these funds converting their portfolios from equities to cash in the period before their closure, resulting in a lower beta.

## 6.7 Conclusions

This chapter focused on the relationship between investment performance and governance characteristics. Arguably, performance is what investors are after when investing in an investment fund. The main question of this chapter was whether or not funds with more independent governance have superior performance compared to their counterparts without independent governance. If that were the case, investors would be wise to take governance characteristics into consideration when selecting funds.

Two methodologies were used to evaluate whether independent governance contributes positively to the performance of funds. The first methodology, information analysis, forms fund portfolios by sector, one of funds in (semi-) independent umbrellas, one of funds in dependent umbrellas and a long/short portfolio. The performance of these portfolios is then analysed and evaluated using the Carhart 4-factor model. In five of six sectors, the portfolio of funds with (semi-) independent governance outperformed the portfolio of funds with dependent governance. However, only in the case of one sector, the portfolio which invests long in funds with (semi-) independent gov-

ernance and short in funds with dependent governance, was the Carhart alpha positive in a statistically significant manner.

The second methodology is a multiple regression analysis, using two measures of excess return as dependent variables. The primary measure is the alpha from the Carhart 4-factor model, while the Average Sector-Adjusted Return is used a secondary measure. The regression model has various governance variables as explanatory variables, while several other fund, umbrella and promoter characteristics are included as control variables. The regression analyses were performed at individual fund level, both for one-year and three-year performance intervals, and at umbrella level.

On the whole, the results of the regression analyses do not support the hypothesis that independent governance contributes positively to fund performance. The relationship between Carhart alpha and the percentage of independent board members was not statistically significant at the level of at least 5% in any of the model specifications that focus on cross-sectional variation. In model specifications that focus on variation of performance and governance characteristics within umbrellas, the relationship between Carhart alpha and the percentage of independent board members was inconsistent, with a statistically significant positive coefficient in one of the model specifications for the analysis of one-year returns and statistically significant negative coefficients for three-year intervals in all model specifications.

With the Average Sector-Adjusted Return as dependent variable, several of the coefficients were statistically significantly positive in the cross-sectional analysis, in particular when analysing three-year performance intervals. However, this positive relationship was not confirmed in the model that focuses on within umbrella variation, where all coefficients were negative, often in a statistically significant manner. The relationship between the dummy variable for the chair position and the excess returns measures is not statistically significant in any model specification. These inconsistent and statistically insignificant results for the relationship between board independence and performance are in line with Ferris and Yan (2007b) and Cremers et al. (2009). They are not consistent with the statistically significant negative relationship found by Kong and Tang (2008) for the percentage of independent board members and by Meschke (2007) for both the percentage of independent board members and the position of the chair.

The result of Kong and Tang (2008) and Adams et al. (2010) that excess return is negatively related to board size, possibly due to larger boards being less effective in decision making and potentially suffering from an increased risk of *free riding*, is not confirmed in this study. The results were statistically insignificant in most model specifications, in line with earlier results of Ferris and Yan (2007b) and Meschke (2007) for the U.S.

Stronger and more consistent than the relationship between excess return and governance characteristics was the relationship between excess return and the dummy variable for affiliated distribution. Funds of promoters that are independent from a distribution channel perform better than funds of promoters with affiliated distribution. The return difference, net of fees, ranges between 1.0 and 1.2 percentage points (risk-adjusted) or between 1.2 and 1.4 percentage point (sector-adjusted) per annum. The results of the regression analysis are consistent with those found with the infor-

mation analysis methodology, where the performance was analysed and compared between fund portfolios of promoters with and without affiliated distribution. It should be noted, however, that these fund portfolios of promoters without affiliated distribution did not outperform their market indices on a risk-adjusted basis.

In all six fund sectors included in the sample, the average fund underperformed the market index in the 2000-2009 research period. The level of underperformance was of the same order of magnitude as the funds' level of costs, measured by the Total Expense Ratio. In the regression analysis, no statistically significant negative relationship was found between the excess returns over a one-year period and the level of the TER. There was weak evidence of a negative relationship when using three-year data. It could be because performance data is noisy and TER differences between funds are relatively small, that longer-term data would be required to find a stronger statistically significant negative relationship. The performance difference between the two groups of promoters, those affiliated with distribution and those not affiliated, is not caused by cost differences. On the contrary, the analysis of chapter 5 showed that the TERs of funds of promoters with affiliated distribution are actually lower. This finding means that gross of fees, the performance difference is even larger.

The finding of superior performance of independent promoters is in line with, but more pronounced than, the results of Frye (2001). She finds that raw returns of bank-managed bond funds in the U.S. are lower than those of non-bank funds. However, the bank funds have a lower risk profile and the risk-adjusted performance of bank-managed funds does not differ from non-bank funds in a statistically significant manner. In non-academic work, Lipper (2011a) finds that in performance rankings of European funds, funds belonging to larger financial groups tended to be overrepresented in the middle performance quintiles and those of independent firms to be overrepresented in the top and bottom quintiles. This finding is also an indication of lower risk-taking by fund management companies that are part of larger financial groups. This lower risk-appetite could be the result of banks and other financial groups serving a different, more risk-averse clientele, but it could also be the result of these groups distributing their products on the basis of marketing, cross-selling and the groups' general reputation, rather than on the basis of good performance. The implications of underperformance could be greater for these financial groups since it could jeopardise a much broader, profitable client relationship.

A lower risk-profile of funds of promoters with affiliated distribution is not found in this study in the form of a lower exposure to the factors of the Carhart 4-factor model. It could be that bank-managed funds are overrepresented in the category of funds that Cremers and Petajisto (2009) refer to as *closet indexers*. The portfolios of these funds deviate little from the index and therefore they have a low active share and a low tracking error. They find that these closet indexers have no skill and underperform because of the burden of costs, whereas funds with a high active share do display some skill. Comparing the active share of funds of promoters with affiliated distribution and funds without, would be an interesting area for future academic research. It would require portfolio holdings data for the funds in the sample, which is not available at this stage.

Another explanation for the underperformance of funds related to groups with affiliated distribution could be that independent firms are a better place to work, finan-

cially or culturally. This environment would allow these firms to recruit and retain the best portfolio managers, research analysts and other staff, giving them a competitive advantage over firms with affiliated distribution. This explanation is similar to the one put forward in studies of hedge funds (e.g., Cici et al., 2009 and Nohel et al., 2010) for why talented fund managers prefer to work for hedge funds rather than for regular investment funds.

## Chapter 7

# Survey

*“Independent board members do not add value. It is just a hype of no-longer employed professionals of the financial industry who want to supplement their pension.”<sup>113</sup>*

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<sup>113</sup> Quote from board member of Luxembourg UCITS umbrella in a telephone interview with the author of this dissertation (2011).

## 7.1 Introduction

This chapter presents and discusses the results of a survey among board members of Luxembourg UCITS umbrellas. The sample for the survey is the same as that described in chapter 4 and used for the quantitative analyses of chapters 5 and 6. The goal of the survey is to explore the role of fund boards in general, and specifically, whether they influence the level of costs and investment performance of the funds they oversee. Together with the relationships between fund governance and costs and performance estimated quantitatively, this survey is to provide insight into whether and how fund boards add value for investors.

In the U.S., independent board members on fund boards are mandatory. Because the level of fees is seen as the primary conflict of interest in the fund management industry, negotiating fees with the investment advisor is a clearly defined task of these independent board members of U.S.-domiciled funds. With regard to investment performance, the role of the board is less clearly defined. Meschke (2007, p. 16-17) expects the influence of boards on performance to be mostly through negotiating fees. Ding and Wermers (2006) find that fund managers performing poorly are more likely to get replaced by boards with a higher percentage of independent board members. Others, such as Tufano and Sevick (1997, p. 329) and Freeman and Brown (2001, p. 617), comment that boards have the right to fire the fund's advisor, but that in practice, this right is seldom exercised.

In Luxembourg, independent board members are not mandatory and there is no clear direction given to board members by regulators, or on the basis of the ALFI Code (ALFI, 2009), as to what their role is with regard to fund costs. The analyses in chapters 5 and 6 for Luxembourg UCITS did not provide convincing evidence that having more independent boards makes a difference for investors in the form of lower costs or better performance. This chapter investigates how board members prioritise different aspects of their role. In addition to providing the results for the whole sample of participants in the survey, where relevant, the results will be split between those of dependent and (semi-) independent boards or dependent and (semi-) independent board members<sup>114</sup>.

## 7.2 Sample and method

### *Sampling procedure*

The sample for the survey is the same as that used for the quantitative analyses in chapters 5 and 6, as described in chapter 4. This sample consists of a total of 48 fund umbrellas that existed for part or the entire 2000-2009 research period. These umbrellas have the common characteristic that they are the flagship umbrellas of leading cross-border fund promoters. Furthermore, all umbrellas in the sample are Luxembourg-domiciled and have UCITS status. When two promoters in the sample have merged, only the umbrella that is the combined promoter's flagship umbrella after the merger is maintained in the sample. This procedure is followed in order to make sure

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<sup>114</sup> For definitions of these categories, please refer to sections 4.3 and 4.4.

that each promoter is represented in the sample with one umbrella only and thus not counted twice. As a result of this approach, three umbrellas dropped from the sample during the 2000-2009 research period<sup>115</sup>. Another four umbrellas dropped from the sample in the period from the end of 2009 to 2011 when the survey took place<sup>116</sup>. Thus, the final sample for the survey consisted of 41 umbrellas.

The aim was to subject one board member of each of these 41 umbrellas<sup>117</sup> to the survey. Individual board members and other representatives of all promoters were approached directly and indirectly with the request for one member of their fund board to participate<sup>118</sup>. In the end, all promoters were prepared to contribute to the survey, so that 41 individual board members of the same number of umbrellas participated.

It is common for board members to act in that role for several funds. Board members were always asked to take part in the survey with a specific umbrella in the sample in mind. Two persons interviewed sit on boards of two different umbrellas in the sample. In these cases, they were asked to answer the questions for one of the two umbrellas and two other board members participated in the survey for the other umbrellas.

### *Method*

For the survey, a questionnaire was developed consisting of 41 questions. This questionnaire, along with the results of all multiple-choice answers, is included as appendix 3. The questions addressed the boards' manner of operation, such as how often regular board meetings are held. These questions are quite objective. The questionnaire also included more subjective questions where the opinions of the persons interviewed were sought.

Participants in the survey answered these questions in interviews, most of which took place by telephone. In this way, the interviewer could ask for further clarification of the answer or about the motivation of the interviewee for certain actions or views. All participants received the questionnaire by e-mail before the interview. The interviews took place in the period between 21 June 2011 and 22 September 2011. In one case, no interview took place, but the answers were submitted in a written format. The participants were promised anonymity. Therefore, it is not possible to trace answers from the results presented back to the participating persons or umbrellas.

### *Dependency status and tenure*

The boards of the 41 umbrellas included in the sample for the interviews can be split into 19 dependent boards (46.3%), 17 independent boards (41.5%) and 5 semi-

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<sup>115</sup> See section 4.2.2.

<sup>116</sup> Promoters that dropped from the sample after 31 December 2009 were Credit Suisse (fund management activities were acquired by Aberdeen), Fortis (acquired by BNP Paribas), Gartmore (acquired by Henderson) and Société Générale (asset management activities merged with those of Crédit Agricole to form Amundi).

<sup>117</sup> In the case of UCITS umbrellas with the legal status of an SICAV, it concerns board members of that entity. In the case of UCITS FCPs, it concerns board members of the management company of the fund.

<sup>118</sup> The Directors' Office, Ernst & Young, Fund-X, the Luxembourg School of Finance and PwC were essential in making introductions and asking their contacts to participate in the survey.

independent boards (12.2%)<sup>119</sup>. Table 7.1 shows that the group interviewed formed a good reflection of the total sample of board members with regard to their split across the three categories of board members. There is a slight overrepresentation of dependent board members and an underrepresentation of independent and semi-independent board members.

**Table 7.1:** Comparison of the dependency status of interviewed board members to the full sample

Category of board members	Interviewees (June-September 2011)					Full sample (31-Dec-2009)	
	Category of boards			Total	%	Total	%
	Dependent	Independent	Semi-independent				
Dependent	19	11	4	34	82.9	213	74.4
Independent	N.A.	6	N.A.	6	14.6	52	18.2
Semi-independent	N.A.	0	1	1	2.4	20	7.0
Total	19	17	5	41	100.0	285	100.0

Of the 41 persons interviewed, 21 were based in Luxembourg. The others were based in other European countries (17), the U.S. (2) and Asia (1). Eight persons interviewed acted as chairman of the board. Together, this group of board members has more than 250 years of experience on these specific boards, while several board members indicated that they had served on other fund boards before joining the one for which they were being interviewed. Mean and median tenure on the boards for which they were interviewed were 6.3 years and 5.8 years, respectively. There was a substantial variation in the tenure of the individuals interviewed, ranging from less than three months to more than 20 years.

As is shown in table 7.2, it is common that board members of the umbrellas in the sample also sit on other fund boards of the same promoter. Such was the case for 34 of the 41 board members interviewed and applies to both dependent and (semi-) independent board members. Of the seven (semi-) independent board members, all but two sit on fund boards of more than one promoter. This is a reflection of the fact that several of these persons act in this capacity as a profession, and therefore strive to have several such mandates. Of the 34 dependent board members, nine sit on boards of other promoters as well. Two of these board members indicated that this resulted from the fact that there was, or had been, a relationship with the other promoter in the promoter group. In some of the other cases, it was because the promoter group of the interviewee acted as a service provider for other promoters and the interviewee sat on those boards in a servicing capacity.

<sup>119</sup> As discussed in chapter 4, at the end of 2009, there was a majority of promoters in the sample with dependent boards (51.1%). At the time of the interviews, dependent boards were a minority, due to the fact that the four promoters dropping from the sample due to merger activity were three promoters with dependent boards and one promoter with an independent board.



**Table 7.2:** Other board seats

Category of board members	On other board(s) of funds same promoter		On board(s) funds of other promoter(s)		
	Total	Number	%	Number	%
Dependent	34	29	85.3%	9	26.5%
(Semi-) independent	7	5	71.4%	5	71.4%
Total	41	34	82.9%	14	34.1%

### *Compensation and fund investments*

This survey confirms the finding of the PwC fund governance survey (PwC, 2011, p. 9) that employees of the promoter normally do not receive a compensation for their role as board member on an umbrella fund of the promoter. Of the 34 dependent board members interviewed, only one received financial compensation other than the regular salary, in that case, between EUR 5,000 and 10,000. The one semi-independent board member interviewed, an employee of a service provider to the fund, indicated that he did not receive additional financial compensation for this board role. All six independent board members interviewed received financial compensation for their role: between EUR 10,000 and 20,000 (one case), between EUR 20,000 and 30,000 (one case) or above EUR 30,000 (four cases). It should be noted that four of the six independent board members were also board members for other funds of the promoter, for which they are also remunerated.

Eighteen of the 41 board members (43.9%) agreed with the statement that investments by board members in the funds overseen align their interests with those of the investors. Several added that although they agreed with the concept in theory, it should not matter for the behaviour of board members in practice. Only a minority of 16 of the board members interviewed (39.0%) were currently invested in the funds of the relevant umbrella. Of those not investing, six said they were planning to invest in the future. Several board members said they do not invest and will not invest in the future, because they felt that it could potentially put them in a conflict of interest situation and they preferred to avoid any doubt. This could, for example, be the case when the liquidation or merger of a fund would be considered by the board. For other interviewees, the reasons for not investing were of a practical nature. Several mentioned cumbersome compliance and pre-clearance procedures, either at the promoter or at another organisation where they have directorships. The two U.S.-based board members interviewed mentioned the tax and regulatory issues related to U.S. persons investing in non-U.S. funds as the reason not to invest.

## **7.3 Independence of the board**

### *Board categories*

The sample of 41 boards for the interviews consists of 19 dependent boards and 17 independent boards. Dependent boards have board members only of the promoter or the promoter group. Independent boards have at least one independent board member. Furthermore, there were 5 semi-independent boards in the sample, with at least one member of the board being a former employee of the promoter or promoter

group (one case) or being employed by a service provider to the fund, outside of the promoter group (four cases).

### *Reasons against having independent board members*

The primary reason given by interviewees representing dependent and semi-independent boards for these promoters' decisions not to have independent board members was that it is not a legal or regulatory requirement under UCITS or Luxembourg regulations. In several interviews, the board members referred to the informal CSSF policy of preferring the majority of the board seats to be taken by representatives of the promoter, which meant that the promoters did not sense any pressure from the side of the regulator to have independent board members on their fund boards. Several interviewees mentioned that no pressure was felt from within the promoter, or from clients either, to opt for fund boards with independent board members. Without such pressure, higher convenience and efficiency were reasons for not having independent board members. Greater agility in decision-making was also mentioned in several interviews as a reason to have a dependent board. The difficulty of finding the right people for the role of independent board members in some cases contributed to sticking to a model with dependent board members only.

Several interviewees representing a dependent board said the question whether or not to have independent board members had been a topic of discussion in the management of the promoter. In two cases, the board member interviewed said that one or more independent board members would be added to the board in question in the near future, to add expertise and because it is seen as a trend in the industry. In four other cases, interviewees of dependent umbrellas said that the appointment of independent board members was currently being discussed and considered. Another interviewee said the promoter had decided not to have independent board members after weighing the added value against the inconvenience. In yet another interview, the board member indicated that a discussion about advantages and disadvantages had taken place within the management of the promoter, resulting in the decision not to have independent board members. This decision was made primarily because the promoter in question saw the funds as the *products* of the promoter. With this premise, a purely internal board having control of the funds was seen as more appropriate.

Several interviewees representing dependent boards doubted whether independent board members would add any value. With the right mixture of internal board members, adding external board members was not required from an experience or competency perspective. Several interviewees said that because the promoter's reputation is at stake at all times, it cannot take any risks, irrespective of the composition of the board. Others questioned the independence of board members who are employees of service providers to the funds, the category in this study labelled as *semi-independent*. The loyalty of board members in this category was possibly with the promoter and there could be a financial dependency on the promoter and a client-provider relationship also playing a role.

An interviewee who sat on the board with a former employee, also qualified in this study as semi-independent board members, said that this individual had the advantage of knowing the promoter's organisation very well on the one hand, while being able to take sufficient distance on the other hand. One dependent interviewee on a semi-

independent board mentioned that his organisation would likely move to a fully dependent board in the near future. In that case, the one semi-independent board member was seen as not adding sufficient value, focusing too much on compliance aspects and without an active role in portfolio management or commercial issues.

Some interviewees were critical of the role of individuals making it a profession to function as *independent* board members, as they were said to be *hired* by the promoter in reality. Therefore, they would not be able to position themselves as truly independent towards the promoter. One interviewee said that these *rented directors* would only add costs. Furthermore, the comment was that often such board members have so many mandates that they cannot dedicate sufficient time and energy to each board. Finally, interviewees commented that being on boards of competing fund ranges and promoters puts these board members in a conflict of interest situation.

#### *Reasons for having independent board members*

The primary reason for having independent board members on a fund board is that it is seen as good practice. Independent oversight is perceived as adding value by providing proper checks and balances. Interviewees commented that this better governance is important, especially in situations of conflicts of interest and when having to make tough decisions. In this respect, independent board members contribute to protecting the interest of investors. Furthermore, several interviewees mentioned that they appreciated the different, external perspective that independent board members can bring to the table. Some suggested that independent board members were better able to challenge existing views of different business lines within the promoter and that the opinions of independent professionals allowed them to make better decisions.

In several cases, the independent board members were expected to add a certain specific expertise and knowledge, sometimes to compliment that of internal resources, and they were especially selected for that purpose. Several mentioned a mixture of dependent and independent board members as the ideal model, where there is a balance of views, but no independent control.

A number of interviewees said that independent board members were also on the board for reputational reasons and to increase credibility, one of them comparing it to an *insurance policy*. Other board members mentioned that independent board members were beneficial when the fund management company and the funds were undergoing due diligence by prospective investors or their consultants and said it was increasingly a point of attention in Requests for Proposal. Two interviewees mentioned that having independent board members was a requirement on the basis of company policy, in particular, the firms' corporate governance code.

#### *International consistency*

Several interviewees mentioned consistency across fund ranges in different fund domiciles in the group as a reason for either having or not having independent board members. In the case of U.S. promoters, it often meant having independent board members for their Luxembourg funds, as is required in their home market. In the case of some of the continental European promoters, from domiciles where independent board members are not common market practice, it resulted in an approach across the different ranges of having dependent boards. This finding confirms the result of chap-

ter 4, where the country of origin of the promoter seemed to be a driver for the choice of whether or not to have independent board members.

### *Fund governance models*

How the board was positioned vis-à-vis the promoter, differed for the various umbrellas in the sample. From the interviews, three general models can be identified:

- **Integrated model.** This model is seen with dependent boards. There is a significant overlap between the management of the promoter and the directors of the fund board. The fund board functions as an extension of the management of the promoter. Several functions are outsourced to departments or business lines within the promoter. Often, the managers thereof are members of the fund board. In this model, the board's role as an *additional* layer of oversight is limited.
- **Different hat model.** This model is seen with dependent boards, as well as independent and semi-independent boards with a (semi-) independent minority. The board has a distinct role versus the management of the promoter and operates at a certain distance, even when all board members are employees of the promoter group. The fund board feels that they are positioned as quite independent from the promoter, providing an additional layer of oversight and taking the interests of the investors as the basis for its decisions. Often, the separate and distinct position is amplified by having some (semi-) independent board members or by having representatives on the board from areas of the promoter group involved in the distribution of the funds, such as private banking, who represent the interests of the investors. In several cases, the interviewees said that significant attention had been given to putting state-of-the-art processes and procedures in place so that the board can play a relatively independent role. One weakness of the model is that there is often a hierarchical relationship between the board members who are employees of the promoter and the management of the promoter, so that when it matters, it is questionable whether the board is able to prioritise the interest of investors over the interest of the promoter.
- **Independent model.** In this model, semi-independent and independent board members are a majority on the board. With a majority of outsiders, the board should be able to claim an independent role. Nevertheless, even with a majority of independent board members, there is still a strong influence from the promoter, for example, because the board depends on the promoter for information. Furthermore, when the promoter selects the *independent* board members, their added value as watchdogs for investors might be questionable. In a number of cases, it was clear from the interviews that at least part of the reason for opting for this model was the positive image that independent governance has towards the outside world.

In practice, these three models are seen in a relatively pure form, but there are intermediate forms as well, having characteristics of more than one of the three models.

Sixteen interviewees agreed or strongly agreed, whereas 21 disagreed or strongly disagreed, with the function of the board to ratify decisions made elsewhere in the promoter group. The remaining four board members were neutral. The ratifying mode is a

typical way of operating under the integrated model described above. All board members agreeing to the statement were dependent, in most cases sitting on dependent boards. Several of them stressed that they did not see it as a bad thing. The ratification by the fund board was simply the final step in a well-defined process. One board member said that although decisions were usually ratified, there was always a quality check by the board and often with a right to veto. Several said that they were involved personally in the preparation of the proposals to the board within the promoter's organisation.

Only 11 board members agreed or strongly agreed to the statement that the style of the board can be described as one of management by exception. One of the interviewees who agreed with this statement said that it was only after a general framework and additional procedures had been put in place by the board. Of the interviewees who disagreed, several said that they dealt with the whole spectrum of the fund management business. Most board members interviewed, 36 of 41, qualify the board on which they sit as a *watchdog* on behalf of the fund investors. Four interviewees were neutral. One board member disagreed with this qualification for the board on which he sits, saying that he agreed with the concept, but that the board in question was not, in reality, able to play such a role vis-à-vis the promoter.

#### *Added value of independent board members*

Only seven interviewees, all dependent board members, agreed with the statement that independent board members are less effective, since they lack knowledge of the fund promoter and the funds. Seven interviewees were neutral on this question and one did not know. One of the disagreeing interviewees said that independent board members bring something else to the table and that it is the collective effectiveness of the board that matters.

The answers to the next four questions shed some light on how the interviewees see independent board members adding value. Asked whether having independent board members increases the discipline of the promoter towards a board, e.g., in terms of reporting to the board and the submission of proposals, 31 agreed or strongly agreed, whereas eight disagreed or strongly disagreed. One board member was neutral and one said he did not know. There were 28 interviewees who agreed or strongly agreed that having independent board members increases the effectiveness of a board in dealing with conflicts of interest between the promoter and fund investors. The remaining interviewees either disagreed or strongly disagreed (seven) or said they were neutral or did not know (six). Similar results were obtained regarding the statement that having independent board members contributes positively to protecting the interests of fund investors, with 27 agreeing or strongly agreeing, five disagreeing or strongly disagreeing and nine neutral or do not know. Fewer (20) believed that having independent board members increases the quality of decision-making of a board. On this statement, nine disagreed or strongly disagreed and 12 interviewees were neutral or did not know.

A change of legislation requiring boards of UCITS funds to have independent board members was favoured by slightly less than half (18) of the interviewees. The remaining interviewees either disagreed or strongly disagreed (12) or were neutral (11). Six interviewees would go as far as requiring boards of UCITS funds to have a majority of

independent board members. Several interviewees said that they were in favour of the concept of independent board members on fund boards, but that there is already more than enough fund regulation.

## 7.4 Board activities and priorities

### *Frequency of meetings and reports*

A large majority of boards, 26 out of 41, hold their regular board meetings four times per annum. Twelve boards have their regular meetings less often: once (one board), twice (nine), two-and-a-half (one) or three times (one) per annum on average. Three boards have their meetings six times per annum. General practice is that boards have ad hoc meetings as well, in order to deal with certain issues or make specific decisions, sometimes in light of market circumstances. The circulation of written resolutions for approval, for example, for prospectus updates, is also a common practice. Most boards have risk management, investment restrictions breaches, compliance and investment performance reports as standard agenda items for each or most of their regular meetings. The results are less uniform for conflicts of interest as an agenda item. Whereas some boards have this on their agenda for every meeting, other boards only deal with this on an ad hoc basis when a concrete conflict of interest has to be dealt with. Several interviewees said that conflicts of interest would have a more prominent place on the board's agenda in the future, as a result of requirements under UCITS IV.

### *Fees and performance*

Most board members, 34 out of 41, said that the board in question had benchmarked management fee levels to competitors and/or market averages in the past two years. Twenty-six interviewees said that their board had initiated upward or downward changes in the level of management fees charged by one or more sub-funds in the past two years. In all but four of these cases, fee benchmarking was mentioned as a reason for initiating changes. Further reasons indicated by the interviewees for initiating changes were the comparison of fees to that of other products in the promoter's range (16 times), fees in relationship to performance achieved (four times), fees in relationship to potential performance (four times) and an increase of assets under management, leading to economies of scale (two times). A lowering of or cap on management fees to support performance in difficult market circumstances was mentioned in several interviews. Other reasons given for initiating fee changes were the alignment of fees with a fund range acquired by the promoter. Increasing revenues for the promoter was also mentioned as a reason for fee changes in several interviews. One board member interviewed said that the board had initiated upwards changes to the fee of a sub-fund because of strong outperformance and capacity constraints of the investment strategy.

Except for four board members on dependent boards and one on an independent board, all interviewees said that, in the past two years, their board had challenged the promoter with regard to the investment performance achieved on one or more sub-funds. Not only poor performance was mentioned as a reason for asking questions. In several interviews, unusually good performance was mentioned as a reason to investi-

gate and even challenge as well. The question as to whether the board has initiated changes in the past two years to the way one or more sub-funds were being managed was answered positively by 23 of the interviewees. The reasons for either challenging the promoter or initiating changes to the management of sub-funds were continued underperformance (33 interviewees), volatility of the returns (six) and staff changes in the portfolio management team (seven). A reduction in the risk profile of the fund was mentioned three times. A repositioning of the fund in order to adjust to changing client demand was mentioned twice.

For several dependent boards that operate according the integrated model with the promoter, it was hard to distinguish the role of the board with regard to fees and performance and the role of board members as managers within the promoter's organisation. For example, one board member indicated that fee benchmarking was a role entrusted to the product development department of the promoter and that the head of that department was a member of the board.

In most cases, the investment management of the sub-funds in the umbrellas in the sample is entrusted to parties in the promoter group, although there are also several examples of external investment managers or advisors. Most board members indicated that they have, and can have, little or no influence on performance. When funds underperform, they can ask questions, put issues on the agenda, discuss and challenge, but several interviewees felt that their influence on performance remains indirect at best. Investment performance is seen mainly as the responsibility of the promoter and it is felt that the expertise of investing in a certain asset class is concentrated there. Therefore, any changes to the way funds were managed usually originated there. Furthermore, several board members indicated that although on occasion hard discussions with regard to performance and the way funds were managed had taken place, *firing* the promoter as investment manager and *hiring* an external manager was simply not an option. There was only one board member who said that investment performance was the board's number one focus area, explaining that focus by pointing at performance as the primary interest of investors.

Practically all interviewees agreed or strongly agreed that it is the responsibility of the board to make sure that all costs and all risks are presented transparently to investors. Many added that the board has little to do with this day-to-day activity in practice, as it is performed elsewhere in the promoter's organisation or by a service provider. It was also the reason why there were some neutral votes on these two questions.

The next four hypotheses with regard to fees and performance aimed to further clarify the balance between board responsibilities and promoter responsibilities. Only two interviewees agreed that as long as the fund portfolio is compliant with restrictions imposed on the basis of regulations or the prospectus, investment performance is not a concern of the board. Practically all believed that the board's responsibility goes much further than that. A large majority (32) believed that it is the responsibility of the board to take action against continued poor performance. There were 24 interviewees who agreed that it is the responsibility of the board to make sure that fund investors pay a fair level of management fees for the services they receive. One interviewee added that a competitive fee was perhaps a better term to describe how he sees his

responsibility as board member with respect to fees. On the other hand, there were four interviewees who disagreed with the statement and 13 who were neutral. Most of these interviewees agreed with the next statement that the level of management and other fees is a commercial decision of the fund promoter, not a board issue. A total of 15 interviewees agreed to this statement. Several others said that in their case, the promoter was leading in the area of fee setting, but that there was also a responsibility of the board. Others said that as long as fees were not greatly out-of-line with the market, the board would not get involved. Several interviewees commented that when performance is good, costs are secondary or do not matter.

### *Board priorities*

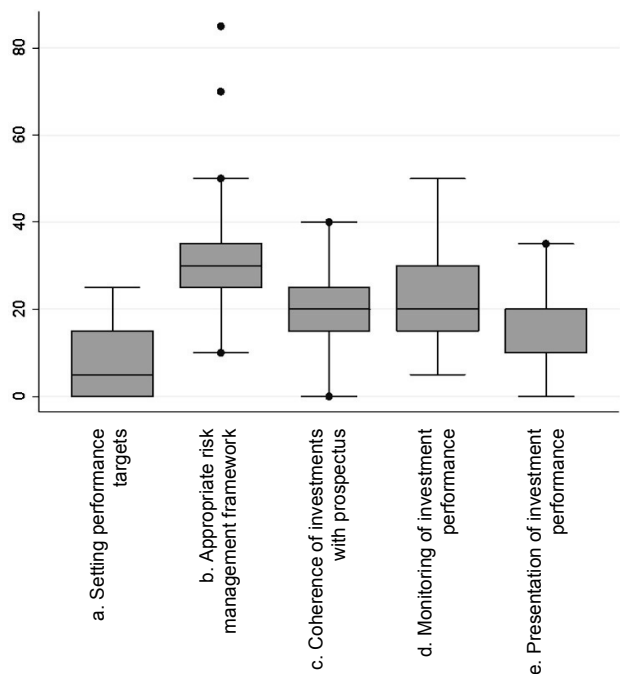
There were three questions in the survey which asked board members to weight different aspects of the role of the board according to their relative importance. Whereas several of the other questions merely give insight into whether the board is involved in a certain aspect of the management and operations of the funds, the goal of these questions was to prioritise different aspects of the fund's governance by the board. For each of these three questions, interviewees were asked to divide a total of 100 points over five aspects of their role. Therefore, a score of 20 points can be seen as neutral or the benchmark weight.

The answers to these questions are presented graphically in figures 7.1, 7.2 and 7.3 by means of a box plot<sup>120</sup>. The mean and median, as well as the number of observations below 20 and above 20, are provided in tables 7.3, 7.4 and 7.5. A Student t-test (two-sided) is used to test whether the mean differs from 20 in a statistically significant manner. The Wilcoxon signed-rank test (two-sided) is used to test whether the number of observations above 20 differs from those below 20 in a statistically significant manner.

When board members were asked to rate their primary functions, setting performance targets and ensuring that the performance achieved is presented correctly and transparently to investors did not score highly. For setting performance targets, all individual scores except one were 20 or lower. The mean of 8.2 differed from the benchmark score of 20 in a statistically significant manner. The number of scores below 20 also differed from the number of scores above 20 in a statistically significant manner. Interviewees were of the opinion that this is primarily a promoter role, not a board function. For the presentation of performance, the whole interquartile range (IQR) was situated below the benchmark score of 20 points and the mean differed from 20 in a statistically significant manner. Although the correct and transparent presentation of performance was generally seen as important, it is too operational for the board to focus its attention on.

<sup>120</sup> The boxes display the interquartile range (IQR), the observations from the 25<sup>th</sup> to the 75<sup>th</sup> percentile. A line is drawn across the box at the median. The horizontal line at the bottom shows the minimum observation or minimum observation above the lower fence (when there are outliers). Similarly, the horizontal line at the top shows the maximum observation or maximum observation below the upper fence (when there are outliers). The lower fence is 1.5 times IQR below the 25<sup>th</sup> percentile, whereas the upper fence is 1.5 times IQR above the 75<sup>th</sup> percentile. Outliers, displayed as dots, are the observations beyond the fences.





**Figure 7.1:** Box plot representation of the answers to question 10: When thinking about the primary functions of the board, please rate the following functions according to their relative importance.

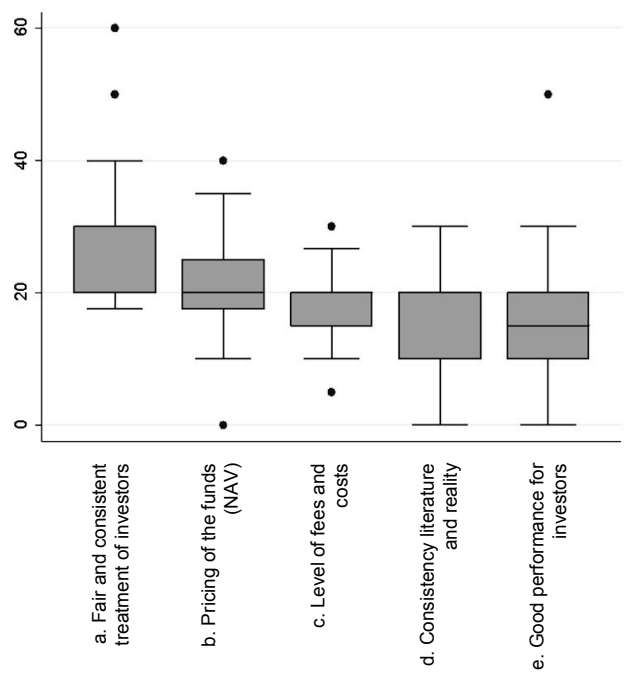
**Table 7.3:** Question 10: When thinking about the primary functions of the board, please rate the following functions according to their relative importance.

Answers	Mean	t	Median	Number	Number	p <sup>1</sup>
				<20	>20	
a. Setting performance targets	8.2	-9.60	5.0	33	1	0.0000
b. Appropriate risk management framework	32.3	5.14	30.0	1	32	0.0000
c. Coherence of investments with prospectus	19.7	-0.24	20.0	16	14	0.8555
d. Monitoring of investment performance	22.8	1.57	20.0	12	18	0.8998
e. Presentation of investment performance	17.0	-2.40	20.0	18	9	0.1221

1. p-value from Wilcoxon signed-rank test (two-sided).

■ Significant at 5% level. ■ Significant at 10% level.

Ensuring that an appropriate risk management framework is implemented and functioning received the highest score. In this case, the whole IQR lay well above 20 points. The mean of 32.3 is statistically significantly greater than 20. All interviewees but one scored this at 20 or higher, with two outliers above 70, so that the number of scores below and above 20 also differed in a statistically significant manner. For the two remaining functions, verifying the coherence of the investments with the prospectus and monitoring the investment performance achieved, the median scores were exactly 20 points and the means did not differ from 20 in a statistically significant manner.



**Figure 7.2:** Box plot representation of the answers to question 11: When thinking about the fiduciary role of the board, please rate the following aspects according to their relative importance.

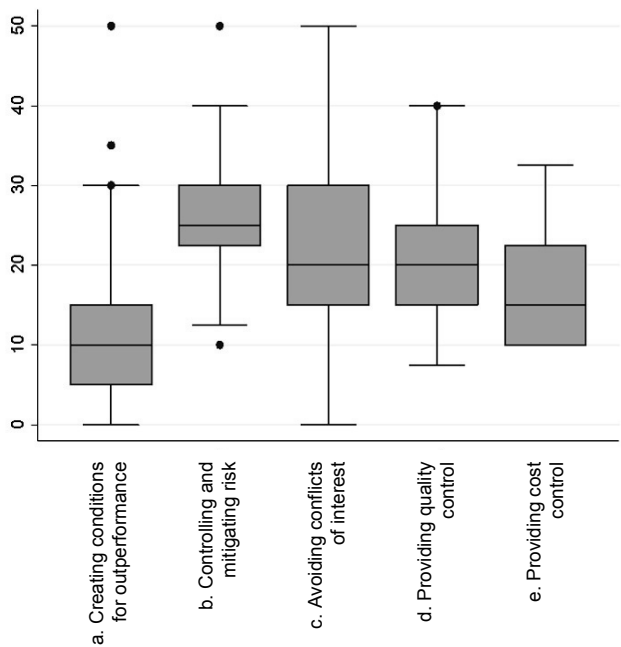
**Table 7.4:** Question 11: When thinking about the fiduciary role of the board, please rate the following aspects according to their relative importance.

Answers	Mean	t	Median	Number		p <sup>1</sup>
				<20	>20	
a. Fair and consistent treatment of investors	29.2	5.73	30.0	1	29	0.0000
b. Pricing of the funds (NAV)	20.8	0.67	20.0	11	16	0.4421
c. Level of fees and costs	17.6	-2.86	20.0	19	6	0.0146
d. Consistency literature and reality	16.7	-2.85	20.0	19	7	0.0290
e. Good performance for investors	15.6	-3.02	15.0	24	6	0.0007

1. p-value from Wilcoxon signed-rank test (two-sided).

■ Significant at 5% level. ■ Significant at 10% level.

When interviewees were asked to rate different aspects of boards' fiduciary role, ensuring fair and consistent treatment of investors received the highest scores for relative importance. All individual scores but one were 20 or higher, with a statistically significant mean of 29.2. The number of scores above benchmark was significantly higher than the number of scores below. The mean for ensuring fair pricing of the funds (NAV) did not differ from the benchmark score of 20 in a statistically significant manner. The means for ensuring a fair level of fees and costs, for ensuring consistency between fund prospectus/sales literature and reality, and for ensuring good performance for investors were all statistically significantly lower than 20. Only for ensuring good performance for investors was the median also below 20.



**Figure 7.3:** Box plot representation of the answers to question 12: When thinking about how the board adds value for the investors, please rate the following aspects according to their relative importance.

**Table 7.5:** Question 12: When thinking about how the board adds value for the investors, please rate the following aspects according to their relative importance.

Answers	Mean	t	Median	Number <20	Number >20	p <sup>1</sup>
a. Creating conditions for outperformance	11.6	-4.96	10.0	32	5	0.0000
b. Controlling and mitigating risk	27.7	5.97	25.0	3	32	0.0000
c. Avoiding conflicts of interest	21.4	0.92	20.0	13	18	0.4731
d. Providing quality control	21.6	1.37	20.0	12	19	0.2810
e. Providing cost control	17.7	-2.17	15.0	21	11	0.1102

1. p-value from Wilcoxon signed-rank test (two-sided).

■ Significant at 5% level. ■ Significant at 10% level.

When asked to rate how the board adds value for the investors, the highest average score was given to controlling and mitigating risk. The mean of 27.7 is significantly higher than the benchmark. For this answer, the whole IQR lay above the benchmark score of 20 and the number of scores above 20 was significantly higher than the number of scores below 20. Creating the conditions for the funds to outperform had the lowest average score and an IQR below 20, although there was one outlier of 50. Both tests indicated that the results for this aspect were below benchmark in a statistically significant manner.

Providing cost control had a median score of 15. The mean of 17.7 was significantly lower than 20. The results for providing quality control and avoiding conflicts of

interest were not statistically significant. For avoiding conflicts of interest, there was a wide dispersion of scores given, ranging from 0 to 50 points out of 100.

Based on the three questions in which board members were asked to prioritise different aspects of their role, figure 7.4 provides a graphical box plot representation of the relative priorities given to five aspects: fund performance, risk management, fund costs, compliance with laws and regulations and other<sup>121</sup>. In this case, zero is the benchmark score. A score higher than zero implies that above benchmark priority is given to the particular aspect. A score of below zero indicates below benchmark priority. In figure 7.4, the green line depicts the average scores of interviewees representing (semi-) independent boards, whereas the red line is the average score of interviewees on dependent boards. Summary statistics are provided in table 7.6. A Student-t test (two-sided) is used to test whether the mean differs from 0 in a statistically significant manner, while the Wilcoxon signed-rank test (two-sided) is used to test whether the number of observations above zero differs from those below zero in a statistically significant manner.

Risk management had the highest priority, with a statistically significant mean of 20.0. Only two interviewees gave this category a score below benchmark. Compliance is the category with the second highest score. In this case, the mean of 7.0 is also statistically significant. Twenty-two interviewees gave this an above benchmark priority.

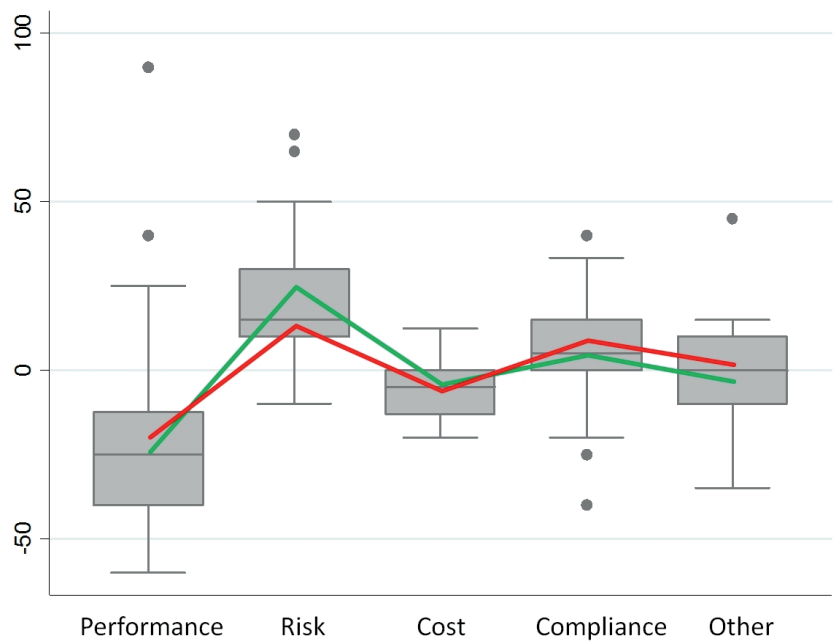
Performance received the lowest priority. The mean of -21.7 is different from zero in a statistically significant manner. Although one board member interviewed prioritised performance above all else, most others have scores of zero or lower. Boards ask questions about investment performance and occasionally challenge, but otherwise felt they have little influence on performance. Most saw performance as the prerogative of the promoter and the investment manager. The ultimate sanction, firing the investment manager, is not an option. When asked whether the board had initiated changes to the way one or more sub-funds are being managed, one interviewee said that the board did not look to exercise that level of influence. This summarises well how the majority of boards look at their role with respect to investment performance. This result is in line with existing literature concerning the U.S. market, where the influence of boards on performance is seen as indirect.

For costs, the mean was -4.7 and also statistically significant. That the majority of boards do not prioritise costs and also see fund costs as the prerogative of the promoter, stands in bigger contrast to the U.S., where boards are required to have independent boards members, and negotiating the management fee (advisory fee) is one

<sup>121</sup> The scores of individual interviewees are calculated as is shown below, whereby letters a through e represent the scores given for the different answers for each of the five aspects. In the case of equal priority given to all aspects, the score on each is zero. A priority above zero for one aspect requires a score below zero for one or more other aspects.

Category		Question 10		Question 11		Question 12
Performance	=	a-20 + d-20	+	e-20	+	a-20
Risk	=	b-20	+		+	b-20
Costs	=		+	c-20	+	e-20
Compliance	=	c-20	+	a-20 + d-20	+	c-20
Other	=	e-20	+	b-20	+	d-20

of their primary tasks. Arguably, the primary conflict of interest in the fund management industry exists between the fund investor and the fund management company in the area of fees. The fund management company is remunerated for its services via a management fee, which is taken from the assets of the funds and therefore, at the expense of the performance of the investor. In the U.S. regulatory environment, fund boards are given an important task in mitigating this conflict by negotiating fees on behalf of investors.



**Figure 7.4:** Box plot representation of the priorities of the boards in the sample. The green line depicts the average scores of board members on (semi-) independent boards. The red line depicts the average score of board members on dependent boards.

**Table 7.6:** Priorities of the boards in the sample.

Category	Mean	t	Median	Number	Number	p <sup>1</sup>
				<0	>0	
Performance	-21.7	-5.00	-25.0	34	5	0.0000
Risk	20.0	6.65	15.0	2	35	0.0000
Costs	-4.7	-3.19	-5.0	25	10	0.0083
Compliance	7.0	2.52	5.0	10	22	0.0501
Other	-0.6	-0.24	0.0	14	20	0.3915

1. p-value from Wilcoxon signed-rank test (two-sided).

■ Significant at 5% level. ■ Significant at 10% level.

Table 7.7 explores whether there are differences between dependent boards and (semi-) independent boards in how they prioritise fund performance, risk management, fund costs, compliance and other aspects. The table displays the mean for these five categories for dependent boards and (semi-) independent boards, as well as the

difference between the two means. A Student t-test is used to test the significance of the difference.

There is no statistically significant difference in how (semi-) independent boards prioritise their role with regard to costs. Only in the case of risk is the difference statistically significant, but only at the level of 10%. However, it should be noted that for both dependent and (semi-) independent boards, the mean for risk is higher than zero in a statistically significant manner. This finding implies that both types of boards prioritised this aspect of their role. From these results, it cannot be concluded that there is a difference between dependent and (semi-) independent boards in which aspects of their role they prioritise.

**Table 7.7:** Priorities of the (semi-) independent and dependent boards

Category	Mean (semi-) independent ( $n_{i,s}=22$ )	Mean dependent ( $n_d=19$ )	Difference	t
Performance	-23.7	-19.5	-4.2	-0.48
Risk	25.3	13.8	11.5	1.98
Costs	-3.7	-5.7	2.1	0.69
Compliance	-5.0	9.3	-4.3	-0.77
Other	2.9	2.1	-5.0	-1.07

■ Significant at 5% level. ■ Significant at 10% level.

## 7.5 Conclusions

Unlike the U.S., Luxembourg has no requirement for fund boards to have independent board members. Nevertheless, many funds in Luxembourg have voluntarily appointed independent board members. Based on 41 interviews with board members on 41 different, Luxembourg-domiciled UCITS of the same number of promoters, three general fund governance models can be identified: the integrated model, the different hat model and the independent model. In the integrated model, the board consists of dependent board members only. It is hard to draw a line where the responsibility of the promoter ends and that of the board begins. In fact, the fund board is part of the internal processes of the promoter and not an additional layer of oversight. The different hat model is seen with both dependent and (semi-) independent boards. In this case, the board has a distinct, separate position from the promoter in order to provide an additional layer of oversight. The effectiveness from the viewpoint of investors can be hampered by the hierarchical relationship between board members and the management of the promoter. In the independent model, there is a majority of (semi-) independent board members, but when the promoter selects independent board members and controls the information, it may still be questionable whether the board can exercise an independent position vis-à-vis that promoter. As a result, there can be doubts in all three models whether the board can *act* independently from the promoter.

Whichever model is in place, the majority of fund boards in the sample prioritise risk management and compliance aspects of their role. Lower priority is given to investment performance and cost aspects. With respect to investment performance, this

is in line with the U.S., where the influence of boards on investment performance is seen as indirect. With respect to costs, this deviates from the U.S. approach, where the area of fees is seen as the primary conflict of interest between investors and fund management companies, and where independent board members are assigned with negotiating fees on behalf of investors. A large majority of board members on Luxembourg UCITS interviewed as part of this study did qualify the board on which they sit as a *watchdog* on behalf of fund investors. However, the true test for whether they add value for investors might be whether they only *bark* or also *bite* when the interest of investors is at stake.





## Chapter 8

# Summary and conclusions

*“And I will only caution you to be careful. Funds whose directors forget whom they represent won’t be long for the business. I don’t expect fund directors to run day-to-day operations. But I do expect them to remember whom they serve -- fund shareholders. And I expect fund directors to be tireless in the pursuit of shareholder interests.”<sup>122</sup>*

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<sup>122</sup> SEC Chairman Arthur Levitt in his speech to the Investment Company Institute in Washington DC on 15 May 1998 (see Levitt, 1998).

## 8.1 Introduction

Investment funds help investors to achieve their financial goals, in particular by providing professional portfolio management and risk diversification. In terms of growth of assets under management, the investment fund industry has been a great success. At the end of 2009, an estimated EUR 15.9 trillion of assets was entrusted to investment funds worldwide. However, there have also been abuses of the trust of investors, as well as criticism about the fund industry. Conflicts of interest, caused by the agency problem between those entrusting assets to a fund and those managing the assets, are at the root of the problem. The investor is interested in a maximum risk-adjusted return, after costs. For a large part, fund costs consist of the management fee that the fund management company receives for managing the assets. Higher fees are in the interest of the fund management company, but go at the expense of the investor's return.

The interests of the investor and the fund management company are not completely opposing. Firms charging excessive fees or performing poorly will likely see a decrease in their assets under management and thus, revenues, as a result of investors selecting funds of other firms. This market force helps to align the interests of fund investors and fund management companies. There is, indeed, empirical evidence of a positive relationship between fund performance and fund flows, but this relationship is convex, implying that fund management companies benefit more from strong performance than they are punished for poor performance. This relationship encourages various types of behaviour that could be beneficial for the fund management company or the fund manager, but are not in the interest of the investors. Examples of such behaviour evidenced by empirical research are fund tournament (funds changing the risk profile of the fund during a calendar year, depending on how they rank in performance rankings year-to-date), leaning for the tape (fund managers trying to inflate their year-end Net Asset Value by aggressively purchasing stocks they already hold) and favouritism (fund management company strategies whereby certain funds in the fund family benefit at the expense of others). Regulators, market forces and fund governance function as monitoring forces, aimed at mitigating conflicts of interest and protecting investors. This dissertation focuses on the added value of fund governance by fund boards.

## 8.2 Historical development

### *First investment fund*

Conflicts of interest have played a role throughout the history of investment funds. The first investment fund in history, "Eendragt maakt Magt", launched in Amsterdam in 1774, already applied the principle of separation of duties, which is still an important governance principle today. Portfolio management and administrative activities were separated and performed by different persons in order to avoid churning in the funds' portfolio. The securities were stored in an iron chest with three different locks. Accord-

ing to an extended four-eyes principle, the fund's two directors and the notary each had one of the keys.

#### *U.S. open-end funds*

The launch of the first open-end fund and the mass marketing of funds both date from the U.S. in the 1920s. An advantage of open-end funds is that investors can always redeem their fund investment at a price based on the Net Asset Value. When investors do not like the results of the fund in which they are invested, they can sell their investment and effectively fire the management company. However, the market crash of 1929 made it clear that many funds on the U.S. market were plagued by poor design and conflicts of interest. Negative experiences in this period led to the Investment Company Act of 1940. This act, aimed at improving investor protection, relies heavily on independent directors on fund boards to limit conflicts of interest. One of the roles of the independent directors is to negotiate annually, on behalf of fund investors, the advisory fee with the fund management company.

#### *Luxembourg UCITS*

After World War II, open-end funds also became the dominant fund structure in Europe. Initially, the fund industry was organised and regulated along national lines. Pan-European legislation for open-end investment funds dates from 1985. The UCITS Directive, adopted in that year, aimed to harmonise EU national laws for investment funds, including rules to enhance investor protection, and to create a single market for investment funds. Under this directive, funds domiciled in one EU country and operating within the UCITS rules can be distributed across the EU. Several other countries also accept UCITS in their domestic markets. The concept of UCITS has been a commercial success. Although UCITS can be domiciled in any EU country, the UCITS market is dominated by Luxembourg as fund domicile.

Europe, in general, and Luxembourg, in specific, rely on a different mixture of regulations, market forces and governance compared to the U.S. to mitigate conflicts of interest and protect fund investors. The UCITS Directive and Luxembourg laws and regulations do not require independent board members on fund boards. There is the general principle of fiduciary duty on the part of the management company towards fund investors. The management company is to act honestly and fairly in conducting its business activities in the best interests of the UCITS it manages. The Luxembourg regulator relies on the extra-legal concept of the promoter, the organisation that initiates the fund and controls its operations. In the case where there are any issues with a fund, the Luxembourg regulator can, and does, turn to this promoter. Furthermore, the reputation of the promoter is at stake at all times. The risk of losing assets under management, and therefore revenues, is a market force that should deter promoters from abusing the trust of investors and from prioritising their short-term interests above the interests of investors.

As is the case in several other jurisdictions, the association of the Luxembourg fund industry, ALFI, has published a code of conduct (ALFI, 2009). This ALFI Code of Conduct for Luxembourg Investment Funds focuses primarily on the role of fund boards. It prescribes boards to *act* independently, but does not require board members to be independent according to a legal or regulatory definition. Furthermore, the

ALFI Code gives little to no guidance to boards with regard to what is expected of board members in the area of costs and performance. Although it is not required on the basis of regulations or recommended on the basis of the ALFI Code, many funds in Luxembourg have nevertheless appointed independent board members.

### 8.3 Research question and empirical results

#### *Existing literature*

The market timing and late trading scandals of 2003 represented an impulse for academics to investigate the effectiveness of fund governance in the U.S. As a result, there are several studies for the U.S. market that investigate the relationship between governance characteristics and the extent to which funds operate for the benefit of investors. Based on this research, there is no consistent evidence that funds with more independent boards are less likely to be involved in scandals or that they charge lower fees and achieve better investment performance. A disadvantage of U.S. data analyses is that the percentage of independent board members is always above the legal minimum of 40% and usually compliant with the ICI best practice recommendation of at least two-thirds (ICI, 1999), so that the variation in this governance variable is limited.

#### *Central research question*

This dissertation focuses on Luxembourg UCITS. The research question investigated is whether or not boards with independent board members are more effective for investors, leading to lower costs and/or better investment performance. Performance is taken as a measure for effectiveness because it is what investors want when investing in an investment fund. It is also the most comprehensive measure because ultimately, the cost of any conflict of interest is booked against the performance of a fund. Costs are also a relevant measure because the influence of boards on costs is expected to be more direct than on performance. Management fees are a wealth transfer from the investor to the fund management company and therefore, the primary area where their interests conflict. Furthermore, earlier research has shown that there is a negative relationship between costs and performance<sup>123</sup>.

The research question is relevant from at least two perspectives: from a regulatory perspective and from a fund selection perspective. When funds with independent boards would achieve better results for investors, but market forces are somehow unable to enforce such governance best practice across the industry, there would be a role for lawmakers and regulators to impose independent governance. Furthermore, in that case, investors should take governance criteria into account when selecting a suitable fund for investment.

Substantially all existing academic research on investment fund governance concerns the situation in the U.S. This study contributes to the literature in Finance, in general, and that on investment fund governance, in specific, by analysing a sample of Luxembourg-domiciled UCITS. Luxembourg UCITS operate within a different legal and regulatory framework and are an investment fund type that is of high economic impor-

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<sup>123</sup> See for example Jensen (1968), Malkiel (1995) and Carhart (1997).

tance, but has received little academic attention to date. An interesting aspect of the Luxembourg UCITS sample used is that there is greater cross-sectional variation in the percentage of independent board members. In contrast to earlier published studies and working papers, this study combines a regression-type methodology with a survey that was conducted among board members of the funds in the sample.

#### *Definition of dependent and independent governance*

In Luxembourg, fund boards are not required to have independent board members. Nevertheless, many promoters have voluntarily chosen to have independent board members on their fund boards. Unlike the U.S., individual board members in Luxembourg have not been categorised as either dependent or independent, based on a legal or regulatory definition. In order to analyse whether independent board members are more effective for investors, it was necessary to define dependence versus independence in a way that allowed the categorisation of the board members of umbrellas in the sample on the basis of publicly available information.

For the purpose of this study, board members of an umbrella who are not currently employed by the fund promoter, the promoter group or any of the umbrella's service providers, and who are not previously employed by the promoter or promoter group, are considered independent board members. This category of board members is the one whose interests should conflict the least with those of investors. Board members who are employees of the fund promoter or the promoter group are considered dependent board members. When it matters, it is questionable whether these board members, who earn a living working for the promoter or promoter group, are able to prioritise the interests of the investors above those of the promoter. A category of semi-independent board members is also distinguished. Such board members are either former employees of the fund promoter or promoter group, or are current employees of a service provider, as long as it is not part of the promoter group. Although these board members are not employed by the promoter or promoter group, the loyalty of board members in this category could, nevertheless, be with the promoter, due to their former employment, their provider-client relationship or otherwise.

In this dissertation, three types of boards are distinguished. Dependent boards have dependent members only. Independent boards have at least one independent member. Semi-independent boards have at least one semi-independent member, but no independent members.

#### *Development of governance in Luxembourg*

For the empirical analysis, a sample was constructed of Luxembourg flagship umbrella funds with UCITS status of 48 leading cross-border promoters. In the 2000-2009 re-search period, the percentage of umbrella funds with at least one (semi-) independent board member decreased from over 60% to just below 50%. More umbrella funds developed from having at least one (semi-) independent member to having dependent members only than vice-versa. Counting the board seats on the umbrella boards rather than the number of umbrella funds, the proportion of board members in the sample who are (semi-) independent increased from almost 22% to over 25% in the same period. This apparent contradiction is explained by the fact that it is more common among Anglo-Saxon promoters to have boards with independent board members than

among continental European promoters. The Anglo-Saxon promoters, as a sub-group, have on average increased the level of independence of their fund boards in the research period, which is not the case for continental European promoters.

Not only the governance structure of the umbrella fund, but also the distribution method of the funds offered is related to the country of origin of the fund promoter. In continental Europe, fund promoters are typically part of larger financial groups, such as banks or insurance companies. At least for part of their business, these promoters rely on the distribution of their funds through the affiliated bank or insurance distribution channel. Anglo-Saxon fund promoters tend to be independent from any distribution channel. As a result, there is a negative correlation between the percentage of independent board members and having an affiliated distribution channel. It should be noted that there are several exceptions to this rule, so that the correlation is not perfectly negative. In the sample, there are Anglo-Saxon promoters with affiliated distribution and continental European promoters without, as well as Anglo-Saxon promoters with dependent boards and continental European promoters with (semi-) independent boards.

#### *Sample at sub-fund and share class level*

To be able to analyse the relationship between governance characteristics, specifically the level of independence of boards, and costs and performance, a selection was made of the sub-funds that are part of the umbrella funds in the sample. The specific sub-funds analysed were those that invest in one of six fund sectors: Global equity, Pan-European equity, Euroland equity, U.S. equity, Japan equity and Emerging Markets equity. Survivorship bias was avoided by selecting funds investing in these sectors from the Lipper Luxembourg Funds Encyclopaedia for each of the years 2000-2010. This resulted in a sample of 593 funds. For consistency reasons and because agency conflicts and information asymmetry can be expected to be larger for retail investors than for institutional investors, the cost and performance data collected and analysed concerned the standard retail share class of each of the sub-funds in the sample.

#### *Governance and costs*

During the research period, the average of the Management and Distribution Fees of funds in the sample increased, while average Other Costs decreased. In the case of the Emerging Markets sector, the decrease of Other Costs offset the increase of Management and Distribution Fees, resulting in a decrease in the average Total Expense Ratio (TER). For all other sectors in the sample, the decrease of Other Costs was insufficient to offset the increase of the Management and Distribution Fees, so that average TERs increased for these sectors.

The available data is a typical panel dataset, with repeated observations through time for variables concerning the funds in the sample. With a multiple regression analysis, the relationship was analysed between the level of fund costs and the funds' governance characteristics, controlling for various other promoter, umbrella and fund variables. The analysis did not provide consistent evidence that independent governance contributes to lower costs. The outcome of the cross-sectional analyses at individual fund level was that the percentage of independent board members was associated with lower TERs, due to lower Other Costs. However, economically, the effect was

small. More importantly, opposite results were found with the model specification that focuses on variation within umbrellas. The positive and economically and statistically significant coefficient for the percentage of independent board members for this model variation indicates that when the percentage of independent board members on boards increased, it coincided with an increase in fund costs, rather than a decrease.

In one of the robustness checks, the sample was split into sub-samples of funds of continental European and Anglo-Saxon promoters. The coefficients for the level of board independence were not statistically significant and had opposite signs in these two sub-samples. These results are inconsistent with boards having a causal affect on costs, but can be explained by two developments happening independently at the same time: the increase of fund costs, irrespective of the country of origin of the promoter, combined with deviating developments with regard to governance characteristics in the sub-samples of continental European and Anglo-Saxon promoters. The level of independence of boards is higher in the Anglo-Saxon sub-sample and increased in the research period. Independent governance is less common on boards of umbrella funds of continental European promoters and has decreased in the research period. Increasing costs, while coinciding with increasing independence in the one sub-sample, coincided with decreasing independence in the other.

#### *Governance and performance*

During the research period, investors were confronted with two bear market periods. Of the six fund sectors analysed, the Emerging Markets sector was the only sector with a positive return over the entire research period. In all sectors, the fund portfolio of all funds in the sample underperformed the market index.

Two performance measures were used to compare the performance across the sample of funds: the Average Sector-Adjusted Return and the Carhart alpha. With the Average Sector-Adjusted Return, the fund return is compared to the average return of funds in the same sector. It can be labelled a practitioner's or consumer's view on fund performance. An academic view on performance is provided by the alpha from the Carhart 4-factor model. It can be interpreted as a risk-adjusted performance measure and is used as the primary measure for fund performance in this study. The structure of the data and the methodology used were similar to that used for the analysis of the relationship between governance and costs. The panel dataset consisted of performance data, governance variables and control variables for various subsequent periods in the 2000-2009 research period. The relationship between the funds' performance and governance characteristics was estimated with a multiple regression analysis.

The result was that there is no consistent evidence that independence governance contributes positively to investment performance. The relationship between the Carhart alpha and the percentage of independent board members was not statistically significant at the level of at least 5% in any of the model specifications that focus on cross-sectional variation. In model specifications that focus on variation of performance and governance characteristics within umbrella funds, the relationship between this performance measure and the percentage of independent board members was inconsistent, with positive coefficients for the analysis of one-year performance intervals and negative coefficients for three-year performance intervals.

*Affiliated distribution*

Both for the level of costs and fund performance, whether or not the promoter had affiliated distribution in the group seems to be a more important driver than the composition of the fund board. Affiliated distribution is associated with statistically significantly lower TERs. However, despite higher costs, funds of promoters that are independent from a distribution channel perform better than funds of promoters with affiliated distribution. On a risk-adjusted basis, the return difference, net of fees, is in excess of one percentage point per annum. These results were found both with the multiple regression analyses and an information analysis, whereby fund portfolios were formed based on governance and distribution criteria and the performance of these portfolios was evaluated.

*Economies of scale*

The regression analyses controlled for scale at three levels: the sub-fund, the umbrella and the promoter. With regard to costs, the results of the various analyses were consistent with the existence of economies of scale, at least at the level of the fund and the umbrella. Larger funds have lower TERs, driven by Other Costs. Funds in larger umbrellas have lower TERs, driven by a combination of lower Management and Distribution Fees and lower Other Costs. Promoter scale is positively related to TERs, due to the Management and Distribution fee component, possibly because larger promoters are able to command premium pricing for their funds. When analysing investment performance, there was evidence of fund scale being positively related to fund performance, in particular using three-year performance intervals.

*Survey*

To gain further insight into the role of Luxembourg UCITS boards, in particular how they influence cost and performance, a survey was conducted among members of these boards. The sample for the survey is the same as that used for the quantitative analyses, which was 48 promoters, and the same number of flagship umbrella funds that existed for the entire, or part of the, 2000-2009 research period. Due to merger activity, the number of promoters in the sample was 45 at the end of 2009, and had dropped to 41 by the time the survey was conducted in 2011. One board member from each of the 41 umbrella funds in the final sample was interviewed on the basis of a questionnaire consisting of 41 questions.

Based on these interviews, three general fund governance models could be identified: the integrated model, the different hat model and the independent model. In the integrated model, the board consists of dependent board members only and can be characterised more as being part of the internal processes of the promoter than as an additional layer of oversight. In the different hat model, seen with both dependent and (semi-) independent boards, there is a distinct, separate position for the board vis-à-vis the promoter. In the independent model, there is a majority of (semi-) independent board members. In the latter two models, the effectiveness from the viewpoint of investors might be hampered, for example, by the hierarchical relationship between the board members and the management of the promoter and by the promoter controlling the information received by and the selection process of independent board members.



In absence of a legal or regulatory requirement, the primary reason given by interviewees representing dependent and semi-independent boards for the promoters' decision not to have independent board members was higher convenience and efficiency. For promoters of umbrellas with independent boards, the main reason for that choice was that it is seen as good practice. These promoters perceived independent oversight adding value by providing proper checks and balances. Commercial considerations played a role as well.

The survey did provide a further explanation for the lack of evidence for a relationship between governance characteristics and costs and performance found on the basis of the quantitative analyses. Irrespective of the board type, with or without (semi-) independent board members, the majority of fund boards in the sample prioritised risk management and compliance aspects of their role. Lower priority was given to investment performance and costs. Both performance and costs were seen as primarily, although not exclusively, the prerogative of the promoter.

## 8.4 Recommendations

### *Fund governance*

In general, Luxembourg boards do see themselves as watchdogs on behalf of investors. However, they put surprisingly little focus on fees, the primary conflict of interest between the promoter and the investor. Board members do benchmark fee levels to competitors and market averages, but mainly check whether fees are not clearly out of line. Most leave the monitoring of fees to market forces, arguing that if a fee is uncompetitive, the fund will not sell. Thus, the area of costs is one where boards can claim a bigger role and add more value for investors. The negative relationship found in this study between fund size and TER is driven by the Other Cost component, not by the Management and Distribution Fees. Fee breakpoints, which allow economies of scale in the management of funds to be shared with investors and which are a common feature of the U.S. market, could be introduced in Luxembourg as well. Furthermore, industry codes should provide clearer direction on what role board members are expected to play in controlling costs.

This study found evidence of promoter characteristics being a more important driver for fund results than board characteristics. The promoter concept is a strong one, directly related to market forces as a mitigating factor for conflicts of interest. With the promoter's reputation on the line at all times, and as a consequence its assets under management and revenues, abusing the trust of investors is unlikely to be a value maximising strategy for any significant promoter. Independent oversight at promoter level could also be more effective and add more value for investors than independent oversight at umbrella fund level. Effectively, independent oversight at promoter level would be in line with recommendations for the U.S. fund market, both from the U.S. industry association and several academic studies<sup>124</sup>, to have unitary boards. In that case, the same persons oversee all funds in a fund family. Such boards could be more effective in controlling costs and in avoiding family strategies, where one fund benefits

<sup>124</sup> See ICI (1999), Kong and Tang (2008) and Qian (2011).

from behaviour of the fund management company at the expense of other funds. Independent oversight at a level higher than the fund or umbrella would also be consistent with the recommendation of the Winter Committee in the Netherlands to require an independent supervisory board at the management company level<sup>125</sup>.

### *Fund regulation*

This study of investment fund governance did not reveal a negative relationship between board independence and costs. This result is therefore supportive of recent legislative initiatives of the European Commission that do not focus on board independence, but aim to give market forces more chance in mitigating conflicts of interest between fund management companies and investors, specifically in the area of costs.

Firstly, there is the Key Investor Information Document (KIID), a new requirement under UCITS IV. This two-page document is to help retail investors make informed investment decisions. The standard definition of the Ongoing Charges, similar to the TER definition used in this dissertation, is an important step forward in achieving comparability and transparency of fund costs. This enhanced disclosure can help market forces in doing their monitoring work.

Secondly, there are proposals for MiFID II that also aim to enhance market forces' monitoring role. As part of this legislation, the European Commission proposes to prohibit rebates when funds are distributed in the context of independent advice and portfolio management. The implication is that in this segment, distributors can no longer be remunerated with the rebates that fund management companies now pay from their management and distribution fees. These distributors are to receive their compensation directly from their customers. This is intended to remove the conflict of interest that currently exists between the investor and his advisor. In the conflict of interest between the investor and the management company, the advisor *changes sides*, from that of the management company (both interested in high fees) to the side of the investors (interested in low fees). These different market dynamics might result in more price competition and lower average management fees.

### *Future research*

Luxembourg is the second fund domicile globally, but underresearched by academics compared to the U.S. An important step forward would be having academic quality data readily available, comparable to the CRSP database for U.S. funds. Academic research of Luxembourg funds and initiatives to improve data quality should be encouraged and supported by the Luxembourg fund industry.

Using cost and performance data of Luxembourg funds to evaluate the effectiveness of governance, this study did not provide sufficient evidence of the added value of independent board members to recommend that lawmakers and regulators make independent board members mandatory, or to recommend investors and fund selectors to give governance criteria a significant weight in their selection process. It should be noted, however, that by analysing costs and performance over longer periods, one, in effect, analyses funds under *business-as-usual* circumstances. It could be the case

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<sup>125</sup> See AFM (2004b). This recommendation was not incorporated into Dutch law for fear of being out of line with the rest of Europe.

that the added value of independent oversight can be found in unusual situations, such as for example, under extreme market circumstances, when new funds are launched or when existing funds are restructured, merged or liquidated. Future research could investigate the added value of independent boards in such situations. Furthermore, it should be noted that by analysing the funds of the main cross-border promoters, the sample is biased to the larger players with well-known brands. These promoters have a large asset base and a big reputation at stake, which in itself might be sufficient to deter them from abusing the trust of investors, leaving little room for fund boards to add value. Analysing the added value of fund boards of smaller promoters is also an area for future research.

Where relevant, the results of this study of Luxembourg UCITS were compared to the findings of existing literature for the U.S. fund market. An area for future research could be a more comprehensive cross-border comparison of fund regulations, fund governance practices and results achieved for investors. For example, the legislation and regulation of different fund domiciles places different responsibilities on the promoter, the fund board, the depositary and the auditor. Based on such a study, more insight can be obtained into what the optimal mixture is for market forces, regulations and fund governance to achieve optimal results for investors, and which forms of regulations and governance best serve the interests of investors.

As a *side effect*, this study found economically and statistically more significant results based on differences between funds regarding promoter attributes than regarding governance characteristics. Based on the rather crude distinction between funds of promoters with and without affiliated distribution, significant fee and performance differences were found. This result also justifies further research. For example, it remained unclear what behaviour or which promoter characteristics explain superior performance. It could be related to employing superior portfolio managers or to serving a different clientele with different needs. Follow-up research, analysing the composition of fund portfolios, could explore whether affiliated distribution is associated with portfolios with lower active shares, charging active fees, but deviating little from the benchmark. The differences between funds of independent fund managers and managers affiliated with a distribution channel has received little attention in U.S. research, possibly because fund distribution through banks is less common in the U.S. It is a relevant distinction of the European market and a promising area for future research.

Despite the commercial success of investment funds in general, and UCITS in specific, there are also challenges for the future. Two of these are directly related to the topic of this thesis: investment performance and costs. In order to remain a product of choice, investment funds need to deliver investment performance to investors efficiently. In line with earlier research, the sample of actively managed funds analysed in this dissertation did not, on average, outperform market indices after costs. During much of its history, this fact might have mattered less, as the added value of actively managed funds also lay in providing market access and diversification. However, nowadays, index funds and passively managed Exchange Traded Funds (ETFs) are also available<sup>126</sup>, providing market access and diversification more cheaply, and making

<sup>126</sup> The first index fund in history was launched in the U.S. in 1975. ETFs have been available in the U.S. since 1993 and in Europe since 1999. Since then, assets under management and the variation of indices available with index funds and ETFs have increased significantly.

these products a formidable competitor for actively managed investment funds. Due to continuous trading on the stock exchange, ETFs allow investors to place *bets* on markets at any moment in the day. In the competition with ETFs, active managers should not strive to become more like ETFs. Whereas ETFs might be an ideal vehicle for market timers, active funds should position themselves for long-term investors, investing for their long-term financial needs, such as for ensuring the required financial means for the years after retirement. That type of investor does not require daily liquidity, let alone liquidity at any moment in the day. Given that there is an opportunity cost associated with this liquidity, for example, as a result of a cash buffer held by the fund to meet possible redemptions, additional trading costs in the portfolio resulting from in- and outflows, and not being able to reap the premium from being invested in less liquid securities, the long-term investor is likely better off with less liquid funds<sup>127</sup>. Possibilities to innovate exist in areas such as asset allocation, fee setting and facilitating subscriptions and redemptions, both in the accumulation and the decumulation phase. Academics and practitioners should pay more attention to and join forces in the area of optimally structuring funds to meet the longer-term goals of investors.

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<sup>127</sup> A similar train of thought was developed in the PwC Paper (PwC, 2009).

## Appendix 1

### **Sample: Promoters and umbrellas**



Nr	Promoter	Corporate developments (primarily in research period)	Umbrella name (latest name in research period)	Incorporation	Earlier umbrella names	Other umbrella developments	Included in sample from	Included in sample until	Share class
1	Aberdeen Asset Managers		Aberdeen Global SICAV	25-Feb-1988	- The Actina International Umbrella Fund - 9-Dec-1998: Aberdeen Global		1-Jan-2000	31-Dec-2009	A shares
2	ABN AMRO Asset Management	ABN AMRO Asset Management was acquired by Fortis Investments in 2008.	ABN AMRO Funds SICAV	23-Mar-1994		Included in sample until 30-Apr-2008, since per 1-Apr-2008 appointment of Fortis director. Sub-funds merged into Fortis (L) Funds SICAV in Q4-2008.	1-Jan-2000	30-Apr-2008	A shares
3	Activest	In 2003, the investment fund activities of the HVB Group, to which Bank von Ernst AG and Activest Gruppe belonged, were combined under Activest. In 2005, HVB was acquired by the UniCredit Group. In 2006, the activities of Activest were combined with Pioneer. From 17-Oct-2006, the umbrella has Pioneer Asset Management S.A. as management company.	Activest Lux Global Portfolio SICAV	17-Mar-1989	- Von Ernst Global Portfolio - 29-Mar-2003: Activest Lux Global Portfolio - 5-Apr-2008: Pioneer Investments Global Portfolio	Included in sample until 31-Dec-2006, since Pioneer ManCo from 17-Oct-2006. From 2007, Pioneer directors. In 2008, name change to Pioneer.	1-Jan-2000	31-Dec-2006	C shares
4	AllianceBernstein	AllianceBernstein is a publicly-traded partnership, with a majority ownership stake held by AXA Financial.	ACMBernstein FCP	21-Aug-1991	- Alliance Global Growth Trends Portfolio - 22-Jul-1992: Alliance Global Investments - 1-Jan-1997: ACM Global Investments	Per 22-Jul-1992, changed to umbrella structure.	1-Jan-2000	31-Dec-2009	A shares
5	Allianz Global Investors	In 2001, Allianz acquired Dresdner Bank and in that same year combined their asset management activities by forming Allianz Global Investors.	Allianz Global Investors Fund SICAV	9-Aug-1999	- Dresdner Global Strategies Fund - 9-Dec-2002: Allianz Dresdner Global Strategies Fund - 8-Dec-2004: Allianz Global Investors Fund		1-Jan-2000	31-Dec-2009	A shares

Nr	Promoter	Corporate developments (primarily in research period)	Umbrella name (latest name in research period)	Incorporation	Earlier umbrella names	Other umbrella developments	Included in sample from	Included in sample until	Share class
6	American Express / Threadneedle	In 2007, Standard Chartered acquired American Express Bank from American Express, including its Luxembourg fund business. In 2009, these activities were acquired by Threadneedle.	Threadneedle (Lux) SICAV	10-Feb-1995	- American Express Epic Funds Funds - 6-Apr-1999: American Express Funds - 30-Jul-2008: American Express Funds I - 31-Jul-2009: Threadneedle (Lux)		1-Jan-2000	31-Dec-2009	A shares
7	Aviva Investors		Aviva Investors SICAV	16-Jan-1990	- Privilege Portfolio - 1-Jul-2003: Aviva Funds - 1-Jan-2007: Aviva Morley - 1-Apr-2008: Aviva Investors		1-Jan-2000	31-Dec-2009	B shares: For funds launched after 2006 and where no B shares were launched, A shares are included.
8	Axa Investment Managers		Axa World Funds SICAV	24-Dec-1996		Established as TCP, changed to SICAV per decision of unit holders on 18-Feb-1998.	1-Jan-2000	31-Dec-2009	A shares
9	BlackRock	Mercury Asset Management was acquired by Merrill Lynch in 1997. The merger of Merrill Lynch Investment Managers and BlackRock Inc. was effective on 30-Sep-2006.	BlackRock Global Funds SICAV	14-Jun-1962	- Selected Risk Investments S.A. - 31-Dec-1985: Mercury Selected Trust - 1-Jul-2002: Merrill Lynch International Investment Funds - 28-Apr-2008: BlackRock Global Funds	- Per 31-Dec-1985, changed into SICAV. - Change financial year in 2007.	1-Jan-2000	31-Dec-2009	A shares
10	BNP Paribas Asset Management		Parvest SICAV	27-Mar-1990			1-Jan-2000	31-Dec-2009	Classic shares
11	Capital International		Capital International Fund SICAV	30-Dec-1969		- Per 28-Mar-1989, changed into SICAV. - Per 23-Aug-2002, changed into umbrella structure	1-Jan-2000	31-Dec-2009	B shares
12	Crédit Agricole Asset Manage- ment	On 1-Jan-2010, Amundi was formed by combining the asset management activities of Crédit Agricole (75%) and Société Générale (25%).	CAAM Funds SICAV	18-Jul-1985	- Groupe Indosuez Funds - 15-Mar-1999: GIF II - 1-Dec-1999: Groupe Indosuez Funds - 8-Dec-2000: Credit Agricole Funds - 1-Jul-2007: CAAM Funds	- Per 15-Mar-1999, changed into SICAV.	1-Jan-2000	31-Dec-2009	- From the financial year 2001, the C share is used. - Only for the financial year 2000, the P share is included in the sample. - For funds that were launched after the introduction of C shares, C shares are used.



Nr	Promoter	Corporate developments (primarily in research period)	Umbrella name (latest name in research period)	Incorporation	Earlier umbrella names	Other umbrella developments	Included in sample from	Included in sample until	Share class
13	Credit Suisse	Aberdeen acquired Credit Suisse's fund management activities in 2009. The transaction was announced on 31-Dec-2008.	Credit Suisse Equity Fund (Lux) FCP	6-Sep-1993	- CS Equity Fund - 14-Apr-1994: Credit Suisse Equity Fund - 1-Sep-1997: Credit Suisse Equity Fund (Lux)	As per 1-Jul-2009, a large number of name and manager changes into Aberdeen. As per 1-May-2009, already 4 manager changes from CS to Aberdeen in Asia. Dropped from sample per 31-Dec-2009.	1-Jan-2000	31-Dec-2009	B shares
14	Dexia Asset Management		Dexia Equities L SICAV	27-Apr-1994		Change financial year in 2007 from June to Dec.	1-Jan-2000	31-Dec-2009	C shares
15	DWS		DWS Invest SICAV	3-Jun-2002			3-Jun-2002	31-Dec-2009	L shares
16	Fidelity Investments		Fidelity Funds SICAV	15-Jun-1990			1-Jan-2000	31-Dec-2009	A shares
17	Fortis Investments	BNP Paribas Investment Partners and Fortis Investments combined their operations in 2010. The combined entity operates under the brand name of BNP Paribas Investment Partners.	Fortis L Fund SICAV	29-Nov-1989	- INTERSELEX WORLD - 4-Nov-1996: INTERSELEX EQUITY - 4-May-1998: INTERSELEX - 30-Sep-1999: FORTIS L FUND - 2010: BNP Paribas L1 (EGM on 14-May-2010).		1-Jan-2000	31-Dec-2009	Classic shares
18	Franklin Templeton Investments		Franklin Templeton Investment Funds SICAV	6-Nov-1990	- Templeton Global Strategy Funds - 30-Jun-2000: Franklin Templeton Investment Funds		1-Jan-2000	31-Dec-2009	A shares
19	Gartmore Investment Management	In 2000, Gartmore was bought by Nationwide Mutual. In 2006, private equity firm Hellman & Friedman acquired the London-based international arm of Gartmore.	Gartmore SICAV	26-Sep-2000			26-Sep-2000	31-Dec-2009	A shares
20	Goldman Sachs		Goldman Sachs Funds SICAV	5-Nov-1992			1-Jan-2000	31-Dec-2009	A shares: E shares, in case no A shares launched.

Nr	Promoter	Corporate developments (primarily in research period)	Umbrella name (latest name in research period)	Incorporation	Earlier umbrella names	Other umbrella developments	Included in sample from	Included in sample until	Share class
21	Henderson Global Investors	In 1998, Henderson was acquired by AMP and became Henderson Global Investors. In December 2003, Henderson in the U.K. became part of HHG PLC. In April 2005, this holding company was renamed Henderson Group plc to reflect the sale of the life business.	Henderson Horizon Fund SICAV	30-May-1985			1-Jan-2000	31-Dec-2009	A shares
22	HSBC Global Asset Management		HSBC Global Investment Funds SICAV	21-Nov-1986		Change financial year in 2003.	1-Jan-2000	31-Dec-2009	A shares
23	ING Investment Management	This umbrella was originally established by Banque Bruxelles Lambert (BBL), which was acquired by ING in 1998.	ING (L) Invest SICAV	6-Sep-1993	BBL (L) Invest		1-Jan-2000	31-Dec-2009	P shares
24	INVESCO		Invesco GT SICAV	31-Jul-1990	Invesco Premier Select		1-Jan-2000	31-Dec-2009	A shares
25	Investec		Investec Global Strategy Fund SICAV	1-Jul-2008		Incorporated in Guernsey on 5-Jan-1984. Re-domiciled to Luxembourg on 1-Jul-2008	1-Jul-2008	31-Dec-2009	A shares
26	J.P. Morgan Asset Management (formerly Flemings)	In April 2000, Robert Flemings Holdings was sold to Chase Manhattan Bank. When Chase merged with J.P. Morgan in 2001, the Flemings asset management business was rebranded J.P. Morgan Fleming.	JPMorgan Funds SICAV	14-Apr-1969	- Incorporated as Multi Trust Fund S.A. - 3-Jul-1984: Fleming International Fund - 19-Oct-1988: Fleming Flagship Fund - 2-Jun-2000: Fleming Funds - 19-Nov-2001: JPMorgan Fleming Funds - 12-Sep-2005: JPMorgan Funds	Per 5-Sep-2001, appointment of JPM board member (since then, this umbrella continues as flagship; JPMIF umbrella is removed from the sample).	1-Jan-2000	31-Dec-2009	A shares
27	J.P. Morgan Asset Management	In April 2000, Robert Flemings Holdings was sold to Chase Manhattan Bank. When Chase merged with J.P. Morgan in 2001, the Flemings asset management business was rebranded J.P. Morgan Fleming.	J.P. Morgan Investment Fund SICAV	22-Dec-1994	- Incorporated as J.P. Morgan Investment Fund. - 19-Nov-2001: JPMorgan Fleming Investment Funds - 12-Sep-2005: JPMorgan Investment Funds	Removed from sample per 31-Dec-2001.	1-Jan-2000	31-Dec-2001	A shares

Nr	Promoter	Corporate developments (primarily in research period)	Umbrella name (latest name in research period)	Incorporation	Earlier umbrella names	Other umbrella developments	Included in sample from	Included in sample until	Share class
28	Julius Baer	In 2009, Julius Baer Holding Ltd. was split into Julius Baer Group, the company's private banking entities and GAM Holding Ltd., the asset management businesses. Julius Baer Investment Funds Services Ltd. is named Swiss & Global Asset Management Ltd. since 1-Oct-2009.	Julius Baer Multistock SICAV	1-Dec-1989		Change financial year in 2002.	1-Jan-2000	31-Dec-2009	B shares
29	KBC Asset Management		KBC Equity Fund (L) SICAV	8-Mar-1993	- KB Lux Equity Fund - 29-Dec-2005: KBC Equity Fund (L)		1-Jan-2000	31-Dec-2009	Only one share class offered
30	Legg Mason Group / Citi	On 1-Dec-2005, Citigroup sold its asset management business to Legg Mason.	Legg Mason Global Funds FCP (Luxembourg)	26-May-1988	- Citiporfolios Sa - Citi FCP - 3-Jul-2006: Legg Mason Global Funds FCP (Luxembourg)		1-Jan-2000	31-Dec-2009	A shares
31	Lloyds TSB		Lloyds TSB International Portfolio SICAV	2-Oct-1984	- Lloyds International Smaller Companies SICAV - 28-Jun-1999: Lloyds TSB International Portfolio SIVAV		1-Jan-2000	31-Dec-2009	Only one share class offered
32	Lombard Odier Darier Hentsch		LODH Invest SICAV	5-Jan-1987	- Mediterranean Fund - 1994: Lombard Odier Invest - 2003: Lombard Odier Darier Hentsch Invest (in short "LODH Invest").	Change financial year in 2007.	1-Jan-2000	31-Dec-2009	P shares
33	Martin Currie		Martin Currie Global Funds SICAV	7-Aug-1998			1-Jan-2000	31-Dec-2009	Only one share class offered
34	Massachusetts Financial Services	Massachusetts Financial Services (MFS), originating from 1924, was acquired by Sun Life in 1982.	MFS Meridian Funds SICAV	4-Feb-1992	- MFS American Funds - 18-Dec-1998: MFS Funds - 15-Aug-2005: MFS Meridian Funds	On26-Sep-2005, all of the assets and certain liabilities of each of the Cayman-Islands domiciled MFS Meridian funds were contributed in-kind into corresponding sub-funds of the MFS Meridian Funds in Luxembourg.	1-Jan-2000	31-Dec-2009	A shares
35	Morgan Stanley Investment Management		Morgan Stanley Investment Funds SICAV	21-Nov-1988	- Morgan Stanley Dean Witter - Morgan Stanley		1-Jan-2000	31-Dec-2009	A shares

Nr	Promoter	Corporate developments (primarily in research period)	Umbrella name (latest name in research period)	Incorporation	Earlier umbrella names	Other umbrella developments	Included in sample from	Included in sample until	Share class
36	Natixis Asset Management	Natixis was created in 2006 from the merger of the asset management and investment banking operations of Natexis Banque Populaire and IXIS. The two main shareholders, Groupe Caisses d'Epargne and Banque Populaire, together own more than 70% of Natixis, while the remaining shares are listed on the Paris Stock Exchange.	NATIXIS International Funds ( Lux ) I SICAV	1-Dec-1995	- CDC International Fund - 28-Jan-2005: IXIS International Funds (Lux) I - 31-Jul-2007: NATIXIS International Funds ( Lux ) I		1-Jan-2000	31-Dec-2009	R shares
37	Nordea Asset Management		Nordea 1, SICAV	31-Aug-1989	- Frontrunner I - 1-Feb-2001: Nordea 1		1-Jan-2000	31-Dec-2009	BP shares
38	Pictet Funds		Pictet Funds (Lux) SICAV	20-Sep-1991	- Pictet Umbrella Fund - 14-Jun-1995: Pictet Fixed Income Fund - 28-Apr-2006: Pictet Funds (LUX)  Before 2006, flagship equity funds were included in: Pictet Funds FCP, previously named Pictet Targeted Fund FCP	Decision in 2008 to change financial year: - For 2008, from 1-Jan to 31-Oct-2008. - For 2009, from 1-Nov-2008 to 30-Sep-2009.	1-Jan-2000	31-Dec-2009	P shares
39	Pioneer Investments	Pioneer was acquired by UniCredito in 2000.	Pioneer Funds FCP	2-Mar-1998	- EuroPlus Fund - 18-Dec-1999: Pioneer Funds		1-Jan-2000	31-Dec-2009	E class
40	Robeco Group	In 1990, Robeco and Rabobank started a strategic alliance. From 2001, Robeco is a full-subsidiary of Rabobank.	Robeco Capital Growth Funds SICAV	2-May-1997	- RG Capital Growth Funds - 26-Oct-2000: Robeco Capital Growth Funds		1-Jan-2000	31-Dec-2009	- Only EUR versions of products are included, not CHF and USD. - In case of the amalgamations of A into D, the D share is included from the financial year 2005 (1-Jul-2004 - 30-Jun-2005), the A share up to financial year 2004.
41	Sarasin & Cie		Sarasin Investmentfonds SICAV	19-Jun-1992			1-Jan-2000	31-Dec-2009	A or B shares
42	Schroders		Schroder International Selection Fund SICAV	5-Dec-1968			1-Jan-2000	31-Dec-2009	A shares

Nr	Promoter	Corporate developments (primarily in research period)	Umbrella name (latest name in research period)	Incorporation	Earlier umbrella names	Other umbrella developments	Included in sample from	Included in sample until	Share class
43	SEB Asset Management		SEB Fund 1 FCP	2-Dec-1987	- SEB Lux Equity Fund - 23-Sep-2005: SEB Fund 1		1-Jan-2000	31-Dec-2009	Capitalisation units ("C" units), initially called A.
44	Société Générale Asset Management	On 1-Jan-2010, Amundi was formed by combining the asset management activities of Crédit Agricole (75%) and Société Générale (25%).	SGAM Fund SICAV	22-May-1987	- Sogelux Bonds - Sogelux Fund - 12-Nov-2004: SGAM Fund SICAV		1-Jan-2000	31-Dec-2009	
45	Sparinvest		Sparinvest SICAV	10-Oct-2001			10-Oct-2001	31-Dec-2009	R shares
46	T. Rowe Price		T. Rowe Price Funds SICAV	5-Jun-2001			5-Jun-2001	31-Dec-2009	A shares
47	UBS Global Asset Management		UBS (Lux) Equity Fund FCP	26-Oct-1989	- SBC Euro-Stock Portfolio - 1993: sBC Equity Portfolio - 1-Dec-1998: UBS (Lux) Equity Fund		1-Jan-2000	31-Dec-2009	P shares, before 2008/2009 called B.
48	WestLB Mellon Asset Management	In 2006, WestLB AG and Mellon Financial Corporation established a 50:50 jointly-owned asset management company named WestLB Mellon Asset Management.	WestLB Mellon Compass Fund SICAV	18-Dec-1998	- WestLB Compass Fund - 28-Sep-2001: WestAM Compass Fund SICAV - May 2006: WestLB Mellon Compass Fund SICAV		1-Jan-2000	31-Dec-2009	C shares



## Appendix 2

# Sample: Sub-funds





Nr <sup>1</sup>	Umbrella	Sub-fund name	ISIN	Fund sector	Start date <sup>2</sup>	End date <sup>3</sup>	TNA <sup>4</sup>
1	Aberdeen Global SICAV	American Equity Fund	LU0000623727	US	1-Jan-2000	15-Aug-2001	
1	Aberdeen Global SICAV	American Equities Fund	LU0011963831	US	15-Aug-2001	31-Dec-2009	179
1	Aberdeen Global SICAV	Japanese Equity Fund	LU0011963634	Japan	1-Jan-2000	31-Dec-2009	55
1	Aberdeen Global SICAV	World Equity Fund	LU0094547139	Global	1-Jan-2000	31-Dec-2009	1,141
1	Aberdeen Global SICAV	European Equity Fund	LU0094541447	Pan-Europe	1-Jan-2000	31-Dec-2009	41
1	Aberdeen Global SICAV	Emerging Markets Equity Fund	LU0132412106	Emerging Markets	15-Aug-2001	31-Dec-2009	2,255
2	ABN AMRO Funds SICAV	US Equity Growth	LU0050697696	US	1-Jan-2000	24-Nov-2008	
2	ABN AMRO Funds SICAV	Europe Equity Fund	LU0053334230	Pan-Europe	1-Jan-2000	17-Nov-2008	
2	ABN AMRO Funds SICAV	Japan Equity Fund	LU0053335716	Japan	1-Jan-2000	17-Nov-2008	
2	ABN AMRO Funds SICAV	Global Emerging Markets Equity Fund	LU0076583623	Emerging Markets	1-Jan-2000	17-Nov-2008	
2	ABN AMRO Funds SICAV	Global Equity Fund	LU0085493038	Global	1-Jan-2000	17-Nov-2008	
2	ABN AMRO Funds SICAV	Euro Equity Fund	LU0085494275	Euroland	1-Jan-2000	28-Jul-2006	
2	ABN AMRO Funds SICAV	Europe Equity Growth Fund	LU0108997023	Pan-Europe	9-Jun-2000	24-Nov-2008	
2	ABN AMRO Funds SICAV	Behavioural Finance Japan	LU0120309322	Japan	7-Mar-2001	27-Oct-2006	
2	ABN AMRO Funds SICAV	Global Leader	LU0139009905	Global	29-Apr-2002	25-May-2007	
2	ABN AMRO Funds SICAV	Global Equity Value	LU0156099409	Global	16-Dec-2002	30-May-2008	
2	ABN AMRO Funds SICAV	US Equity Value	LU0156099821	US	16-Dec-2002	24-Nov-2008	
2	ABN AMRO Funds SICAV	Europe Equity Dynamic	LU0198425174	Pan-Europe	30-Sep-2004	23-May-2008	
2	ABN AMRO Funds SICAV	High Dividend Equity	LU0218000072	Global	16-May-2005	24-Nov-2008	
2	ABN AMRO Funds SICAV	Europe Opportunities	LU0198605239	Pan-Europe	1-Dec-2004	24-Nov-2008	
2	ABN AMRO Funds SICAV	US Opportunities	LU0198605585	US	1-Dec-2004	24-Nov-2008	
2	ABN AMRO Funds SICAV	Europe Equity Revival	LU0217999712	Pan-Europe	14-Jun-2005	23-May-2008	
2	ABN AMRO Funds SICAV	Europe High Dividend Equity	LU0231957126	Pan-Europe	2-Nov-2005	17-Nov-2008	
3	Activest Lux Global Portfolio SICAV	European Equity	LU0012134580	Pan-Europe	1-Jan-2000	31-Dec-2006	
3	Activest Lux Global Portfolio SICAV	Global Equity	LU0012133772	Global	1-Jan-2000	18-Aug-2003	
3	Activest Lux Global Portfolio SICAV	JapaneseEquity	LU0012131990	Japan	1-Jan-2000	22-Feb-2008	
3	Activest Lux Global Portfolio SICAV	AmericanEquity	LU0012132881	US	1-Jan-2000	22-Feb-2008	
4	ACMBernstein FCP	Emerging Markets Growth Portfolio	LU0040709171	Emerging Markets	1-Jan-2000	31-Dec-2009	1,048
4	ACMBernstein FCP	American Growth Portfolio	LU0079474960	US	1-Jan-2000	31-Dec-2009	167
4	ACMBernstein FCP	Global Growth Trends Portfolio	LU0057025933	Global	1-Jan-2000	31-Dec-2009	990
4	ACMBernstein FCP	European Growth Portfolio	LU0095325956	Pan-Europe	1-Jan-2000	31-Dec-2009	36
4	ACMBernstein FCP	Global Value Portfolio (USD)	LU0124673897	Global	31-May-2006	31-Dec-2009	572
4	ACMBernstein FCP	American Value Portfolio	LU0124676726	US	31-May-2006	31-Dec-2009	38
4	ACMBernstein FCP	European Value Portfolio	LU0124675678	Pan-Europe	31-May-2006	31-Dec-2009	150
4	ACMBernstein FCP	American Equity Blend Portfolio	LU0175139749	US	15-Sep-2003	31-Dec-2009	10
4	ACMBernstein FCP	Global Equity Blend Portfolio	LU0175139822	Global	1-Sep-2003	31-Dec-2009	1,430
4	ACMBernstein FCP	Japan Strategic Value Portfolio	LU0239027880	Japan	15-Dec-2005	31-Dec-2009	302
4	ACMBernstein FCP	Global Growth Trends Portfolio (Euro)	LU0247867574	Global	2-May-2006	31-Dec-2009	17
4	ACMBernstein FCP	Global Equity Blend Portfolio (Euro)	LU0247868895	Global	2-May-2006	31-Dec-2009	132
4	ACMBernstein FCP	Global Value Portfolio (Euro)	LU0247866097	Global	2-May-2006	31-Dec-2009	11
4	ACMBernstein FCP	Japan Equity Blend Portfolio	LU0256899500	Japan	8-Jun-2006	31-Dec-2009	1
4	ACMBernstein FCP	Japan Growth Portfolio	LU0256900100	Japan	8-Jun-2006	31-Dec-2009	2
4	ACMBernstein FCP	European Equity Blend Portfolio	LU0256902494	Pan-Europe	8-Jun-2006	6-May-2009	
4	ACMBernstein FCP	European Strategic Value Portfolio	LU0290338735	Pan-Europe	29-Mar-2007	31-Dec-2009	49
5	Allianz Global Investors Fund SICAV	Global Equity Fund	LU0101241155	Global	1-Jan-2000	16-May-2003	
5	Allianz Global Investors Fund SICAV	RCM Global Equity	LU0101244092	Global	13-Jun-2000	31-Dec-2009	70
5	Allianz Global Investors Fund SICAV	EURO Equity Fund	LU0101265410	Euroland	1-Jan-2000	16-May-2003	
5	Allianz Global Investors Fund SICAV	Pan-European Equity Fund	LU0101262409	Pan-Europe	1-Jan-2000	21-Sep-2007	
5	Allianz Global Investors Fund SICAV	North American Equity Fund	LU0101269677	US	1-Jan-2000	28-Sep-2007	
5	Allianz Global Investors Fund SICAV	Global Emerging Markets Equity Fund	LU0101259017	Emerging Markets	11-Jan-2000	16-May-2003	
5	Allianz Global Investors Fund SICAV	Japanese Equity Fund	LU0101279809	Japan	1-Jan-2000	16-May-2003	
5	Allianz Global Investors Fund SICAV	dit-Top Selection Europa	LU0178455605	Pan-Europe	6-Jan-2004	12-Dec-2008	
5	Allianz Global Investors Fund SICAV	RCM Euroland Equity Growth	LU0256840447	Euroland	16-Oct-2006	31-Dec-2009	129
5	Allianz Global Investors Fund SICAV	RCM Europe Equity Growth	LU0256839274	Pan-Europe	16-Oct-2006	31-Dec-2009	274
5	Allianz Global Investors Fund SICAV	RCM Best Styles EU	LU0178439310	Euroland	4-Jun-2007	31-Dec-2009	98
5	Allianz Global Investors Fund SICAV	RCM US Equity Systematic	LU0256863811	US	15-Feb-2008	31-Dec-2009	96
6	Threadneedle (Lux) SICAV	World Equities	LU0061474960	Global	1-Jan-2000	31-Dec-2009	34
6	Threadneedle (Lux) SICAV	US Equities	LU0061475181	US	1-Jan-2000	31-Dec-2009	174
6	Threadneedle (Lux) SICAV	Pan European Equities	LU0061476155	Pan-Europe	1-Jan-2000	31-Dec-2009	29
6	Threadneedle (Lux) SICAV	Japanese Equities	LU0096370878	Japan	1-Jan-2000	31-Dec-2009	6
6	Threadneedle (Lux) SICAV	American Select	LU0112528004	US	28-Jul-2000	31-Dec-2009	5
6	Threadneedle (Lux) SICAV	Global Emerging Market Equities	LU0143863198	Emerging Markets	2-Apr-2002	31-Dec-2009	4
6	Threadneedle (Lux) SICAV	European Quantitative Equities	LU0292882163	Pan-Europe	30-Mar-2007	31-Dec-2009	24
6	Threadneedle (Lux) SICAV	US Dynamic Equities Portfolio	LU0292889416	US	18-May-2007	28-Oct-2009	
7	Aviva Investors SICAV	American Equity Fund	LU0010019148	US	1-Jan-2000	31-Dec-2009	79
7	Aviva Investors SICAV	Emerging Markets Equity Fund	LU0047882062	Emerging Markets	1-Jan-2000	31-Dec-2009	1,582
7	Aviva Investors SICAV	Japanese Equity Fund	LU0010019734	Japan	1-Jan-2000	31-Dec-2009	31
7	Aviva Investors SICAV	Global Equity Fund	LU0010019494	Global	1-Jan-2000	31-Dec-2009	24
7	Aviva Investors SICAV	Global Themes Equity Fund	LU0121215049	Global	27-Nov-2000	10-Sep-2004	
7	Aviva Investors SICAV	Pan European Equity Fund	LU0156415258	Pan-Europe	13-Sep-2004	31-Dec-2009	122
7	Aviva Investors SICAV	Global Equity Income Fund	LU0367991881	Global	30-Sep-2008	31-Dec-2009	26
7	Aviva Investors SICAV	Pan European Equity Focus	LU0370309295	Pan-Europe	19-Aug-2008	31-Dec-2009	12
8	Axa World Funds SICAV	Framlington Euro Relative Value	LU0073680463	Euroland	1-Jan-2000	31-Dec-2009	1,466
8	Axa World Funds SICAV	Global Equities	LU0073689588	Global	1-Jan-2000	12-Feb-2004	

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Nr <sup>1</sup>	Umbrella	Sub-fund name	ISIN	Fund sector	Start date <sup>2</sup>	End date <sup>3</sup>	TNA <sup>4</sup>
8	Axa World Funds SICAV	Japanese Equities	LU0073676438	Japan	1-Jan-2000	12-Feb-2004	
8	Axa World Funds SICAV	Framlington Europe Talents	LU0184621331	Pan-Europe	18-Apr-2006	25-Nov-2009	
8	Axa World Funds SICAV	North American Equities	LU0073672288	US	1-Jan-2000	12-Feb-2004	
8	Axa World Funds SICAV	Emerging Markets Equities	LU0109084185	Emerging Markets	3-Apr-2000	12-Feb-2004	
8	Axa World Funds SICAV	Framlington European Opportunities	LU0125727601	Pan-Europe	9-Mar-2001	31-Dec-2009	14
8	Axa World Funds SICAV	Framlington Talents	LU0189847683	Global	30-Apr-2004	31-Dec-2009	223
8	Axa World Funds SICAV	Framlington Emerging Markets Talents	LU0227146197	Emerging Markets	31-Jul-2009	31-Dec-2009	131
8	Axa World Funds SICAV	Framlington Europe Dividend	LU0271204314	Pan-Europe	27-Oct-2006	31-Dec-2009	77
8	Axa World Funds SICAV	Framlington Japan	LU0266015097	Japan	22-Sep-2006	31-Dec-2009	5
8	Axa World Funds SICAV	Framlington Emerging Markets	LU0327690045	Emerging Markets	27-Nov-2007	31-Dec-2009	82
8	Axa World Funds SICAV	Framlington Eurozone	LU0389656892	Euroland	23-Jan-2009	31-Dec-2009	867
8	Axa World Funds SICAV	Framlington Europe	LU0389655811	Pan-Europe	23-Jan-2009	31-Dec-2009	176
9	BlackRock Global Funds SICAV	Global Equity Fund	LU0224106525	Global	22-Jul-2005	31-Dec-2009	167
9	BlackRock Global Funds SICAV	European Fund	LU0011846440	Pan-Europe	1-Jan-2000	31-Dec-2009	2,372
9	BlackRock Global Funds SICAV	Global Equity Diversified Fund	LU0011895819	Global	1-Jan-2000	2-Oct-2006	
9	BlackRock Global Funds SICAV	Japan Fund	LU0249409425	Japan	1-Jan-2000	31-Dec-2009	25
9	BlackRock Global Funds SICAV	Global Equity Diversified Fund	LU0006049638	US	1-Jan-2000	29-Oct-2004	
9	BlackRock Global Funds SICAV	Emerging Markets Fund	LU0047713382	Emerging Markets	1-Jan-2000	31-Dec-2009	775
9	BlackRock Global Funds SICAV	US Focused Value Fund	LU0063938889	US	1-Feb-2002	9-Oct-2009	
9	BlackRock Global Funds SICAV	European Value Fund	LU0072462186	Pan-Europe	1-Feb-2002	31-Dec-2009	280
9	BlackRock Global Funds SICAV	US Basic Value Fund	LU0072461881	US	1-Feb-2002	31-Dec-2009	1,433
9	BlackRock Global Funds SICAV	Global Value Fund	LU0079007752	Global	1-Feb-2002	16-May-2003	
9	BlackRock Global Funds SICAV	Euro-Markets Fund	LU0093502762	Euroland	1-Jan-2000	31-Dec-2009	1,937
9	BlackRock Global Funds SICAV	US Growth Fund	LU0097036916	US	1-Feb-2002	31-Dec-2009	138
9	BlackRock Global Funds SICAV	Global Sectors Fund (USD)	LU0117766807	Global	1-Feb-2002	19-May-2003	
9	BlackRock Global Funds SICAV	Global Sectors Fund (Euro)	LU0117765312	Global	1-Feb-2002	19-May-2003	
9	BlackRock Global Funds SICAV	European Growth Fund	LU0154234636	Pan-Europe	14-Oct-2002	31-Dec-2009	153
9	BlackRock Global Funds SICAV	US Flexible Equity Fund	LU0154236417	US	31-Oct-2002	31-Dec-2009	1,554
9	BlackRock Global Funds SICAV	Japan Value Fund	LU0212924517	Japan	28-Feb-2005	31-Dec-2009	152
9	BlackRock Global Funds SICAV	Global Focus Fund	LU0214324237	Global	25-May-2005	14-Mar-2008	
9	BlackRock Global Funds SICAV	European Focus Fund	LU0229084990	Pan-Europe	14-Oct-2005	31-Dec-2009	339
9	BlackRock Global Funds SICAV	Global Dynamic Equity Fund	LU0238689110	Global	28-Feb-2006	31-Dec-2009	502
9	BlackRock Global Funds SICAV	Global Enhanced Equity Yield Fund	LU0265550359	Global	13-Oct-2006	31-Dec-2009	194
9	BlackRock Global Funds SICAV	European Enhanced Equity Yield Fund	LU0314014704	Pan-Europe	12-Oct-2007	31-Dec-2009	17
10	Parvest SICAV	Europe	LU0012182043	Pan-Europe	1-Jan-2000	10-Aug-2006	
10	Parvest SICAV	Japan	LU0012181748	Japan	1-Jan-2000	31-Dec-2009	232
10	Parvest SICAV	USA	LU0012181318	US	1-Jan-2000	31-Dec-2009	1,024
10	Parvest SICAV	Euro Equities	LU0075937325	Euroland	1-Jan-2000	31-Dec-2009	387
10	Parvest SICAV	Europe Opportunities	LU0099624685	Pan-Europe	23-Aug-2002	12-Mar-2009	
10	Parvest SICAV	Emerging Markets	LU0111484845	Emerging Markets	29-Sep-2000	22-Aug-2003	
10	Parvest SICAV	Japan Equities	LU0111500806	Japan	29-Sep-2000	22-Aug-2003	
10	Parvest SICAV	North America	LU0111513700	US	1-Jan-2000	22-Aug-2003	
10	Parvest SICAV	Europe Growth	LU0111518840	Pan-Europe	20-Sep-2003	31-Dec-2009	236
10	Parvest SICAV	Global Equities	LU0111524491	Global	1-Jan-2000	23-Aug-2003	43
10	Parvest SICAV	World Sectors	LU0111534615	Global	29-Sep-2000	11-Dec-2003	
10	Parvest SICAV	World Special Situations	LU0111543872	Global	1-Jan-2000	22-Aug-2003	
10	Parvest SICAV	Europe Dividend	LU0111491469	Pan-Europe	16-Oct-2000	31-Dec-2009	734
10	Parvest SICAV	Emerging Markets	LU0154243033	Emerging Markets	3-Feb-2003	31-Dec-2009	264
10	Parvest SICAV	Europe Value	LU0177332227	Pan-Europe	2-Oct-2003	31-Dec-2009	417
10	Parvest SICAV	US Value	LU0206728387	US	15-Dec-2004	31-Dec-2009	290
10	Parvest SICAV	Europe Alpha	LU0221142986	Pan-Europe	7-Jun-2005	31-Dec-2009	750
10	Parvest SICAV	Greater Europe	LU0347710062	Pan-Europe	9-Apr-2008	15-May-2009	
10	Parvest SICAV	Next Generation	LU0283576725	Emerging Markets	27-May-2009	31-Dec-2009	52
11	Capital International Fund SICAV	Global Equity	LU0114999021	Global	1-Jan-2000	31-Dec-2009	985
11	Capital International Fund SICAV	US Growth And Income Fund	LU0157028936	US	30-Oct-2002	31-Dec-2009	70
11	Capital International Fund SICAV	European Growth And Income Fund	LU0157028266	Pan-Europe	30-Oct-2002	31-Dec-2009	93
11	Capital International Fund SICAV	European Equity Fund	LU0115035270	Pan-Europe	6-Sep-2002	31-Dec-2009	149
11	Capital International Fund SICAV	US Equity	LU0174799204	US	7-Nov-2003	12-Jun-2009	
11	Capital International Fund SICAV	Euro Zone Equity Fund	LU0193722351	Euroland	30-Jul-2004	13-Mar-2009	
11	Capital International Fund SICAV	Japan Equity	LU0235150082	Japan	20-Apr-2006	31-Dec-2009	23
11	Capital International Fund SICAV	Global Growth And Income Fund	LU0342049003	Global	31-Jan-2008	31-Dec-2009	56
12	CAAM Funds SICAV	Emerging Markets	LU0119095825	Emerging Markets	1-Jul-2000	31-Dec-2009	453
12	CAAM Funds SICAV	Europe Sector Selection	LU0119104163	Pan-Europe	1-Jan-2000	17-Dec-2004	
12	CAAM Funds SICAV	Euro Quant	LU0119126729	Euroland	1-Jul-2000	31-Dec-2009	86
12	CAAM Funds SICAV	Europe Equities	LU0119128261	Pan-Europe	1-Nov-2003	25-Apr-2008	
12	CAAM Funds SICAV	Global Equities	LU0119137254	Global	1-Jul-2000	31-Dec-2009	73
12	CAAM Funds SICAV	Japan Growth	LU0119147303	Japan	1-Jul-2000	15-May-2009	
12	CAAM Funds SICAV	US Innovative Companies	LU0119157286	US	1-Jul-2000	31-Dec-2009	29
12	CAAM Funds SICAV	US Opportunities	LU0119180189	US	6-Apr-2001	31-Dec-2009	34
12	CAAM Funds SICAV	Europe	LU0119102209	Pan-Europe	6-Apr-2001	1-Nov-2003	
12	CAAM Funds SICAV	Europe Equity Research	LU0141255744	Pan-Europe	2-Jan-2002	1-Feb-2004	
12	CAAM Funds SICAV	Japan Value	LU0248702192	Japan	15-Jun-2006	31-Dec-2009	30
12	CAAM Funds SICAV	CGEMS World	LU0297161969	Global	19-Apr-2007	31-Dec-2009	28
12	CAAM Funds SICAV	Emerging Internal Demand	LU0319685854	Emerging Markets	16-Oct-2007	31-Dec-2009	67
12	CAAM Funds SICAV	GEMS Europe	LU0319686589	Pan-Europe	15-Nov-2007	31-Dec-2009	54
12	CAAM Funds SICAV	Emerging World	LU0347592197	Emerging Markets	4-Mar-2008	31-Dec-2009	20

Nr <sup>1</sup>	Umbrella	Sub-fund name	ISIN	Fund sector	Start date <sup>2</sup>	End date <sup>3</sup>	TNA <sup>4</sup>
13	Credit Suisse Equity Fund (Lux) FCP	Emerging Markets	LU0046379920	Emerging Markets	1-Jan-2000	31-Dec-2009	144
13	Credit Suisse Equity Fund (Lux) FCP	European Blue Chips	LU0055729916	Pan-Europe	1-Jan-2000	31-Dec-2009	328
13	Credit Suisse Equity Fund (Lux) FCP	Japan Megatrend	LU0055734247	Japan	1-Jan-2000	31-Dec-2009	99
13	Credit Suisse Equity Fund (Lux) FCP	USA	LU0055732977	US	1-Jan-2000	31-Dec-2009	205
13	Credit Suisse Equity Fund (Lux) FCP	Global Value	LU0129338272	Global	8-Jun-2001	31-Dec-2009	124
13	Credit Suisse Equity Fund (Lux) FCP	Style Invest Europe	LU0168302833	Pan-Europe	23-May-2003	31-Dec-2009	11
13	Credit Suisse Equity Fund (Lux) FCP	Dividend Europe	LU0168301355	Pan-Europe	23-Jun-2003	31-Dec-2009	203
13	Credit Suisse Equity Fund (Lux) FCP	European Growth	LU0187730584	Pan-Europe	30-Mar-2004	28-Sep-2006	
13	Credit Suisse Equity Fund (Lux) FCP	USA Growth	LU0187731988	US	30-Mar-2004	27-Sep-2006	
13	Credit Suisse Equity Fund (Lux) FCP	USA Value	LU0187731129	US	30-Mar-2004	31-Dec-2009	87
13	Credit Suisse Equity Fund (Lux) FCP	European Alphamax	LU0220215247	Pan-Europe	27-Jun-2005	9-May-2008	
14	Dexia Equities L SICAV	USA	LU0064108128	US	1-Jan-2000	31-Dec-2009	169
14	Dexia Equities L SICAV	Japan	LU0064109019	Japan	1-Jan-2000	31-Dec-2009	56
14	Dexia Equities L SICAV	Euro Performers	LU0078775441	Euroland	1-Jan-2000	3-Nov-2003	
14	Dexia Equities L SICAV	21st Century	LU0082272682	Global	1-Jan-2000	14-Mar-2008	
14	Dexia Equities L SICAV	Euro 50	LU0012091087	Euroland	1-Jan-2000	31-Dec-2009	299
14	Dexia Equities L SICAV	Emerging Markets	LU0056052961	Emerging Markets	1-Jan-2000	31-Dec-2009	221
14	Dexia Equities L SICAV	Europe	LU0027144939	Pan-Europe	1-Jan-2000	31-Dec-2009	782
14	Dexia Equities L SICAV	Europe Growth	LU0097188857	Pan-Europe	15-Oct-2007	31-Dec-2009	16
14	Dexia Equities L SICAV	World	LU0104623557	Global	1-Jan-2000	31-Dec-2009	24
14	Dexia Equities L SICAV	Europe Value	LU0133356484	Pan-Europe	12-Oct-2007	31-Dec-2009	12
14	Dexia Equities L SICAV	EMU	LU0317020898	Euroland	15-Oct-2007	31-Dec-2009	76
14	Dexia Equities L SICAV	Europe High Dividend	LU0304859712	Pan-Europe	20-Jul-2007	31-Dec-2009	153
15	DWS Invest SICAV	Global Equities	LU0145633003	Global	3-Jun-2002	31-Dec-2009	254
15	DWS Invest SICAV	European Equities	LU0145634076	Pan-Europe	3-Jun-2002	31-Dec-2009	729
15	DWS Invest SICAV	US Equities	LU0145635552	US	3-Jun-2002	31-Dec-2009	72
15	DWS Invest SICAV	Top Europe	LU0145644893	Pan-Europe	3-Jun-2002	31-Dec-2009	108
15	DWS Invest SICAV	Top 50 World	LU0145649348	Global	3-Jun-2002	31-Dec-2007	
15	DWS Invest SICAV	Japanese Equities	LU0145651088	Japan	3-Jun-2002	31-Dec-2009	37
15	DWS Invest SICAV	European Dividend Plus	LU0195137939	Pan-Europe	30-Aug-2004	31-Dec-2009	427
15	DWS Invest SICAV	Global Value	LU0273155423	Global	20-Nov-2006	31-Dec-2009	36
15	DWS Invest SICAV	European Select	LU0298653451	Pan-Europe	14-May-2007	31-Dec-2009	2
16	Fidelity Funds SICAV	Emerging Markets Fund	LU0048575426	Emerging Markets	1-Jan-2000	31-Dec-2009	2,350
16	Fidelity Funds SICAV	European Growth Fund	LU0048578792	Pan-Europe	1-Jan-2000	31-Dec-2009	8,232
16	Fidelity Funds SICAV	International Fund	LU0048584097	Global	1-Jan-2000	31-Dec-2009	1,049
16	Fidelity Funds SICAV	Japan Fund	LU0048585144	Japan	1-Jan-2000	31-Dec-2009	627
16	Fidelity Funds SICAV	World Fund	LU0069449576	Global	1-Jan-2000	31-Dec-2009	532
16	Fidelity Funds SICAV	American Growth Fund	LU0077335932	US	1-Jan-2000	31-Dec-2009	201
16	Fidelity Funds SICAV	European Aggressive Fund	LU0083291335	Pan-Europe	1-Jan-2000	31-Dec-2009	930
16	Fidelity Funds SICAV	Euro Blue Chip Fund	LU0088814487	Euroland	1-Jan-2000	31-Dec-2009	672
16	Fidelity Funds SICAV	European Larger Companies Fund	LU0119124278	Pan-Europe	16-Sep-2002	31-Dec-2009	213
16	Fidelity Funds SICAV	Global Focus Fund	LU0157215616	Global	14-Jan-2003	31-Dec-2009	70
16	Fidelity Funds SICAV	Japan Advantage	LU0161332480	Japan	30-Jan-2003	31-Dec-2009	375
16	Fidelity Funds SICAV	American Diversified Fund	LU0187122535	US	1-Mar-2004	31-Dec-2009	73
16	Fidelity Funds SICAV	European Fund	LU0238202427	Pan-Europe	12-Dec-2005	31-Dec-2009	169
16	Fidelity Funds SICAV	Japan Dividend Growth	LU0238203664	Japan	9-Dec-2005	19-Sep-2009	
16	Fidelity Funds SICAV	Global Sector Fund	LU0267387255	Global	30-Oct-2006	31-Dec-2009	124
16	Fidelity Funds SICAV	America Fund	LU0048573561	US	1-Jan-2000	31-Dec-2009	996
16	Fidelity Funds SICAV	European Special Situations Fund	LU0329678766	Pan-Europe	21-Jan-2008	31-Dec-2009	90
17	Fortis L Fund SICAV	Equity Europe	LU0010012721	Pan-Europe	1-Jan-2000	31-Dec-2009	1,068
17	Fortis L Fund SICAV	Equity World	LU0072778490	Global	1-Jan-2000	31-Dec-2009	218
17	Fortis L Fund SICAV	Equity Euro Job	LU0082276915	Euroland	1-Jan-2000	15-Mar-2002	
17	Fortis L Fund SICAV	Equity World Emerging	LU0081707118	Emerging Markets	1-Jan-2000	31-Dec-2009	628
17	Fortis L Fund SICAV	Equity Best Selection World	LU0086352696	Global	1-Jan-2000	31-Dec-2009	41
17	Fortis L Fund SICAV	Equity Best Selection EURO	LU0090548479	Euroland	1-Jan-2000	31-Dec-2009	179
17	Fortis L Fund SICAV	Equity EURO	LU0087045034	Euroland	1-Jan-2000	31-Dec-2009	525
17	Fortis L Fund SICAV	Equity Best Selection USA	LU0092590669	US	1-Jan-2000	31-Dec-2009	131
17	Fortis L Fund SICAV	Equity Market Selection World	LU0094229605	Global	1-Jan-2000	12-Feb-2007	
17	Fortis L Fund SICAV	Equity Europe Opportunities	LU0103372834	Pan-Europe	1-Jan-2000	3-Nov-2003	
17	Fortis L Fund SICAV	Equity Factor 1-3 Euro	LU0108384792	Euroland	17-Feb-2000	12-Feb-2007	
17	Fortis L Fund SICAV	Equity Multinational World	LU0109012780	Global	1-Apr-2000	3-Nov-2003	
17	Fortis L Fund SICAV	Equity High Yield EURO	LU0109013911	Euroland	17-Apr-2000	31-Oct-2002	
17	Fortis L Fund SICAV	Equity Japan	LU0116160622	Japan	14-Nov-2000	31-Dec-2009	232
17	Fortis L Fund SICAV	Equity USA	LU0116160465	US	2-Nov-2001	31-Dec-2009	861
17	Fortis L Fund SICAV	OBAM Equity World	LU0185157681	Global	27-Feb-2004	31-Dec-2009	855
17	Fortis L Fund SICAV	Equity Best Select Europe	LU0191755619	Pan-Europe	14-May-2004	31-Dec-2009	100
17	Fortis L Fund SICAV	Equity Best Selection Japan	LU0194602230	Japan	15-Jun-2004	31-Dec-2009	43
17	Fortis L Fund SICAV	Equity High Dividend Europe	LU0317292893	Pan-Europe	8-Oct-2007	31-Dec-2009	136
17	Fortis L Fund SICAV	Equity Growth Europe	LU0375761581	Pan-Europe	28-Aug-2008	31-Dec-2009	348
18	Franklin Templeton Investment Funds SICAV	Templeton Global (Euro) Fund	LU0029873410	Global	1-Jan-2000	31-Dec-2009	569
18	Franklin Templeton Investment Funds SICAV	Templeton Emerging Markets Fund	LU0029874905	Emerging Markets	1-Jan-2000	31-Dec-2009	929
18	Franklin Templeton Investment Funds SICAV	Templeton European Fund	LU0029868097	Pan-Europe	1-Jan-2000	31-Dec-2009	173
18	Franklin Templeton Investment Funds SICAV	Templeton Global Fund	LU0029864427	Global	1-Jan-2000	31-Dec-2009	849
18	Franklin Templeton Investment Funds SICAV	Franklin Mutual Beacon Fund	LU0070302665	US	1-Jan-2000	31-Dec-2009	875
18	Franklin Templeton Investment Funds SICAV	Templeton Japan Fund	LU0078278065	Japan	1-Jan-2000	21-Nov-2008	
18	Franklin Templeton Investment Funds SICAV	Templeton Developed Markets Fund	LU0078278495	Global	1-Jan-2000	19-Sep-2003	

## APPENDIX 2

Nr <sup>1</sup>	Umbrella	Sub-fund name	ISIN	Fund sector	Start date <sup>2</sup>	End date <sup>3</sup>	TNA <sup>4</sup>
18	Franklin Templeton Investment Funds SICAV	Templeton Euroland Fund	LU0093666013	Euroland	1-Jan-2000	31-Dec-2009	153
18	Franklin Templeton Investment Funds SICAV	Franklin US Equity Fund	LU0098860363	US	1-Jan-2000	31-Dec-2009	371
18	Franklin Templeton Investment Funds SICAV	Franklin U.S. Opportunities Fund	LU0109391861	US	3-Apr-2000	31-Dec-2009	537
18	Franklin Templeton Investment Funds SICAV	Franklin Mutual European Fund	LU0109981661	Pan-Europe	3-Apr-2000	31-Dec-2009	2,611
18	Franklin Templeton Investment Funds SICAV	Templeton Growth (Euro) Fund	LU0114760746	Global	9-Aug-2000	31-Dec-2009	4,472
18	Franklin Templeton Investment Funds SICAV	Franklin Templeton Japan Fund	LU0116920520	Japan	1-Sep-2000	31-Dec-2009	72
18	Franklin Templeton Investment Funds SICAV	Franklin Flex Cap Growth Fund	LU0122612681	US	9-Sep-2002	19-Sep-2003	
18	Franklin Templeton Investment Funds SICAV	Franklin European Growth Fund	LU0122612848	Pan-Europe	29-Dec-2000	31-Dec-2009	148
18	Franklin Templeton Investment Funds SICAV	Franklin Global Growth Fund	LU0122613069	Global	29-Dec-2000	31-Dec-2009	38
18	Franklin Templeton Investment Funds SICAV	Franklin Templeton Global Growth & Value Fund	LU0152903588	Global	9-Sep-2002	31-Dec-2009	60
18	Franklin Templeton Investment Funds SICAV	Franklin U.S. Growth Fund	LU0170466246	US	29-Aug-2003	31-Jul-2009	
18	Franklin Templeton Investment Funds SICAV	Templeton US Value Fund	LU0170478092	US	29-Aug-2003	31-Dec-2009	16
18	Franklin Templeton Investment Funds SICAV	Franklin Mutual Global Discovery Fund	LU0211331839	Global	25-Oct-2005	31-Dec-2009	652
18	Franklin Templeton Investment Funds SICAV	Franklin Templeton Global Equity Strategies Fund	LU0358320173	Global	15-May-2008	31-Dec-2009	43
18	Franklin Templeton Investment Funds SICAV	Franklin U.S. Focus Fund	LU0352131121	US	15-May-2008	31-Dec-2009	7
18	Franklin Templeton Investment Funds SICAV	Franklin Mutual Euroland Fund	LU0390138278	Euroland	14-Oct-2008	31-Dec-2009	11
18	Franklin Templeton Investment Funds SICAV	Franklin World Perspectives Fund	LU0390134368	Global	14-Oct-2008	31-Dec-2009	23
18	Franklin Templeton Investment Funds SICAV	Templeton Frontier Markets Fund	LU0390136736	Emerging Markets	14-Oct-2008	31-Dec-2009	30
18	Franklin Templeton Investment Funds SICAV	Franklin Euroland Core Fund	LU0390138864	Euroland	28-Nov-2008	31-Dec-2009	22
19	Gartmore SICAV	Emerging Markets Fund	LU0113993801	Emerging Markets	29-Sep-2000	31-Dec-2009	337
19	Gartmore SICAV	Japanese Fund	LU0113993637	Japan	29-Sep-2000	31-Dec-2009	20
19	Gartmore SICAV	Pan European Fund	LU0113992829	Pan-Europe	29-Sep-2000	31-Dec-2009	19
19	Gartmore SICAV	US Fund	LU0135927563	US	5-Oct-2001	24-Feb-2006	
19	Gartmore SICAV	Global Focus Fund	LU0200075835	Global	29-Oct-2004	31-Dec-2009	569
19	Gartmore SICAV	US Opportunities Fund	LU0200077534	US	29-Oct-2004	31-Dec-2009	35
19	Gartmore SICAV	Eurobloc	LU0200085719	Euroland	24-Mar-2005	19-May-2009	
19	Gartmore SICAV	Pan European Focus Fund	LU0200071925	Pan-Europe	24-Mar-2005	16-Apr-2007	
20	Goldman Sachs Funds SICAV	Europe Core Equity Portfolio	LU0102219945	Pan-Europe	1-Jan-2000	31-Dec-2009	670
20	Goldman Sachs Funds SICAV	Europe Portfolio	LU0068894848	Pan-Europe	1-Jan-2000	31-Dec-2009	56
20	Goldman Sachs Funds SICAV	Global Emerging Markets Equity Portfolio	LU0083344555	Emerging Markets	1-Jan-2000	31-Dec-2009	403
20	Goldman Sachs Funds SICAV	Global Equity Portfolio	LU0040769829	Global	1-Jan-2000	31-Dec-2009	38
20	Goldman Sachs Funds SICAV	Japan Portfolio	LU0065003666	Japan	1-Jan-2000	31-Dec-2009	148
20	Goldman Sachs Funds SICAV	US Core Equity Portfolio	LU0065004045	US	1-Jan-2000	31-Dec-2009	155
20	Goldman Sachs Funds SICAV	US Growth Equity Portfolio	LU0102220448	US	1-Jan-2000	31-Dec-2009	52
20	Goldman Sachs Funds SICAV	Global Core Equity Portfolio	LU0203365449	Global	14-Oct-2004	31-Dec-2009	411
20	Goldman Sachs Funds SICAV	Japan Core Equity Portfolio	LU0234585197	Japan	8-Dec-2005	31-Dec-2009	80
20	Goldman Sachs Funds SICAV	Euro Concentrated Equity Portfolio	LU0183077824	Pan-Europe	30-Dec-2003	31-Dec-2009	7
20	Goldman Sachs Funds SICAV	US Equity Portfolio	LU0234587482	US	3-Feb-2006	31-Dec-2009	239
20	Goldman Sachs Funds SICAV	US Premier Equity Portfolio	LU0234582681	US	2-Feb-2006	24-Apr-2009	
20	Goldman Sachs Funds SICAV	US Value Equity Portfolio	LU0234588530	US	1-Feb-2006	31-Dec-2009	17
20	Goldman Sachs Funds SICAV	Europe CoreSM Flex Portfolio	LU0245154439	Pan-Europe	31-Aug-2006	31-Dec-2009	103
20	Goldman Sachs Funds SICAV	Japan Core Flex Portfolio	LU0280972711	Japan	27-Feb-2007	31-Dec-2009	128
20	Goldman Sachs Funds SICAV	Sustain Portfolio	LU0377750707	US	16-Sep-2008	31-Dec-2009	32
21	Henderson Horizon Fund SICAV	Global Emerging Markets	LU0012096391	Emerging Markets	1-Jan-2000	6-Feb-2004	
21	Henderson Horizon Fund SICAV	Japanese Equity Fund	LU0011889929	Japan	1-Jan-2000	31-Dec-2009	30
21	Henderson Horizon Fund SICAV	American Equity Fund	LU0138820294	US	19-Nov-2001	31-Dec-2009	239
21	Henderson Horizon Fund SICAV	Global Opportunities Fund	LU0138809214	Global	29-Nov-2001	31-Dec-2009	10
21	Henderson Horizon Fund SICAV	Pan European Equity Fund	LU0138821268	Pan-Europe	19-Nov-2001	31-Dec-2009	1,400
21	Henderson Horizon Fund SICAV	Pan European Equity Dividend Fund	LU0197673881	Pan-Europe	1-Sep-2004	31-Dec-2009	12
22	HSBC Global Investment Funds SICAV	Global Equity	LU0039216626	Global	1-Jan-2000	31-Dec-2009	76
22	HSBC Global Investment Funds SICAV	Global Emerging Markets Equity	LU0164872284	Emerging Markets	1-Jan-2000	31-Dec-2009	205
22	HSBC Global Investment Funds SICAV	Euroland Equity Opportunities	LU0082769513	Euroland	1-Jan-2000	9-Jun-2005	
22	HSBC Global Investment Funds SICAV	US Equity Opportunities	LU0082769273	US	1-Jan-2000	9-Jun-2005	
22	HSBC Global Investment Funds SICAV	Japanese Equity Opportunities	LU0082769786	Japan	1-Jan-2000	4-Mar-2003	
22	HSBC Global Investment Funds SICAV	Japanese Equity	LU0164882085	Japan	1-Jan-2000	31-Dec-2009	57
22	HSBC Global Investment Funds SICAV	European Equity	LU0164906959	Pan-Europe	1-Jan-2000	31-Dec-2009	122
22	HSBC Global Investment Funds SICAV	US Equity	LU0164902453	US	1-Jan-2000	31-Dec-2009	155
22	HSBC Global Investment Funds SICAV	Euroland Equity	LU0165074666	Euroland	1-Apr-2003	31-Dec-2009	1,117
22	HSBC Global Investment Funds SICAV	European Equity High Dividend	LU0196699473	Pan-Europe	15-Sep-2004	11-Dec-2009	
22	HSBC Global Investment Funds SICAV	Emerging Wealth	LU0309123817	Emerging Markets	7-Dec-2007	31-Dec-2009	25
23	ING (L) Invest SICAV	World	LU0119219730	Global	1-Jan-2000	31-Dec-2009	100
23	ING (L) Invest SICAV	Europe	LU0047442768	Pan-Europe	1-Jan-2000	20-Dec-2001	
23	ING (L) Invest SICAV	Euro	LU0074274415	Euroland	1-Jan-2000	20-Dec-2001	
23	ING (L) Invest SICAV	European New Offerings	LU0119205515	Pan-Europe	1-Jan-2000	5-Sep-2008	
23	ING (L) Invest SICAV	European Sector Allocation	LU0119205788	Pan-Europe	1-Jan-2000	31-Dec-2009	84
23	ING (L) Invest SICAV	Top 30 Euro	LU0119218096	Euroland	1-Jan-2000	11-Apr-2003	
23	ING (L) Invest SICAV	Euro High Dividend	LU0127786431	Euroland	1-Jan-2000	31-Dec-2009	1,167
23	ING (L) Invest SICAV	Top 30 World	LU0119255452	Global	12-Jun-2000	17-Apr-2003	
23	ING (L) Invest SICAV	Japan	LU0082087783	Japan	17-Dec-2001	31-Dec-2009	95
23	ING (L) Invest SICAV	Emerging Markets	LU0104531511	Emerging Markets	10-Dec-2001	31-Dec-2009	335
23	ING (L) Invest SICAV	EMU Equity	LU0095527585	Euroland	20-Dec-2001	31-Dec-2009	229
23	ING (L) Invest SICAV	European Equity	LU0082087510	Pan-Europe	20-Dec-2001	31-Dec-2009	205
23	ING (L) Invest SICAV	US Enhanced Core	LU0082087940	US	17-Dec-2001	31-Dec-2009	140
23	ING (L) Invest SICAV	Global High Dividend	LU0146257711	Global	15-May-2002	31-Dec-2009	717
23	ING (L) Invest SICAV	Europe High Dividend	LU0205350837	Pan-Europe	1-Dec-2004	31-Dec-2009	499
23	ING (L) Invest SICAV	Europe Growth Fund	LU0199060350	Pan-Europe	15-Nov-2004	31-Dec-2009	57

Nr <sup>1</sup>	Umbrella	Sub-fund name	ISIN	Fund sector	Start date <sup>2</sup>	End date <sup>3</sup>	TNA <sup>4</sup>
23	ING (L) Invest SICAV	US Opportunistic Equity	LU0242141330	US	10-Feb-2006	31-Dec-2009	54
23	ING (L) Invest SICAV	Invest Global Opportunities	LU0250158358	Global	30-Aug-2006	31-Dec-2009	307
23	ING (L) Invest SICAV	US Growth	LU0272290692	US	22-Jan-2007	31-Dec-2009	59
23	ING (L) Invest SICAV	Europe Opportunities	LU0262017568	Pan-Europe	4-Aug-2006	31-Dec-2009	35
24	Invesco GT SICAV	Pan European Equity Fund	LU0028118809	Pan-Europe	1-Jan-2000	31-Dec-2009	397
24	Invesco GT SICAV	Worldwide Dynamic Theme Fund	LU0028119955	Global	1-Jan-2000	1-Oct-2004	
24	Invesco GT SICAV	Nippon Select Equity Fund	LU0028119369	Japan	1-Jan-2000	31-Dec-2009	94
24	Invesco GT SICAV	US Growth Equity Fund	LU0075112648	US	1-Jan-2000	31-Dec-2009	10
24	Invesco GT SICAV	Pan European Structured Equity Fund	LU0119750205	Pan-Europe	28-Jun-2002	31-Dec-2009	255
24	Invesco GT SICAV	Global Value Equity Fund	LU0123347535	Global	1-Feb-2001	2-Nov-2007	
24	Invesco GT SICAV	US Structured Equity Fund	LU0149503202	US	28-Jun-2002	31-Dec-2009	110
24	Invesco GT SICAV	European Growth Equity Fund	LU0194779913	Pan-Europe	30-Jun-2004	31-Dec-2009	81
24	Invesco GT SICAV	US Basic Value Equity	LU0205506602	US	3-Dec-2004	17-Aug-2007	
24	Invesco GT SICAV	Global Equity	LU0228065305	Global	29-Aug-2005	17-Aug-2007	
24	Invesco GT SICAV	Pan European Equity Income Fund	LU0267986122	Pan-Europe	31-Oct-2006	31-Dec-2009	4
24	Invesco GT SICAV	Global Structured Equity Fund	LU0267984937	Global	11-Dec-2006	31-Dec-2009	19
24	Invesco GT SICAV	Global Growth Equity Fund	LU0275063054	Global	14-Dec-2006	31-Dec-2009	5
25	Investec Global Strategy Fund SICAV	Global Equity Fund	LU0345769128	Global	1-Jul-2008	31-Dec-2009	296
25	Investec Global Strategy Fund SICAV	American Equity Fund	LU0345774391	US	1-Jul-2008	31-Dec-2009	129
25	Investec Global Strategy Fund SICAV	Japan Equity Fund	LU0345776503	Japan	1-Jul-2008	31-Dec-2009	49
25	Investec Global Strategy Fund SICAV	Global Strategic Equity Fund	LU0345770308	Global	1-Jul-2008	31-Dec-2009	1,059
25	Investec Global Strategy Fund SICAV	Global Growth Fund	LU0345772007	Global	1-Jul-2008	31-Dec-2009	28
25	Investec Global Strategy Fund SICAV	Global Dynamic Fund	LU0345772692	Global	1-Jul-2008	31-Dec-2009	195
25	Investec Global Strategy Fund SICAV	Pan European Equity Fund	LU0345778202	Pan-Europe	1-Jul-2008	30-Oct-2009	
26	JPMorgan Funds SICAV	Emerging Markets Equity Fund	LU0053685615	Emerging Markets	1-Jan-2000	31-Dec-2009	4,634
26	JPMorgan Funds SICAV	America Equity Fund	LU0053666078	US	1-Jan-2000	31-Dec-2009	277
26	JPMorgan Funds SICAV	Euroland Equity Fund	LU0089640097	Euroland	1-Jan-2000	31-Dec-2009	784
26	JPMorgan Funds SICAV	Europe Equity Fund	LU0053685029	Pan-Europe	1-Jan-2000	31-Dec-2009	523
26	JPMorgan Funds SICAV	Global Equity Fund (USD)	LU0089639750	Global	1-Jan-2000	31-Dec-2009	203
26	JPMorgan Funds SICAV	Global Equity Fund (EUR)	LU0053695507	Global	1-Jan-2000	17-Jul-2008	
26	JPMorgan Funds SICAV	Japan Equity Fund	LU0053696224	Japan	1-Jan-2000	31-Dec-2009	220
26	JPMorgan Funds SICAV	America Large Cap Fund	LU0096059323	US	1-Jan-2000	31-Dec-2009	58
26	JPMorgan Funds SICAV	Europe Strategic Growth Fund	LU0107398538	Pan-Europe	14-Feb-2000	31-Dec-2009	385
26	JPMorgan Funds SICAV	Europe Strategic Value Fund	LU0107398884	Pan-Europe	14-Feb-2000	31-Dec-2009	1,717
26	JPMorgan Funds SICAV	US Strategic Growth Fund	LU0119063898	US	13-Oct-2000	31-Dec-2009	51
26	JPMorgan Funds SICAV	US Value Fund	LU0119066131	US	20-Oct-2000	31-Dec-2009	465
26	JPMorgan Funds SICAV	Europe Dynamic Fund	LU0119062650	Pan-Europe	8-Dec-2000	31-Dec-2009	341
26	JPMorgan Funds SICAV	Global Dynamic Fund	LU0119067295	Global	8-Dec-2000	31-Dec-2009	1,018
26	JPMorgan Funds SICAV	Global Focus Fund	LU0168341575	Global	23-May-2003	31-Dec-2009	733
26	JPMorgan Funds SICAV	US Dynamic Fund	LU0169523114	US	18-Jul-2003	31-Dec-2009	818
26	JPMorgan Funds SICAV	Japan Alpha Plus Fund	LU0169521175	Japan	11-Aug-2004	31-Dec-2009	5
26	JPMorgan Funds SICAV	Europe Dynamic Mega Cap	LU0229245161	Pan-Europe	19-Sep-2005	31-Dec-2009	229
26	JPMorgan Funds SICAV	Japan Dynamic Fund	LU0232672849	Japan	1-Feb-2006	31-Dec-2009	4
26	JPMorgan Funds SICAV	Emerging Markets Alpha Plus Fund	LU0258923134	Emerging Markets	30-Aug-2006	31-Dec-2009	189
26	JPMorgan Funds SICAV	Euroland Select Equity Fund	LU0308871747	Euroland	24-Jul-2007	31-Dec-2009	28
26	JPMorgan Funds SICAV	Highbridge Europe STEEP Fund	LU0325073012	Pan-Europe	7-Feb-2008	31-Dec-2009	235
26	JPMorgan Funds SICAV	Highbridge US STEEP Fund	LU0325074259	US	16-May-2008	31-Dec-2009	459
26	JPMorgan Funds SICAV	US Growth Alpha Plus Fund	LU0384297106	US	4-Sep-2008	31-Dec-2009	32
27	J.P. Morgan Investment Fund SICAV	US Equity	LU0070214290	US	1-Jan-2000	31-Dec-2001	
27	J.P. Morgan Investment Fund SICAV	Japan Equity	LU0070214613	Japan	1-Jan-2000	31-Dec-2001	
27	J.P. Morgan Investment Fund SICAV	Europe Equity	LU0070215420	Pan-Europe	1-Jan-2000	31-Dec-2001	
27	J.P. Morgan Investment Fund SICAV	Global Equity	LU0070217475	Global	1-Jan-2000	31-Dec-2001	
27	J.P. Morgan Investment Fund SICAV	Global 50 Equity	LU0088298020	Global	1-Jan-2000	31-Dec-2001	
27	J.P. Morgan Investment Fund SICAV	Disciplined US Equity	LU0099261355	US	1-Jan-2000	31-Dec-2001	
28	Julius Baer Multistock SICAV	Europe Stock Fund	LU0026740844	Pan-Europe	1-Jan-2000	31-Dec-2009	136
28	Julius Baer Multistock SICAV	Japan Stock Fund	LU0044849320	Japan	1-Jan-2000	31-Dec-2009	147
28	Julius Baer Multistock SICAV	US Leading Stock Fund	LU0026741222	US	1-Jan-2000	31-Dec-2009	72
28	Julius Baer Multistock SICAV	Europe Growth Stock Fund	LU0066471896	Pan-Europe	1-Feb-2006	31-Dec-2009	57
28	Julius Baer Multistock SICAV	Europe Leading Stock Fund	LU0088383137	Pan-Europe	1-Jan-2000	31-Dec-2009	110
28	Julius Baer Multistock SICAV	Global Fund	LU0026742386	Global	1-Jan-2000	31-Dec-2009	91
28	Julius Baer Multistock SICAV	Euroland Value Stock Fund	LU0100915437	Euroland	1-Jan-2000	31-Dec-2009	67
28	Julius Baer Multistock SICAV	Global Emerging Markets Stock Fund	LU0107858044	Emerging Markets	1-Feb-2006	31-Dec-2009	63
28	Julius Baer Multistock SICAV	US Stock Fund	LU0107854050	US	28-Apr-2000	18-Mar-2009	
28	Julius Baer Multistock SICAV	Special US Stock Fund	LU0113100019	US	31-Oct-2000	29-Aug-2003	
28	Julius Baer Multistock SICAV	Special Japan Stock Fund	LU0113101413	Japan	31-Oct-2000	29-Aug-2003	
28	Julius Baer Multistock SICAV	Europe Megatrend Stock Fund	LU0122456618	Pan-Europe	31-Dec-2000	30-May-2003	
28	Julius Baer Multistock SICAV	Japan Navigator Stock Fund	LU0124940338	Japan	31-May-2001	2-Aug-2004	
28	Julius Baer Multistock SICAV	US Value Stock Fund	LU0135056835	US	30-Apr-2002	31-Dec-2009	55
28	Julius Baer Multistock SICAV	Global Opportunities Stock Fund	LU0152405980	Global	9-Aug-2002	25-Jun-2009	
28	Julius Baer Multistock SICAV	Europe Value Stock Fund	LU0190726223	Pan-Europe	30-Jul-2004	25-Jun-2009	
28	Julius Baer Multistock SICAV	US Growth Stock Fund	LU0214925314	US	31-Mar-2005	15-Jun-2007	
28	Julius Baer Multistock SICAV	Global Contrarian Stock Fund	LU0241732246	Global	31-Jan-2006	31-Dec-2009	80
29	KBC Equity Fund (L) SICAV	America	LU0051497468	US	1-Jan-2000	31-Dec-2009	30
29	KBC Equity Fund (L) SICAV	Japan	LU0051497039	Japan	1-Jan-2000	31-Dec-2009	18
29	KBC Equity Fund (L) SICAV	Europe	LU0048669088	Pan-Europe	1-Jan-2000	31-Dec-2009	73
29	KBC Equity Fund (L) SICAV	Global Top 100	LU0108230219	Global	1-Jan-2000	16-Feb-2006	

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Nr <sup>1</sup>	Umbrella	Sub-fund name	ISIN	Fund sector	Start date <sup>2</sup>	End date <sup>3</sup>	TNA <sup>4</sup>
30	Legg Mason Global Funds FCP (Luxembourg)	Japan Equity Fund	LU0012051966	Japan	1-Jan-2000	31-Dec-2009	14
30	Legg Mason Global Funds FCP (Luxembourg)	US Fundamental Value Fund	LU0012051883	US	1-Jan-2000	31-Dec-2009	33
30	Legg Mason Global Funds FCP (Luxembourg)	US Large Cap Growth Fund	LU0055929417	US	1-Jan-2000	31-Dec-2009	5
30	Legg Mason Global Funds FCP (Luxembourg)	Global Equity Fund	LU0105129059	Global	4-May-2001	31-Dec-2009	20
30	Legg Mason Global Funds FCP (Luxembourg)	US Aggressive Growth Fund	LU0122426116	US	31-Jan-2001	31-Dec-2009	17
30	Legg Mason Global Funds FCP (Luxembourg)	US Growth and Value Fund	LU0122422552	US	31-Jan-2001	31-Dec-2009	12
30	Legg Mason Global Funds FCP (Luxembourg)	Emerging Markets Equity Fund	LU0105191448	Emerging Markets	4-May-2001	31-Dec-2009	720
30	Legg Mason Global Funds FCP (Luxembourg)	Pan-Europe Equity Fund	LU0105175169	Pan-Europe	7-May-2001	31-Dec-2009	72
31	Lloyds TSB International Portfolio SICAV	Euro Equity Fund	LU0035880763	Euroland	1-Jan-2000	31-Dec-2009	95
31	Lloyds TSB International Portfolio SICAV	Japan Equity Fund	LU0035884591	Japan	1-Jan-2000	31-Dec-2009	11
31	Lloyds TSB International Portfolio SICAV	North America Equity Fund	LU0035881811	US	1-Jan-2000	31-Dec-2009	78
31	Lloyds TSB International Portfolio SICAV	World Equity Fund	LU0035883197	Global	1-Jan-2000	31-Dec-2009	15
32	LODH Invest SICAV	US Expertise Fund	LU0049412173	US	1-Jan-2000	19-Sep-2007	
32	LODH Invest SICAV	Europe	LU0049412769	Pan-Europe	1-Jan-2000	31-Dec-2009	209
32	LODH Invest SICAV	Japan Expertise Fund	LU0049414898	Japan	1-Jan-2000	21-Sep-2007	
32	LODH Invest SICAV	World Equities Fund	LU0083362458	Global	1-Jan-2000	8-Sep-2005	
32	LODH Invest SICAV	Selective Global Equity	LU0304893141	Global	23-Nov-2007	31-Dec-2009	195
32	LODH Invest SICAV	Systematic Europe Equity	LU0208428739	Pan-Europe	20-Jan-2005	31-Dec-2009	26
32	LODH Invest SICAV	Alto US Equity Fund	LU0302537104	US	25-Jun-2007	28-Feb-2009	
32	LODH Invest SICAV	Baron US Growth	LU0293409511	US	3-May-2007	31-Dec-2009	114
32	LODH Invest SICAV	Brandes European Value Fund	LU0293445580	Pan-Europe	4-May-2007	24-Apr-2009	
32	LODH Invest SICAV	Lotsoff US Core Fund	LU0293408976	US	4-May-2007	24-Apr-2009	
32	LODH Invest SICAV	LSV US Value Fund	LU0293406681	US	4-May-2007	24-Apr-2009	
32	LODH Invest SICAV	Pzena Global Value	LU0293410014	Global	4-May-2007	31-Dec-2009	23
32	LODH Invest SICAV	William Blair Global Growth	LU0293411335	Global	18-Jun-2007	31-Dec-2009	33
32	LODH Invest SICAV	Global Emerging Markets	LU0293415914	Emerging Markets	19-Oct-2007	31-Dec-2009	87
32	LODH Invest SICAV	Alpha Japan	LU0372982396	Japan	23-Jul-2008	31-Dec-2009	117
33	Martin Currie Global Funds SICAV	Japan Fund	LU0094044905	Japan	1-Jan-2000	31-Dec-2009	38
33	Martin Currie Global Funds SICAV	International Growth Fund	LU0174483595	Global	13-Oct-2003	1-Jan-2006	
33	Martin Currie Global Funds SICAV	Pan-European Alpha Fund	LU0174484120	Pan-Europe	20-Oct-2003	31-Dec-2009	1
33	Martin Currie Global Funds SICAV	Pan-European Opportunities Fund	LU0185060844	Pan-Europe	19-Feb-2007	31-Dec-2009	19
33	Martin Currie Global Funds SICAV	North American Fund	LU0174482694	US	9-Jun-2008	31-Dec-2009	88
34	MFS Meridian Funds SICAV	U.S. Equity Fund	LU0035364164	US	1-Jan-2000	12-Sep-2002	
34	MFS Meridian Funds SICAV	European Equity Fund	LU0094557526	Pan-Europe	1-Jan-2000	31-Dec-2009	533
34	MFS Meridian Funds SICAV	European Growth Fund	LU0125946151	Pan-Europe	1-Oct-2002	31-Dec-2009	10
34	MFS Meridian Funds SICAV	European Value Fund	LU0125951151	Pan-Europe	1-Oct-2002	31-Dec-2009	314
34	MFS Meridian Funds SICAV	Global Equity Fund	LU0094560744	Global	1-Jan-2000	31-Dec-2009	449
34	MFS Meridian Funds SICAV	Global Growth Fund	LU0219441572	Global	26-Sep-2005	31-Dec-2009	67
34	MFS Meridian Funds SICAV	Research International Fund	LU0219441143	Global	26-Sep-2005	31-Dec-2009	358
34	MFS Meridian Funds SICAV	US Equity	LU0219439162	US	26-Sep-2005	30-Apr-2007	
34	MFS Meridian Funds SICAV	US Research Fund	LU0071155989	US	1-Jan-2000	31-Dec-2009	159
34	MFS Meridian Funds SICAV	US Large Cap Growth Fund	LU0094555157	US	1-Jan-2000	31-Dec-2009	304
34	MFS Meridian Funds SICAV	US Value Fund	LU0125979160	US	1-Feb-2002	31-Dec-2009	364
34	MFS Meridian Funds SICAV	Emerging Markets Equity Fund	LU0219444832	Emerging Markets	31-Aug-2006	31-Dec-2009	42
34	MFS Meridian Funds SICAV	Global Value Fund	LU0219445052	Global	31-Jul-2007	31-Dec-2009	4
34	MFS Meridian Funds SICAV	Japan Equity Fund	LU0219444758	Japan	31-Jul-2007	31-Dec-2009	6
35	Morgan Stanley Investment Funds SICAV	Emerging Markets Equity	LU0073229840	Emerging Markets	1-Jan-2000	31-Dec-2009	739
35	Morgan Stanley Investment Funds SICAV	Global Value Equity	LU0073230772	Global	1-Jan-2000	31-Dec-2009	236
35	Morgan Stanley Investment Funds SICAV	European Equity Fund	LU0073234501	Pan-Europe	1-Jan-2000	31-Dec-2009	123
35	Morgan Stanley Investment Funds SICAV	US Equity Growth	LU0073232471	US	1-Jan-2000	31-Dec-2009	279
35	Morgan Stanley Investment Funds SICAV	Japanese Value Equity	LU0073251851	Japan	1-Jan-2000	31-Dec-2009	556
35	Morgan Stanley Investment Funds SICAV	US Value Equity	LU0073233446	US	1-Jan-2000	31-Dec-2009	223
35	Morgan Stanley Investment Funds SICAV	European Equity Growth Fund	LU0094310637	Pan-Europe	1-Jan-2000	8-Oct-2004	
35	Morgan Stanley Investment Funds SICAV	Competitive Edge "Best Ideas"	LU0101847035	Global	1-Jan-2000	30-Mar-2004	
35	Morgan Stanley Investment Funds SICAV	Eurozone Equity Opportunities	LU0109967165	Euroland	31-Mar-2000	31-Dec-2009	59
35	Morgan Stanley Investment Funds SICAV	Global Systematic Equity Fund	LU0113397276	Global	1-Jul-2000	21-Apr-2008	
35	Morgan Stanley Investment Funds SICAV	Japanese Equity Growth Fund	LU0109966357	Japan	1-Jul-2000	3-Apr-2009	
35	Morgan Stanley Investment Funds SICAV	US Equity Fund	LU0137773577	US	3-Dec-2001	3-Apr-2009	
35	Morgan Stanley Investment Funds SICAV	American Franchise	LU0225737302	US	1-Dec-2005	31-Dec-2009	126
35	Morgan Stanley Investment Funds SICAV	European Systematic Equity Fund	LU0225742567	Pan-Europe	1-Dec-2005	21-Apr-2008	
35	Morgan Stanley Investment Funds SICAV	Japanese Equity Advantage	LU0248597030	Japan	31-May-2006	31-Dec-2009	48
35	Morgan Stanley Investment Funds SICAV	Global Equity Growth Fund	LU0257819291	Global	31-Jul-2006	3-Apr-2009	
35	Morgan Stanley Investment Funds SICAV	European Equity Opportunities Fund	LU0276178166	Pan-Europe	21-Dec-2006	20-Mar-2009	
36	NATIXIS International Funds (Lux) I SICAV	Natixie Europe Large Cap	LU0066549592	Pan-Europe	1-Jan-2000	31-Dec-2009	47
36	NATIXIS International Funds (Lux) I SICAV	Global Emerging Markets	LU0084288835	Emerging Markets	1-Jan-2000	18-Nov-2008	
36	NATIXIS International Funds (Lux) I SICAV	Japanese Equities	LU0095825252	Japan	1-Jan-2000	7-Apr-2008	
36	NATIXIS International Funds (Lux) I SICAV	Harris Associates Global Value Fund	LU0130103400	Global	4-Jul-2001	31-Dec-2009	214
36	NATIXIS International Funds (Lux) I SICAV	Oakmark US Large Cap Value	LU0130102774	US	22-Jun-2001	31-Dec-2009	57
36	NATIXIS International Funds (Lux) I SICAV	Natixie Oakmark US Value Opportunities Fund	LU0130102261	US	1-Jan-2002	31-Jan-2008	
36	NATIXIS International Funds (Lux) I SICAV	Loomis Sayles US Large Cap Value	LU0130099376	US	4-Jul-2001	31-Dec-2009	22
36	NATIXIS International Funds (Lux) I SICAV	Loomis Sayles US Research	LU0130100216	US	4-Jul-2001	31-Dec-2009	216
36	NATIXIS International Funds (Lux) I SICAV	Vaughan Nelson U.S. Core	LU0130100562	US	22-Jun-2001	4-Feb-2006	
36	NATIXIS International Funds (Lux) I SICAV	Loomis Sayles Global Equity Opportunities Fund	LU0385841464	Global	2-Sep-2008	31-Dec-2009	3
37	Nordea 1, SICAV	European Value Fund (EUR)	LU0064319337	Pan-Europe	1-Jan-2000	31-Dec-2009	798
37	Nordea 1, SICAV	European Equity Fund (EUR)	LU0081952268	Pan-Europe	1-Jan-2000	31-Dec-2009	24
37	Nordea 1, SICAV	North American Value	LU0076314649	US	1-Jan-2000	31-Dec-2009	300

Nr <sup>1</sup>	Umbrella	Sub-fund name	ISIN	Fund sector	Start date <sup>2</sup>	End date <sup>3</sup>	TNA <sup>4</sup>
37	Nordea 1, SICAV	North American Growth Fund	LU0095740188	US	1-Jan-2000	31-Dec-2009	237
37	Nordea 1, SICAV	Japanese Equity JPY	LU0097863921	Japan	1-Jan-2000	18-Jun-2009	
37	Nordea 1, SICAV	Global Equity Fund (EUR)	LU0109904242	Global	17-Apr-2000	31-Dec-2009	6
37	Nordea 1, SICAV	Global Value	LU0160643358	Global	1-Oct-2003	31-Dec-2009	30
37	Nordea 1, SICAV	Japanese Value Fund	LU0160643192	Japan	1-Oct-2003	31-Dec-2009	12
37	Nordea 1, SICAV	Global Core Equity	LU0112467450	Global	2-Jan-2006	31-Dec-2009	6
37	Nordea 1, SICAV	Global Stable Equity Fund	LU0278529986	Global	5-Mar-2007	31-Dec-2009	316
37	Nordea 1, SICAV	European Alpha Fund	LU0326853404	Pan-Europe	13-Nov-2007	31-Dec-2009	88
38	Pictet Funds (Lux) SICAV	Emerging Markets	LU0130729220	Emerging Markets	1-Jan-2000	31-Dec-2009	1,114
38	Pictet Funds (Lux) SICAV	European Equity Selection	LU0130731986	Pan-Europe	1-Jan-2000	31-Dec-2009	296
38	Pictet Funds (Lux) SICAV	Global Equities	LU0130734816	Global	5-Jul-2001	10-Nov-2003	
38	Pictet Funds (Lux) SICAV	Global Equities Selection	LU0092017853	Global	9-Dec-2002	3-Mar-2009	
38	Pictet Funds (Lux) SICAV	US Equities	LU0155304727	US	26-Nov-2002	31-Dec-2009	82
38	Pictet Funds (Lux) SICAV	Japanese Equities	LU0095053426	Japan	14-Nov-2002	31-Dec-2009	46
38	Pictet Funds (Lux) SICAV	Japanese Equity Selection	LU0176900511	Japan	28-Nov-2003	31-Dec-2009	144
38	Pictet Funds (Lux) SICAV	Pan European Equities	LU0208619162	Pan-Europe	20-Dec-2004	7-Dec-2006	
38	Pictet Funds (Lux) SICAV	Emerging Markets Large Cap	LU0209257525	Emerging Markets	31-Mar-2005	27-Jul-2009	
38	Pictet Funds (Lux) SICAV	US Equities Selection	LU0256840108	US	30-Jun-2006	31-Dec-2009	1,223
38	Pictet Funds (Lux) SICAV	Quantam	LU0262518268	US	1-Sep-2006	27-Oct-2008	
38	Pictet Funds (Lux) SICAV	Euroland Equities	LU0303497761	Euroland	29-Oct-2007	27-Feb-2009	
39	Pioneer Funds FCP	Core European Equity	LU0085424579	Pan-Europe	1-Jan-2000	31-Dec-2009	996
39	Pioneer Funds FCP	U.S. Research	LU0085424652	US	1-Jan-2000	31-Dec-2009	1,325
39	Pioneer Funds FCP	Emerging Markets Equity	LU0111920509	Emerging Markets	28-Jun-2000	31-Dec-2009	947
39	Pioneer Funds FCP	Euroland Equity	LU0111919162	Euroland	28-Jun-2000	31-Dec-2009	403
39	Pioneer Funds FCP	Japanese Equity	LU0111923941	Japan	28-Jun-2000	31-Dec-2009	375
39	Pioneer Funds FCP	European Research	LU0111921226	Pan-Europe	28-Jun-2000	31-Dec-2009	1,605
39	Pioneer Funds FCP	Top European Players	LU0111921499	Pan-Europe	4-Jul-2000	31-Dec-2009	1,292
39	Pioneer Funds FCP	Global Trends	LU0133558949	Global	5-Oct-2001	31-Dec-2009	138
39	Pioneer Funds FCP	US Growth	LU0133630565	US	5-Oct-2001	12-Dec-2008	
39	Pioneer Funds FCP	US Value	LU0133623198	US	5-Oct-2001	12-Dec-2008	
39	Pioneer Funds FCP	U.S. Pioneer Fund	LU0133646132	US	5-Oct-2001	31-Dec-2009	1,505
39	Pioneer Funds FCP	European Quant Equity	LU0190664952	Pan-Europe	3-Jun-2004	31-Dec-2009	512
39	Pioneer Funds FCP	Top US Players	LU0214788498	US	6-May-2005	16-Mar-2007	
39	Pioneer Funds FCP	European Equity Yield	LU0214788142	Euroland	6-May-2005	12-Dec-2008	
39	Pioneer Funds FCP	North American Basic Value	LU0243702080	US	27-Feb-2006	31-Dec-2009	641
39	Pioneer Funds FCP	Global Select	LU0273972983	Global	30-Mar-2007	31-Dec-2009	380
39	Pioneer Funds FCP	European Potential	LU0279966047	Pan-Europe	30-Mar-2007	31-Dec-2009	96
39	Pioneer Funds FCP	European Equity Growth	LU0360608755	Pan-Europe	6-May-2008	31-Dec-2009	22
39	Pioneer Funds FCP	European Equity Value	LU0313648098	Pan-Europe	6-May-2008	31-Dec-2009	215
39	Pioneer Funds FCP	US Research Value	LU0347183856	US	11-Jul-2008	31-Dec-2009	136
39	Pioneer Funds FCP	US Research Growth	LU0347184581	US	11-Jul-2008	31-Dec-2009	98
40	Robeco Capital Growth Funds SICAV	Japan Equity	LU0085130150	Japan	1-Jan-2000	15-Dec-2003	
40	Robeco Capital Growth Funds SICAV	Global Equities	LU0085134061	Global	1-Jan-2000	31-Dec-2009	62
40	Robeco Capital Growth Funds SICAV	Global Growth Equities EURO	LU0203974976	Global	12-Dec-2004	19-Dec-2008	
40	Robeco Capital Growth Funds SICAV	Emerging Markets Equities	LU0187076913	Emerging Markets	1-Jul-2004	31-Dec-2009	2,230
40	Robeco Capital Growth Funds SICAV	European Equities (EUR)	LU0187077218	Pan-Europe	1-Jul-2004	31-Dec-2009	532
40	Robeco Capital Growth Funds SICAV	North America Equities EURO	LU0187077135	US	1-Jul-2004	17-Dec-2007	
40	Robeco Capital Growth Funds SICAV	Global Value Equities	LU0203975437	Global	13-Dec-2004	31-Dec-2009	35
40	Robeco Capital Growth Funds SICAV	US Premium Equities	LU0434928536	US	13-Jul-2009	31-Dec-2009	1,747
40	Robeco Capital Growth Funds SICAV	Emerging Stars Equities	LU0254836850	Emerging Markets	2-Nov-2006	31-Dec-2009	803
40	Robeco Capital Growth Funds SICAV	European Stars	LU0269137211	Pan-Europe	20-Nov-2006	31-Dec-2009	26
41	Sarasin Investmentfonds SICAV	EuropeSar	LU0058891119	Pan-Europe	1-Jan-2000	21-Dec-2007	
41	Sarasin Investmentfonds SICAV	BlueChipSar	LU0068337137	Global	1-Jan-2000	30-Mar-2007	
41	Sarasin Investmentfonds SICAV	EquiSar - Global	LU0088812606	Global	1-Jan-2000	31-Dec-2009	328
42	Schroder International Selection Fund SICAV	European Equity Yield	LU0106236267	Pan-Europe	1-Jan-2000	31-Dec-2009	77
42	Schroder International Selection Fund SICAV	Global Equity Sigma	LU0106254831	Global	1-Jan-2000	26-Sep-2008	
42	Schroder International Selection Fund SICAV	Japanese Equity	LU0106239873	Japan	1-Jan-2000	31-Dec-2009	185
42	Schroder International Selection Fund SICAV	US Large Cap	LU0106261372	US	1-Jan-2000	31-Dec-2009	382
42	Schroder International Selection Fund SICAV	Emerging Markets	LU0106252389	Emerging Markets	1-Jan-2000	31-Dec-2009	1,338
42	Schroder International Selection Fund SICAV	European Large Cap	LU0106236937	Pan-Europe	1-Jan-2000	31-Dec-2009	81
42	Schroder International Selection Fund SICAV	EURO Equity	LU0106235293	Euroland	1-Jan-2000	31-Dec-2009	1,378
42	Schroder International Selection Fund SICAV	Euro Dynamic Growth	LU0116149229	Euroland	1-Mar-2002	31-Dec-2009	325
42	Schroder International Selection Fund SICAV	EURO Active Value (EUR)	LU0149524547	Euroland	9-Aug-2002	31-Dec-2009	203
42	Schroder International Selection Fund SICAV	North American Equity Sigma	LU0151853412	US	30-Aug-2002	26-Sep-2008	
42	Schroder International Selection Fund SICAV	European Equity Alpha	LU0161305163	Pan-Europe	31-Jan-2003	31-Dec-2009	710
42	Schroder International Selection Fund SICAV	Japanese Equity Alpha	LU0186876743	Japan	27-Feb-2004	31-Dec-2009	38
42	Schroder International Selection Fund SICAV	Global Quantitative Active Value	LU0203345920	Global	29-Oct-2004	31-Dec-2009	479
42	Schroder International Selection Fund SICAV	European Equity	LU0215104596	Pan-Europe	1-Jun-2007	23-Jan-2009	
42	Schroder International Selection Fund SICAV	Global Equity	LU0215105999	Global	3-Jun-2005	31-Dec-2009	19
42	Schroder International Selection Fund SICAV	Global Equity Alpha	LU0225283273	Global	29-Jul-2005	31-Dec-2009	49
42	Schroder International Selection Fund SICAV	Global Equity Yield	LU0225284228	Global	29-Jul-2005	31-Dec-2009	43
42	Schroder International Selection Fund SICAV	European Dynamic Growth	LU0227178638	Pan-Europe	31-Aug-2005	2-Dec-2009	
42	Schroder International Selection Fund SICAV	European Special Situations	LU0246035637	Pan-Europe	31-Mar-2006	31-Dec-2009	1,192
42	Schroder International Selection Fund SICAV	US All Cap	LU0263778622	US	31-Aug-2006	31-Dec-2009	5
42	Schroder International Selection Fund SICAV	European Active Value	LU0248332834	Pan-Europe	31-Mar-2006	29-Sep-2009	
42	Schroder International Selection Fund SICAV	Japanese Large Cap	LU0270818197	Japan	1-Dec-2006	31-Dec-2009	41

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Nr <sup>1</sup>	Umbrella	Sub-fund name	ISIN	Fund sector	Start date <sup>2</sup>	End date <sup>3</sup>	TNA <sup>4</sup>
42	Schroder International Selection Fund SICAV	Global Emerging Markets Opportunities	LU0269904917	Emerging Markets	19-Jan-2007	31-Dec-2009	361
42	Schroder International Selection Fund SICAV	European Equity Opportunities	LU0291345022	Pan-Europe	27-Apr-2007	10-Jun-2009	
42	Schroder International Selection Fund SICAV	Global Dividend Maximiser	LU0306806265	Global	13-Jul-2007	31-Dec-2009	16
42	Schroder International Selection Fund SICAV	European Dividend Maximiser	LU0319791538	Pan-Europe	5-Oct-2007	31-Dec-2009	7
42	Schroder International Selection Fund SICAV	Global Quality Growth Equity	LU0323591593	Global	17-Oct-2007	31-Dec-2009	112
43	SEB Fund 1 FCP	Europe Fund	LU0030166507	Pan-Europe	1-Jan-2003	31-Dec-2009	237
43	SEB Fund 1 FCP	Global Fund	LU0030158231	Global	1-Jan-2000	31-Dec-2009	113
43	SEB Fund 1 FCP	Japan Fund	LU0030163587	Japan	1-Jan-2000	31-Dec-2009	42
43	SEB Fund 1 FCP	North America Chance/Risk Fund	LU0030166176	US	1-Jan-2000	31-Dec-2009	222
43	SEB Fund 1 FCP	Europe 3	LU0030164395	Pan-Europe	3-May-2004	13-Mar-2009	
43	SEB Fund 1 FCP	Europe 2	LU0088160857	Pan-Europe	1-Jan-2000	12-Jun-2009	
43	SEB Fund 1 FCP	Japan Chance/Risk Fund	LU0110261509	Japan	22-May-2000	31-Dec-2009	65
43	SEB Fund 1 FCP	Opportunity Europe	LU0116859868	Pan-Europe	1-Feb-2001	23-Sep-2005	
43	SEB Fund 1 FCP	Global Chance/Risk Fund	LU0122113094	Global	8-Jan-2001	31-Dec-2009	23
43	SEB Fund 1 FCP	Global Value Fund	LU0256626523	Global	12-Jun-2006	31-Dec-2009	101
44	SGAM Fund SICAV	Equities Concentrated Europe	LU0011956546	Pan-Europe	1-Jan-2000	31-Dec-2009	28
44	SGAM Fund SICAV	Equities International	LU0011956975	Global	1-Jan-2000	22-Aug-2005	
44	SGAM Fund SICAV	Equities Global	LU0011957270	Global	1-Jan-2000	31-Dec-2009	34
44	SGAM Fund SICAV	Equities Japan Opportunities	LU0011956629	Japan	1-Jan-2000	24-Apr-2009	
44	SGAM Fund SICAV	Equities Global Emerging Countries	LU0066757278	Emerging Markets	15-Jul-2003	31-Dec-2009	104
44	SGAM Fund SICAV	Equities Euroland	LU0108299768	Euroland	28-Feb-2000	31-Dec-2009	22
44	SGAM Fund SICAV	Equities US Relative Value	LU0130134629	US	6-Jul-2001	31-Dec-2009	630
44	SGAM Fund SICAV	Equities US Concentrated Core	LU0146904684	US	9-May-2002	31-Dec-2009	49
44	SGAM Fund SICAV	Equities US Multi Strategies	LU0146906036	US	9-May-2002	31-Dec-2009	21
44	SGAM Fund SICAV	Equities US Focused	LU0168016581	US	25-Aug-2003	31-Dec-2009	7
44	SGAM Fund SICAV	Equities Japan Target	LU0183642551	Japan	15-Jan-2004	31-Dec-2009	51
44	SGAM Fund SICAV	Equities Japan Concentrated	LU0197589152	Japan	24-Sep-2004	31-Dec-2009	9
44	SGAM Fund SICAV	Equities US Large Cap Growth	LU0084104370	US	1-Jan-2000	31-Dec-2009	28
44	SGAM Fund SICAV	Equities Euroland Value	LU0219680641	Euroland	26-May-2005	31-Dec-2009	715
44	SGAM Fund SICAV	Equities Concentrated Euroland	LU0219678587	Euroland	26-May-2005	31-Dec-2009	40
44	SGAM Fund SICAV	US Spectrum	LU0244557426	US	28-Mar-2006	6-Apr-2009	
44	SGAM Fund SICAV	Japan CoreAlpha	LU0268886974	Japan	29-Nov-2006	31-Dec-2009	561
44	SGAM Fund SICAV	Equities Europe Expansion	LU0311133697	Pan-Europe	29-Nov-2007	31-Dec-2009	88
44	SGAM Fund SICAV	Equities Europe Growth	LU0219679635	Euroland	19-Dec-2007	31-Jul-2009	
45	Sparinvest SICAV	Global Value	LU0138501191	Global	14-Dec-2001	21-Apr-2008	75742
45	Sparinvest SICAV	European Value	LU0264920413	Pan-Europe	2-Nov-2006	21-Apr-2008	71
46	T. Rowe Price Funds SICAV	US Blue Chip Equity Fund	LU0133085943	US	5-Feb-2003	31-Dec-2009	61
46	T. Rowe Price Funds SICAV	US Large-Cap Value Equity Fund	LU0133099654	US	2-Jan-2003	31-Dec-2009	151
46	T. Rowe Price Funds SICAV	Global Equity Fund	LU0143551892	Global	28-Mar-2003	4-Dec-2008	478
46	T. Rowe Price Funds SICAV	US Large-Cap Growth Equity Fund	LU0174119429	US	13-Nov-2003	31-Dec-2009	591
46	T. Rowe Price Funds SICAV	Global Emerging Markets Equity Fund	LU0133084623	Emerging Markets	26-Oct-2004	31-Dec-2009	584
46	T. Rowe Price Funds SICAV	Japanese Equity	LU0230817339	Japan	12-Apr-2006	31-Dec-2009	17
46	T. Rowe Price Funds SICAV	European Equity Fund	LU0285830955	Pan-Europe	2-May-2007	31-Dec-2009	5
47	UBS (Lux) Equity Fund FCP	European Opportunity	LU0006391097	Pan-Europe	1-Jan-2000	31-Dec-2009	538
47	UBS (Lux) Equity Fund FCP	Japan	LU0098994485	Japan	1-Jan-2000	31-Dec-2009	49
47	UBS (Lux) Equity Fund FCP	USA	LU0098995292	US	1-Jan-2000	31-Dec-2009	1,299
47	UBS (Lux) Equity Fund FCP	Euro Countries	LU0089880644	Euroland	1-Jan-2000	31-Dec-2009	1,600
47	UBS (Lux) Equity Fund FCP	Euro Countries Opportunity	LU0085870433	Euroland	6-Oct-2004	31-Dec-2009	53
47	UBS (Lux) Equity Fund FCP	US Opportunity (USD)	LU0101706215	US	14-Feb-2000	31-Dec-2009	37
47	UBS (Lux) Equity Fund FCP	European Growth	LU0118128569	Pan-Europe	6-Oct-2004	31-Dec-2009	55
47	UBS (Lux) Equity Fund FCP	Megatrends	LU0106959967	Global	10-Nov-2000	8-Jul-2005	
47	UBS (Lux) Equity Fund FCP	Euro Stoxx 50 Advanced	LU0141377779	Euroland	11-Mar-2002	31-Dec-2009	190
47	UBS (Lux) Equity Fund FCP	Emerging Markets	LU0171395170	Emerging Markets	17-Sep-2003	31-Dec-2009	982
47	UBS (Lux) Equity Fund FCP	Euro Countries Accelerator	LU0359906079	Euroland	4-Aug-2008	31-Dec-2009	6
47	UBS (Lux) Equity Fund FCP	Euro Countries Defender	LU0359906152	Euroland	16-Jun-2008	31-Dec-2009	149
47	UBS (Lux) Equity Fund FCP	Euro Countries Navigator	LU0359906236	Euroland	4-Aug-2008	31-Dec-2009	5
47	UBS (Lux) Equity Fund FCP	Euro Countries Optimizer	LU0359906319	Euroland	4-Aug-2008	31-Dec-2009	111
48	WestLB Mellon Compass Fund SICAV	Global Equity Fund	LU0093984572	Global	1-Jan-2000	16-Apr-2004	
48	WestLB Mellon Compass Fund SICAV	Euro Equity Fund	LU0093970191	Euroland	1-Jan-2000	31-Dec-2009	4
48	WestLB Mellon Compass Fund SICAV	European Equity Fund	LU0093977873	Pan-Europe	1-Jan-2000	28-Nov-2008	
48	WestLB Mellon Compass Fund SICAV	Global Emerging Markets Fund	LU0093980075	Emerging Markets	1-Jan-2000	31-Dec-2009	128
48	WestLB Mellon Compass Fund SICAV	Japanese Equity Fund	LU0093977956	Japan	1-Jan-2000	31-Dec-2009	5
48	WestLB Mellon Compass Fund SICAV	US Equities	LU0152502240	US	27-Aug-2002	16-Apr-2004	

1. Promoter number (see appendix 1).

2. First date on which the sub-fund was part of the sample.

3. Last date on which the sub-fund was part of the sample.

4. Total Net Assets in EUR million as of 31 December 2009, provided the fund was part of the sample on that date.



## Appendix 3

# Survey: Questions and answers



## I General

Questions and answers		Results <sup>1</sup>
1	How long have you been in your role as board member of this UCITS umbrella?	
a	Less than 1 year	3 (7.3%)
b	Less than 3 years, but more than 1 year.	9 (22.0%)
c	More than 3 years	29 (70.7%)
2	Are you the chairman of this board?	
a	Yes	8 (19.5%)
b	No	33 (80.5%)
3	What is your annual compensation for your role as board member of this UCITS umbrella?	
a	None (covered by regular salary)	34 (82.9%)
b	Less than EUR 5,000.	0 (0.0%)
c	Between EUR 5,000 and 10,000.	1 (2.4%)
d	Between EUR 10,000 and 20,000.	1 (2.4%)
e	Between EUR 20,000 and 30,000.	1 (2.4%)
f	More than EUR 30,000.	4 (9.8%)
4	Are you a board member of any other funds or umbrellas of the same promoter?	
a	Yes	34 (82.9%)
b	No	7 (17.1%)
5	Are you a board member of any other funds or umbrellas of (an) other promoter(s)?	
a	Yes	14 (34.1%)
b	No	27 (65.9%)
6A	Are you invested in any of the sub-funds of this UCITS umbrella?	
a	Yes -> please continue at question 7	16 (39.0%)
b	No -> please continue at question 6B	25 (61.0%)
6B	Have you been invested in any of the sub-funds of this UCITS umbrella <u>in the past</u> ?	
a	Yes	6 (24.0%)
b	No	19 (76.0%)
6C	Are you planning to invest (again) in any of the sub-funds of this UCITS umbrella <u>in the future</u> ?	
a	Yes	6 (24.0%)
b	No	19 (76.0%)
7	What type of board member are you? (more than one answer possible)	
a	Employee of the fund promoter or the promoter group	34 (82.9%)
b	Former employee of the fund promoter or the promoter group	0 (0.0%)
c	Employee of a service provider of the fund promoter or the fund, such as e.g. the transfer agent, the fund administrator or the legal advisor	1 (2.4%)
d	Independent, i.e. I do not have a current or previous employment tie with the fund promoter or the promoter group and am not currently employed by any of the service providers of the UCITS.	6 (14.6%)

Questions and answers		Results <sup>1</sup>
8	What type of board members sit on the board of this UCITS umbrella? (more than one answer possible)	
a	Employees of the fund promoter or the promoter group	40 (97.6%)
b	Former employees of the fund promoter or the promoter group	7 (17.1%)
c	Employees of a service provider of the fund promoter or the fund, such as e.g. the transfer agent, the fund administrator or the legal advisor	10 (24.4%)
d	Independent, i.e. persons who do not have a current or previous employment tie with the fund promoter or the promoter group and are not currently employed by any of the service providers of the UCITS.	17 (41.5%)
9	Why has this promoter chosen to have / not to have independent board members on the board of the umbrella?	N.A. (open question)

## II Board priorities

Questions and answers		Results <sup>2</sup>
10	When thinking about the primary functions of the board, please rate the following functions according to their relative importance:	
a	Setting of performance targets	8.2 (5.0)
b	Making sure that an appropriate risk management framework is implemented and functioning	32.3 (30.0)
c	Verifying the coherence of the investments with the prospectus	19.1 (20.0)
d	Monitoring of the investment performance achieved	22.8 (20.0)
e	Ensuring that the performance achieved is presented correctly and transparently to investors	17.0 (20.0)
11	When thinking about the fiduciary role of the board, please rate the following aspects according to their relative importance:	
a	Ensuring fair and consistent treatment of investors	29.2 (30.0)
b	Ensuring fair pricing of the funds (NAV)	20.8 (20.0)
c	Ensuring a fair level of fees and costs	17.6 (20.0)
d	Ensuring consistency between fund prospectus/sales literature and reality	16.7 (20.0)
e	Ensuring good performance for investors	15.6 (15.0)
12	When thinking about how the board adds value for the investors, please rate the following aspects according to their relative importance:	
a	Creating the conditions for the funds to outperform	11.6 (10.0)
b	Controlling and mitigating risk	27.7 (25.0)
c	Avoiding conflicts of interest	21.4 (20.0)
d	Providing quality control	21.6 (20.0)
e	Providing cost control	17.7 (15.0)

### III Board activities & actions

Questions and answers	0	1	2	2.5	3	4	6 <sup>3</sup>
13 How frequent are board meetings of this UCITS umbrella in an average year?	0	1	9	1	1	26	3
14 How often per year at board meetings does the board review risk management reports?	1	2	9	0	1	26	2
15 How often per year at board meetings does the board review investment restrictions breaches reports?	0	2	10	0	1	26	2
16 How often per year at board meetings does the board review compliance reports?	0	4	11	0	0	24	2
17 How often per year at board meetings does the board review investment performance reports?	0	2	8	1	1	27	2
18 How often per year at board meetings does the board discuss conflicts of interest?	17	7	4	0	0	12	1

Questions and answers	Results <sup>1</sup>
19 In the past two years has this board benchmarked levels of management fees to competitors and/or market averages?	
a Yes	34 (82.9%)
b No	7 (17.1%)
20 In the past two years has this board initiated changes to the level of management fees charged of one or more sub-funds?	
a Yes	26 (63.4%)
b No	15 (36.6%)
21 If applicable, what were reasons for initiating changes with regard to the level of management fees? (more than one answer possible)	
a Fee benchmarking to competitors and/or market averages	22 (84.6%)
b Fee comparison to other products in the promoter's range	16 (61.5%)
c Fee in relationship to performance achieved	4 (15.4%)
d Fee in relationship to potential performance	4 (15.4%)
e Increase of assets under management (leading to economies of scale)	2 (7.7%)
f Other, namely ...	4 (15.4%)
22 In the past two years has this board challenged the promoter with regard to the investment performance achieved of one or more sub-funds?	
a Yes	36 (87.8%)
b No	5 (12.2%)
23 In the past two years has this board initiated changes to the way one or more sub-funds are being managed?	
a Yes	23 (56.1%)
b No	18 (43.9%)
24 If applicable, what were reasons for challenging the promoter with regard to investment performance or initiating changes to the management of sub-funds? (more than one answer possible)	
a Continued underperformance	33 (91.7%)
b Volatility of the returns	6 (16.7%)
c Staff changes in the portfolio management team	7 (19.4%)
d Other, namely ...	5 (13.9%)

## IV Opinions

Questions and answers	Disagree strongly	Disagree	Neutral	Agree	Agree strongly	N.A./ Do not know <sup>3</sup>
25 The style of this board can be described as one of management by exception.	4	21	5	9	2	0
26 The modus operandi of this board is one of ratifying decisions made elsewhere in the promoter group.	4	17	4	12	4	0
27 This board functions as a "watchdog" on behalf of the fund investors.	0	1	4	19	17	0
28 It is the responsibility of the board to make sure that all <u>costs</u> are presented transparently to investors (e.g. in the simplified prospectus / KIID).	0	0	5	22	14	0
29 It is the responsibility of the board to make sure that all <u>risks</u> are presented transparently to investors (e.g. in the simplified prospectus / KIID).	0	0	3	19	19	0
30 As long as the fund portfolio is compliant with restrictions imposed on the basis of regulations or the prospectus, investment performance is not a concern of the board.	8	29	2	2	0	0
31 It is the responsibility of the board to make sure that fund investors pay a fair level of management fees for the services they receive.	0	4	13	20	4	0
32 The level of management and other fees is a commercial decision of the fund promoter, not a board issue.	2	17	7	14	1	0
33 It is the responsibility of the board to take action against continued poor performance.	0	4	4	25	7	1
34 Board members investing in the funds they oversee aligns their interests and those of fund investors.	0	7	13	17	1	3
35 Independent board members are less effective, since they lack knowledge of the fund promoter and the funds.	9	17	7	5	2	1
36 Having independent board members increases the discipline of the promoter towards a board, e.g. in terms of reporting to the board and the submission of proposals.	2	6	1	17	14	1
37 Having independent board members increases the quality of decision making of a board.	2	7	11	11	9	1
38 Having independent board members increases the effectiveness of a board in dealing with conflicts of interest between the promoter and fund investors.	2	5	5	16	12	1
39 Having independent board members contributes positively to protecting the interests of fund investors.	2	3	8	14	13	1
40 I would be in favour of legislation requiring boards of UCITS funds to have independent board members.	3	9	11	10	8	0
41 I would be in favour of legislation requiring boards of UCITS funds to have a majority of independent board members.	7	18	10	3	3	0

1. Number of participants who have given the particular answer, with percentage between brackets.

2. For questions 10, 11 and 12, participants were asked to split 100 points across the 5 answers, according to their relative importance. Mean and median scores are given (the latter between brackets).

3. Number of participants who have given the particular answer.

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# Biography



Jan Jaap Hazenberg was born in The Hague, the Netherlands, on 14 March 1965. He is married and a father of three. Jan Jaap attended the Rijnlands Lyceum in Wassenaar, where he obtained his pre-university degree (VWO-diploma) in 1983. He then studied at the Erasmus University Rotterdam, where he received his Master's degree in Economics in 1989. In 1990, he joined the former Amro Bank, which merged shortly thereafter to form ABN AMRO Bank, as a Management Trainee. His first position was that of Investment Analyst in the bank's Portfolio Strategy Department. In 1993, Jan Jaap obtained the degree of Certified European Financial Analyst from the Dutch Association of Investment Professionals. In the 1989-1993 period, he authored and co-authored various articles in Dutch financial-economic journals on subjects including mergers & acquisitions and investment performance. In 1996, he co-authored a book on the Dutch investment funds industry, published by the Dutch Bankers Association.

In the 1993-2008 period, Jan Jaap worked in several positions for ABN AMRO Asset Management (AAAM) in Amsterdam, Curaçao and Poland, most recently as Senior Vice President in charge of Global Product Management. For AAAM, Jan Jaap was a board member of the group's Dutch-domiciled and Cayman-domiciled investment funds. In 2007, he was a member of the Fund Governance working group of the Dutch Fund & Asset Management Association (DUFAS) on behalf of AAAM, advising the Ministry of Finance and the Dutch regulator on the fund governance framework for the Netherlands. Since September 2008, Jan Jaap is head of Product Strategy & Market Intelligence at ING Investment Management.

The combined experiences of working with fund boards as a product developer, having board responsibility and participating in the industry work group on regulatory aspects of governance, laid the foundation for Jan Jaap's interest in investment fund governance. Jan Jaap started his research for this dissertation in the spring of 2009, and began work that autumn with Professor Dr. Christian Wolff as his supervisor. Since then, Jan Jaap combined his research as PhD Candidate at the Luxembourg School of Finance of the University of Luxembourg with his position at ING Investment Management.