

Current developments in the mutual funds market: demand, structural changes and investor behaviour

The financial and sovereign debt crisis has left a deep mark on Germany's mutual fund business. Private investors, in particular, have turned to other products in which to place their assets. Although institutional investors, too, were more hesitant about increasing their mutual fund portfolios in the crisis year 2008 than in earlier years, they subsequently upped their holdings in fund products again quite substantially. All in all, from 2007 until the end of September 2012, institutional investors placed around €237 billion of additional capital in specialised funds, with insurers accounting for the bulk of this amount. By contrast, credit institutions have permanently reduced their holdings of mutual fund units since the outbreak of the financial crisis. German mutual funds have responded to the escalating sovereign debt crisis over the past few years by readjusting their bond portfolios, offloading bank debt securities and government bonds of euro-area peripheral countries and increasing their exposure to other regions and to paper issued by non-financial corporations.

However, on top of these current developments, which very much reflect the influence of the financial and sovereign debt crisis, Germany's mutual fund industry is also undergoing lasting structural change. Among other things, it is possible to identify a growing segmentation in the specialised fund sector, a trend towards passive investment strategies and a greater propensity among households to invest in fund-based supplementary private pension plans. This report also looks into these longer-term trends. In addition, it shows that funds' liquidity management depends, under certain circumstances, on their investor structure. Funds which are chiefly held by private investors tend to use net inflows of capital to a significantly greater degree than other types of funds to build up liquidity buffers as a hedge against possible outflows in periods of heightened tension.

Market overview and longer-term developments

Mutual funds have gained in significance

Alongside the other major asset managers, funds managed by collective investment firms now play a significant role in the allocation of capital worldwide. Unlike more leveraged market participants, mutual funds mostly finance their operations by issuing units or equity shares.¹ As separate assets (*Sondervermögen*), mutual funds are directly owned by investors. At the end of September 2012, mutual funds domiciled in Germany had assets under management totalling €1.3 trillion, the bulk of which were invested in equities, debt securities and real estate. This was just over double the amount at the beginning of monetary union at the start of 1999.²

Specialised funds grow more strongly than their retail counterparts

This increase is chiefly attributable to specialised funds which, unlike retail funds (funds which are open to the general public), are reserved for institutional investors – insurance corporations, credit institutions, pension funds, church associations or foundations – and tailored to suit their particular investment preferences. Investors in specialised funds are individually involved in the portfolio management. Specialised funds' assets under management have risen steeply since the beginning of monetary union (+140%); at €937 billion most recently, specialised funds accounted for just under three-quarters of the total assets under management in mutual funds.³ Compared with their specialised counterparts, the volume of assets managed by retail funds has grown at a distinctly slower rate of a little more than 50% since January 1999. At last count, they managed assets worth €330 billion.

The diverging rates of asset growth mainly indicate that asset placement has become more institutionalised. Specialised funds have benefited from the fact that net inflows of capital from institutional investors remained steady even during the crisis years. The differing pace of asset growth also reflects the funds' different investment policies which, in turn, are indi-

cative of the investors' individual investment preferences. While many retail funds are heavily invested in equities, specialised funds which are chiefly held by insurance corporations tend to have a higher exposure to debt securities. At last count, retail fund assets were chiefly held in equity funds, followed by open-end real estate funds, bond funds and mixed funds.⁴ By contrast, the bulk of specialised fund assets were held in mixed funds, followed by bond funds which have even gained in importance since the outbreak of the financial crisis. The proportion of equity funds moved in the opposite direction and diminished distinctly, though it was already fairly modest to begin with.

Net sales receipts are not the only factor that have affected asset growth in the retail and specialised segments since the beginning of monetary union. Sharp price volatility has repeatedly buffeted the financial markets and severely affected valuations. The performance of equity funds, for instance, was hit by the decline in equity prices after the "new economy" bubble burst at the beginning of the new millennium and following the outbreak of the financial crisis in 2007; open-end real estate funds, meanwhile, experienced low returns, particularly in 2005. This contrasted with rising equity prices in the period following 2003 and since spring 2009. On balance, the price movements have cancelled each other out in some cases. For example, German equities – measured using the CDAX index – appreciated by just 4% between the beginning of monetary union and the end of September 2012.

Valuation effects highly important in times of sharp price fluctuation

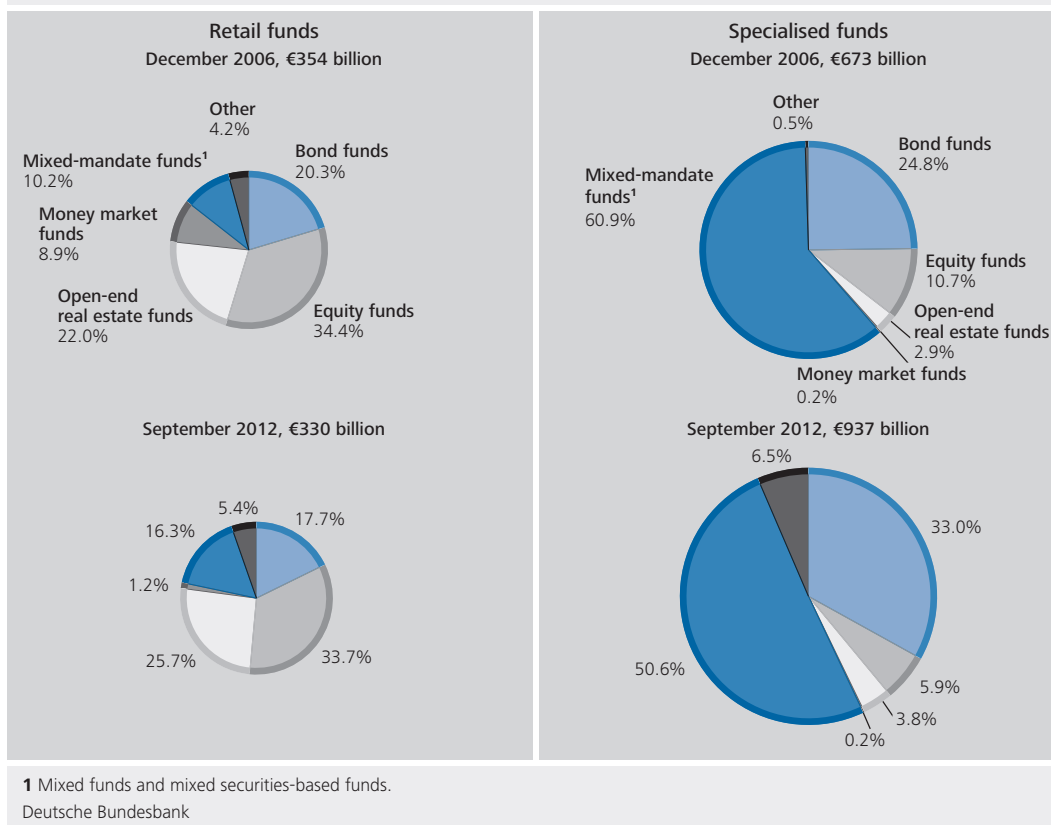
¹ In the case of public limited investment companies (Investmentaktiengesellschaften).

² This report chiefly deals with mutual funds domiciled in Germany. See page 18 for foreign funds that are traded on the German market.

³ Unless otherwise stated, September 2012 is the last reporting month.

⁴ Mixed funds comprise the category of mixed securities-based funds and the broader category of mixed funds as shown in the statistics on investment funds in Deutsche Bundesbank, Statistical Supplement 2 (Capital Market Statistics), Section VI. Domestic mutual funds.

Fund assets



An important general result of the financial crisis was that market participants began to take a more critical view of investment products, particularly risky, complex and less liquid ones. As a consequence, mutual funds that invested in these products came under greater pressure than those focused on safe and liquid assets. Mutual funds that focused on securitised paper, for instance, which often proved to be illiquid following the outbreak of the financial crisis, recorded significant losses of value, and some even had to suspend the redemption of unit certificates. The same fate befell money market funds which came under additional pressure after Lehman Brothers collapsed because investors preferred to invest in government-guaranteed bank deposits. When downbeat economic prospects and low levels of safe money market rates combined during the financial crisis, money market funds became less attractive still. At last count, their fund assets were significantly down on pre-financial-crisis levels.⁵

The sovereign debt crisis that emerged in autumn 2009 has had less of an impact on the fund assets of domestic mutual funds than the financial and economic crisis in the years before that. Net sales receipts, ie the difference between inflows of capital from the sale and outflows of capital from the redemption of fund units, remained in positive territory, and the performance of the equity and bond markets was largely favourable overall.

⁵ Following the amendment of the legal definition of money market funds in July 2011, numerous reclassifications between money market funds and bond funds have caused a statistical break in the figures on the assets managed in money market funds. This notwithstanding, empirical studies of German money market funds show that net outflows of capital are related to the funds' investment behaviour. Jank and Wedow (Sturm und Drang in Money Market Funds: When Money Market Funds Cease to Be Narrow, Center for Financial Research Working Paper No 10-16, 2010) conclude that money market funds, competing both for yield and investors, exposed themselves to less liquid assets. The greater their inclination to do so, the higher the net outflows of capital suffered by these particular money market funds in the crisis months at the end of 2008.

Number of funds virtually unchanged in the financial crisis

In spite of the financial and sovereign debt crisis, the number of domestic retail funds climbed from 1,517 at the end of 2006 to 2,178 in September 2012, chiefly due to the launch of new mixed funds. Yet as the numerous fund closures, mergers and transfers illustrate, the fund industry has also undergone consolidation.⁶ The high net outflows of capital suffered by retail funds during the financial crisis and the generally tense market liquidity situation will have certainly played a part in the fund closures, which particularly affected equity funds. Unlike retail funds, the number of specialised funds has dropped since the outbreak of the financial crisis, numbering 3,829 in September 2012. However, this is not necessarily attributable to the turbulence on the financial markets but probably also reflects the trend of converting previously independent funds into segments of investment vehicles known as master funds (see page 20).

■ Demand for mutual funds

Net sales receipts of retail funds

Weak net sales receipts in recent years ...

Compared with the lively investor activity at the beginning of monetary union, net sales receipts of domestic retail funds have weakened significantly, and also become more volatile since the mid-2000s. Retail funds have recorded net inflows of €147 billion throughout the entire period under observation, ie since 1999. However, aggregate net inflows of capital between the beginning of 1999 and the beginning of 2003 amounted to the same figure. Their inability to generate any further net sales receipts, on aggregate, thereafter mainly resulted from the heavy net outflows of capital between 2006 and 2008, when the tense situation faced by many open-end real estate funds in 2006, the financial crisis and, potentially, the impact of investors substituting funds issued abroad for domestic vehicles (see page 18) placed a significant strain on the mutual funds market.

The net outflows of capital suffered by retail funds between 2006 and 2008 coincided with a period of relatively weak financial asset formation by domestic households (including non-profit organisations). After retail funds experienced a brief upturn in demand in 2009 and 2010, the subsequent escalation of the sovereign debt crisis did not prompt net outflows on a scale seen in the preceding financial crisis, though it did dampen sales receipts nonetheless.

... moving in line with households' asset formation

The trend in aggregate net sales receipts is clearly illustrated by the data for equity funds, which are traditionally the most important retail fund category. Although share prices have been on the increase since 2003, equity funds suffered net outflows of capital overall. While the financial crisis initially placed the most pressure on illiquid financial products such as securitisations, it later spread to affect the equity markets as well. Combined with the heightened risk aversion among market participants, this raised net outflows from equity funds further still; at the same time, monthly net sales receipts became considerably more volatile. Against a backdrop of rising equity prices, net sales receipts have mostly been back in positive territory since 2009. Yet at the same time, net inflows are still significantly more volatile than they were before the financial crisis. The picture is similar for bond funds and money market funds whose assets (*Sondervermögen*), unlike bank deposits, were not guaranteed by the government at the height of the turbulence on the financial markets. They, too, suffered net outflows of capital, particularly during the financial crisis but also in the subsequent sovereign debt crisis.

Net outflows of capital from equity, bond and money market funds

Unlike the fund categories mentioned above, mixed funds which can shift their assets flexibly

⁶ Between 2007 and the end of 2010, the number of closures per year as a percentage of the total number of retail funds rose from 5% to 10%. The closure rate increased particularly sharply for equity funds. All in all, around 600 retail funds were closed during this period, of which some 200 were equity funds.

Mixed-mandate funds relatively robust

between the equity and bond markets proved to be relatively robust in both crises. Although the volatility of their net sales receipts has also risen since the turbulence on the financial markets, they mostly recorded net inflows of capital.

Open-end real estate funds

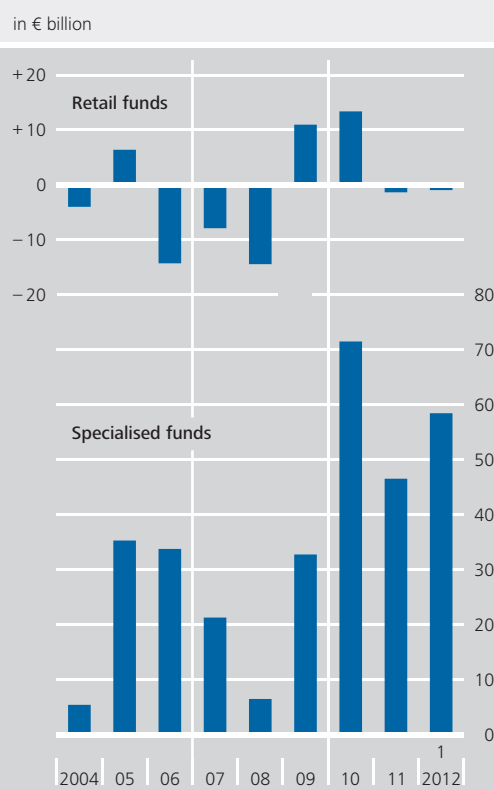
Against the backdrop of diminishing earnings from commercial real estate, open-end real estate funds also shed substantial investor capital in 2005 and 2006. Liquidity shortfalls even forced some funds to suspend the redemption of unit certificates, a situation that might have prompted other investors to withdraw their capital from funds that had not yet been closed.⁷ The financial crisis caused just a small number of funds to experience renewed liquidity difficulties and suspend the redemption of their unit certificates. On aggregate, however, open-end real estate funds have posted positive net sales receipts every year since 2007.

Factors determining mutual fund inflows and outflows

Empirical studies overwhelmingly conclude that during normal market phases, a fund's return is the predominant factor determining investor behaviour and thus the decision whether or not to invest in the mutual fund. However, when critical developments emerge, investors pay greater attention to a fund's liquidity situation which can help to dampen net outflows of capital. Chen, Goldstein and Jiang (2010)⁸ emphasise the distinction between liquid and illiquid investments in this respect. They found that US funds with illiquid assets exhibit stronger sensitivity of outflows to a poorer performance than funds with liquid assets when the funds in question are held by a large number of small private investors. Added to this, there are indications that the composition of the investor base not only determines investor behaviour but can also feed through to the fund management (see the box on pages 23-24).

On top of this, retail fund inflows and outflows during the crisis years tally with the perception of risk on the equity market. Net sales receipts as an underlying trend vary inversely to the im-

Net sales receipts of domestic funds



¹ Figures up to and including September.
 Deutsche Bundesbank

plied risk premium derived from the earnings expectations for European enterprises and the Euro Stoxx index level using a dividend discount model. This would indicate that the reluctance to invest in retail funds can be particularly explained by general investor sentiment on the markets.

Net sales receipts of specialised funds

The net sales receipts of specialised funds are much higher and much more stable than those

⁷ See F Fecht and M Wedow, The dark and the bright side of liquidity risks: evidence from open-end real estate funds in Germany, Deutsche Bundesbank Discussion Paper, Series 2, Banking and Financial Studies, No 10/2009. Fecht and Wedow refer to the importance of cash holdings in investors' decisions to withdraw assets from open-end real estate funds.

⁸ See Q Chen, I Goldstein and W Jiang (2010), Payoff complementarities and financial fragility: Evidence from mutual fund outflows, Journal of Financial Economics, No 97, pp 239-262.

Relatively stable net sales receipts for specialised funds

of their retail counterparts. Throughout the period under observation, ie since the beginning of 1999, specialised funds have attracted €515 billion in new capital, with the financial crisis only causing relatively low net inflows of capital in 2008. The sovereign debt crisis, on the other hand, did not have a discernible effect on net sales receipts, which have actually been above average since 2010. Specialised funds, whose largest investors include insurance corporations and pension fund institutions, probably recorded more robust net sales receipts than their retail counterparts *inter alia* on account of their strong investment activity in the relatively safe bond markets. This view is supported by the fact that the net inflows of capital into bond funds during the financial crisis and particularly the sovereign debt crisis did most to bolster the net sales receipts of specialised funds. Together with the net sales receipts of open-end real estate funds, which were also positive, this more than offset the net outflows of capital suffered by mixed securities-based funds and equity funds during the financial crisis.

■ Major structural changes

Foreign funds traded in Germany

Foreign funds are mostly retail funds

Unit certificates issued by domestic mutual funds are not the only fund products traded in the German markets. Foreign mutual funds also play a significant role on the German market, most of which are based in Luxembourg. This cross-border investment is recorded in the balance of payments as a capital export. Since the beginning of 1999, foreign funds have generated net sales receipts totalling €251 billion in Germany, or just over a quarter of the aggregate net sales receipts of domestic and foreign funds. The balance of payments does not make a distinction between retail and specialised funds. However, a comparison with data provided by the Federal Association of German Investment and Asset Management Companies

(BVI) which also cover foreign funds of German origin⁹ suggests that the vast majority of the foreign funds traded in Germany are retail funds.

A number of initiatives aimed at improving the regulatory framework have been rolled out in recent years to make Germany a more attractive location for investment funds.¹⁰ However, quantifying the impact of each individual initiative is a difficult undertaking. In the first few years of monetary union, investors continued to invest primarily in domestic funds. Between 2004 and 2008, however, sales of foreign mutual fund units outpaced the net sales receipts of German funds. Substitution effects appear to be at play here, as domestic retail funds suffered what were, in some cases, heavy net outflows of capital during this period; added to this, domestic specialised funds generated relatively low net sales receipts. The unequal tax treatment of German and non-German funds was abolished when the German Investment Modernisation Act (*Investmentmodernisierungsgesetz*) came into force in 2004, which may have encouraged substitution effects. It is also conceivable that the liquidity crisis experienced by open-end (retail) real estate funds in 2005 and 2006 and the financial crisis placed less of a strain on non-resident mutual funds than they did on domestic investment firms. The fact that foreign locations like Luxembourg play an important role in the field of securities-based retail funds but are less relevant in the open-end real estate fund segment may have been a factor here.¹¹ Finally, consideration

Foreign funds generate high net sales receipts between 2004 and 2008

⁹ In the BVI's statistics, foreign funds of German origin are defined as foreign funds of collective investment firms in which shareholders are exclusively or mostly resident or domiciled in Germany.

¹⁰ The four Financial Market Promotion Acts enacted between 1990 and 2002, the Investment Modernisation Act (2004) and the Act Amending the Investment Act (2007) played a role here. The Act Amending the Investment Act, for example, is designed to improve the international competitiveness of the fund industry *inter alia* by reducing bureaucracy, simplifying the BaFin approval process, promoting product innovation and improving investor protection.

¹¹ See T Richter (2011), (Wozu) Braucht die deutsche Fondsbranche die Standorte Luxemburg und Irland (noch)?, in Zeitschrift für das gesamte Kreditwesen, No 13, p 650f.

should be given to the fact that funds traded on German exchanges (ETFs), which have been steadily growing in number, even since the outbreak of the financial crisis, are mostly issued outside Germany (see page 22). In light of the heightened risk aversion during the financial crisis and, since 2009, the renewed upturn in net inflows of capital into specialised funds (only a small number of which are issued abroad), the net inflows of capital generated by foreign mutual funds since then have once again fallen significantly short of the net sales receipts of domestic mutual funds.

Development of the investor base

Domestic non-banks the most important investor group

Domestic non-banks are by far the most important investor group in the mutual funds market. Since January 1999, they have purchased domestic and foreign mutual fund units totalling €817 billion, investing primarily in domestic mutual fund units (€580 billion). At €49 billion, investments by domestic credit institutions were on a much lower scale. They, too, invested the lion's share in domestic funds (€35 billion). Foreign investors stepped up their holdings of domestic mutual fund units by €47 billion.

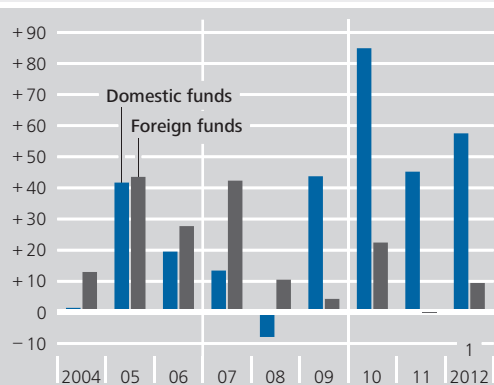
However, the investments by the individual investor groups were highly volatile during the period under observation.

Investments by credit institutions on the decline since financial crisis

Non-banks responded to the difficulties in the market for open-end real estate funds and the first phase of the financial crisis by curbing their investments in fund units, while credit institutions and foreign investors even offloaded unit certificates, on balance, during the financial crisis. The investment behaviour of non-banks and credit institutions moved in different directions as the financial crisis progressed. Credit institutions which were under pressure to achieve a sustainable consolidation of their balance sheets have been steadily reducing their portfolios of domestic mutual fund units since

Net sales receipts of domestic and foreign mutual funds* in Germany

in € billion



* Retail funds and specialised funds. 1 Figures up to and including September.

Deutsche Bundesbank

July 2007 (by €33 billion overall), offloading both specialised and retail fund units.

By contrast, non-banks and, to a lesser extent, non-resident investors have been significantly stepping their holdings again since 2009 (by a total of €232 billion and €18 billion respectively). The vast majority of non-banks' newly purchased fund units are specialised fund units, which would indicate that institutional investors are mostly at work here.

Non-banks step up their holdings

The large volume of mutual fund units purchased by insurance corporations is one of the factors that has been driving the robust investment by non-banks in specialised funds since 2009. Traditionally the most important group of institutional investors in specialised funds, insurers held, at last count, fund assets worth €333 billion, or slightly more than a third of the total assets managed by specialised funds. Their investment activity since 2009 – purchases of specialised fund units worth €91 billion, or more than 40% of the net units issued – played a key role in stabilising the specialised funds market.

Investments by insurance corporations ...

In light of demographic trends and a greater need for households to invest in private retirement schemes, pension fund institutions are another investor group, alongside insurance

... by pension fund institutions ...

corporations, that have played a predominant role in the positive net sales receipts since the outbreak of the financial crisis. Up until 2003, this investor group had been recorded in the Bundesbank's mutual fund statistics in the insurance corporations category. It includes *inter alia* company pension organisations such as *Pensionskassen* and pension funds as well as occupational pension schemes. Pension fund institutions have significantly upped their investment in specialised funds in recent years; since being recorded as a separate statistical item, they have accounted for almost a third of the net sales receipts of specialised funds overall. Reflecting the substantial net inflows of capital they have generated, they also account for a greater share of the aggregate assets managed by domestic specialised funds, which rose from 3% at the end of 2004 to 18% at the end of September 2012. Spin-offs by insurance corporations are also likely to have been a factor here. According to market reports, many institutional investors have shunned pension vehicles provided by insurance corporations and instead set up pension fund institutions of their own.¹²

... and by other enterprises

The third important group of investors in specialised funds are "other enterprises" which have been recorded separately in the Bundesbank's statistics since September 2009. This category includes, in particular, what are known as other financial intermediaries and non-financial corporations whose individual investment motives are not known. Other enterprises, which have considerably increased their investment activity in recent years, accounted, at last count, for fund units worth €208 billion, or just over a fifth of the total assets managed by domestic specialised funds. This is well up on the €134 billion attributable to credit institu-

Growing segmentation among specialised funds¹³

Specialised funds have adapted to evolving investor requirements and also meet stricter cost and efficiency criteria, thus buoying their attractiveness among institutional investors. Amendments to the legal framework (entry into force of the Investment Act (*Investmentgesetz*) in 2004) have helped to drive a growing segmentation by specialised funds which has fundamentally affected the structure of this market in recent years.¹⁴ This trend coincides with a higher degree of specialisation among collective investment firms which are increasingly focusing on individual components of the supply chain such as portfolio management or technical and regulatory administration. In this environment, master investment companies (*Master-KAGs*) which perform core administrative tasks have become more important. The portfolio of this type of specialised fund (master fund) is divided into several segments which, depending on the asset class in question, might be managed by different portfolio managers; at the same time, the master investment company provides institutional investors with uniform reporting on their holdings, even though responsibility for managing the portfolio lies with several different managers. In some cases, this is likely to have resulted in specialised funds that were once independent and managed by different investment firms becoming segments of a master fund. BVI data confirm the trend towards greater segmentation. First, they show that the proportion of securities-based specialised funds managed by "traditional" investment firms which perform

Higher degree of specialisation among investment firms

¹² See BVI (2012), *Spezialfonds: Ein deutsches Erfolgsmodell*, press release dated 22 May 2012.

¹³ The term "segmentation" as used in the literature on specialised funds does not refer to the breakdown of the total market into various subsegments. Rather, it describes the structure of master funds, which are made up of several sub-funds, or segments (see box below).

¹⁴ See T Neißé (2011), *Der deutsche institutionelle Fondsmarkt im Wandel*, in *Handbuch Investmentfonds für institutionelle Anleger*, and T Entzian (2011), *BVI-Studie Wertpapier-Spezialfonds: Anlage mit kalkulierbarem Risiko*, in *Zeitschrift für das gesamte Kreditwesen*, No 16, p 799ff.

both the portfolio management and fund administration has diminished in recent years. Second, they point towards a decline in the number of specialised funds and a concurrent increase in portfolio segments.

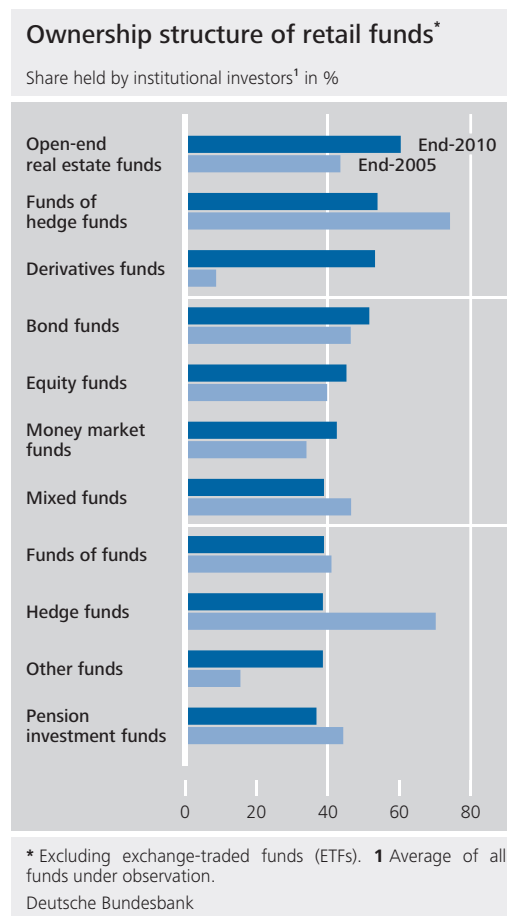
Institutional demand for retail funds

Institutional investors playing a more important role in retail funds

Institutional investors have increased their share of retail funds in a number of fund categories. Bundesbank calculations based on the mutual fund statistics and the statistics on securities investments (securities deposit statistics) make clear that this does not just apply to ETFs: in the retail fund market, institutional investors' share of equity, bond, money market and open-end real estate funds also increased between 2005 and 2010. By contrast, private investors raised their share of mixed-mandate funds and pension investment funds. Retail funds are also keen to attract institutional investors, offering them customised terms and conditions or special unit certificate categories which are subject to lower charges than those of private investors.

Why institutional investors invest in retail funds

Institutional investors began to pay greater attention to retail funds when IFRS accounting standards were introduced for publicly traded companies in 2005. The IFRSs prescribe more complex accounting treatment for specialised funds under certain circumstances.¹⁵ By investing in retail funds over which they do not have significant influence, investors can usually avoid this additional workload. Other factors that increase the appeal of retail funds for institutional investors might have become more relevant since the outbreak of the financial crisis. These include retail funds' high degree of transparency, owing to the daily pricing on the market, and a lower minimum investment threshold which might benefit investors looking to gain exposure to niche markets, for instance. Investing in retail funds also enables investors to plan the duration of their investment relatively flexibly. If a fund begins to underperform,



it is easier and more cost-effective to offload shares in retail funds than it is to replace the portfolio managers of a specialised fund. That is why institutional investors play a major role in all types of funds (see chart above). On top of this, a panel econometric analysis of equity funds in which assets under management were particularly volatile in the crisis years indicates that the ownership structure can have implications for the funds' liquidity management (see the box on pages 23-24).

¹⁵ While the German Commercial Code (HGB) requires reporting entities to carry shares in an investment fund as a security, the IFRSs state that all the securities contained in the fund must be disclosed if the investor has economic control over the fund; see B Wagner (2005), Die Master-KAG im Spannungsfeld steigender Anforderungen und wachsenden Wettbewerbs, in Zeitschrift für das gesamte Kreditwesen, No 16, p 844.

Trend towards passive investment strategies using ETFs

Cost advantages of ETFs

As mentioned above, exchange-traded funds (ETFs) have made significant inroads into the retail funds market in recent years, and the financial crisis is likely to have amplified this trend. According to market reports, this growth was driven, first, by ETFs issued abroad, which make up the majority of the ETFs traded on German exchanges, and, second, by the strong growth in the assets under management of domestic ETFs as well as their larger share of the domestic retail funds market.¹⁶ As ETFs often replicate indices, active fund management can be dispensed with. Their management fees are thus normally lower than those of actively managed retail funds. This cost advantage tends to be narrower for ETFs that physically replicate their benchmarks than it is for “synthetic” ETFs that use swaps to track their benchmarks.¹⁷ Nonetheless, the vast majority of domestic ETFs are based on physical benchmark replication, ie they invest in the constituent securities of the benchmark index, and – unlike synthetic ETFs – are not exposed to swap counterparty risk.

The growing importance of ETFs in the retail fund segment indicates that funds’ cost efficiency has become an increasingly important factor for market participants in recent years. Furthermore, the financial crisis has particularly put the spotlight on the risks involved in investments in complex products that might become illiquid in times of crisis. This may also be a reason why passively managed ETFs have become more popular among investors, given that they are often structured in a relatively straightforward and transparent manner and they are comparatively liquid on account of their exchange listing. These benefits are also likely to have driven the substantial ETF investments by institutional investors. Market surveys among institutional investors and Bundesbank data on the ETFs issued in Germany indicate that numerous institutional investors invest in ETFs.¹⁸ As a result, domestic ETFs, chiefly bond and

equity ETFs, are now chiefly held by institutional investors.

Yet at the same time, supervisory authorities have responded to the particularly dynamic growth shown by the ETF market by paying greater attention to the question of stability risks. In times of crisis, for instance, there is a risk that the liquidity of ETFs that invest primarily in less liquid assets such as high yield corporate bonds or emerging market paper might quickly dry up.¹⁹ In the case of synthetic ETFs, consideration also needs to be given to swap counterparty risk. Bearing this in mind, it would seem particularly important for ETFs to maintain an adequate degree of transparency both towards investors and the supervisory authorities.

Retirement provisions are a key driving force

The government’s efforts, in light of demographic trends, to promote fund-based supplementary private pension plans are a key motive driving institutional and private investment in mutual fund units. This is particularly the case for pension fund institutions which have significantly increased their exposure to specialised funds, as described above. Furthermore, a significant portion of the specialised fund investments by life and pension insurance corporations is likely to be for retirement-related purposes.

Retirement provisions are relevant for both institutional and private investors

¹⁶ ETFs have been recorded as a separate item in the Bundesbank’s statistics on mutual funds since the end of 2009. Since then, their fund assets have grown by 36% and their share of the aggregate domestic retail fund market has risen by 2.3 percentage points to 10.1%.

¹⁷ While an ETF that physically replicates an index invests in the index constituents on the spot market, the portfolio of a synthetic ETF can deviate considerably from the benchmark index. Synthetic replication, however, involves concluding a swap agreement with a counterparty to exchange the performance of the underlying portfolio for the performance of the benchmark index.

¹⁸ See Kommalpha (2009), ETF Studie, Marktstruktur und Einsatz in institutionellen Portfolios.

¹⁹ The Bundesbank’s Financial Stability Review (2011) looks in detail at ETFs from the perspective of financial stability.

The significance of institutional and private investors for the liquidity management of mutual funds

Recent literature has investigated the differing significance of institutional investors, which usually put in substantial amounts, and private individuals, who generally have small sums invested, with regard to the net outflow of capital from mutual funds.¹ In a study of US retail funds, for instance, Chen, Goldstein and Jiang (2010)² come to the conclusion that private investors rapidly exit funds which are invested in illiquid markets and have poor earnings, whilst this is not the case with funds dominated by institutional investors. This can be attributed to negative external effects, in that small-scale investors who withdraw from funds with illiquid assets put investors who remain in the fund at a disadvantage without themselves suffering any adverse consequences. The reason for this is that if net outflows exceed the amount of the fund's liquid assets, this comes at a cost to the fund, for instance in the form of forced asset sales in markets lacking in depth or with wide bid/offer spreads. If an investor expects other investors to withdraw funds, he will be at an advantage if he can offload his units more quickly than the others. Panic selling of units with a low level of liquidity becomes ever more costly the greater the extent of the net outflows. This means that large-scale investors that own a substantial portion of a fund are likely to avoid a swift sale, because the costs of fund illiquidity would rebound on themselves. For this reason, the authors suggest that institutional investors are not generally driven away by fund illiquidity, whilst the liquidity of a fund has an increasing impact on capital flows the more private investors are invested in it.

However, a fund's unit ownership structure will not only affect investor behaviour, it may also influence the behaviour of the

fund's managers. If prompted by the market environment, managers are likely to be willing to take steps to avert the danger of a run on fund assets. Although, according to Chen et al (2010), illiquidity presents no grounds for concern as long as institutions are the main investors, managers of funds which are illiquid and held by private investors are likely to show a greater interest in building up cash – mainly bank deposits – than managers of funds geared to institutional investors. A liquidity buffer enables fund managers to cushion the impact of net outflows and to reduce selling pressure on the market, as well as providing liquidity for investors in times of crisis. Empirical evidence from crisis periods shows that a sufficient ratio of cash to total assets can moderate net outflows and prevent panic sell-offs in precisely those periods when other assets are illiquid.³ Thus, a fund's cash position reduces the risk of the fund closing as a result of self-fulfilling expectations.

Beyond the issue of fund liquidity, which investors keep a particularly keen eye on in times of crisis, the literature pinpoints an alternative reason for a relationship between funds' cash positions and their investor base: because funds dominated by private investors may be subject to less performance pressure than funds which are dominated by institutions and therefore moni-

¹ These considerations are based on theories about the emergence of bank runs, currency attacks and the build-up and bursting of asset price bubbles.

² See Q Chen, I Goldstein and W Jiang (2010), Payoff complementarities and financial fragility: Evidence from mutual fund outflows, *Journal of Financial Economics*, No 97, pp 239-262.

³ See F Fecht and M Wedow, The dark and the bright side of liquidity risks: evidence from open-end real estate funds in Germany, *Deutsche Bundesbank Discussion Paper, Series 2, Banking and Financial Studies*, No 10/2009.

tored more closely, the latter may prefer to keep their cash position to a minimum, as the size of this position is ultimately reflected in the fund's returns. Using fund returns as their parameter, Dötz and Weth (2013) investigated the steps taken by German equity funds to counter self-fulfilling mechanisms by building up cash holdings.⁴ In a panel econometric analysis for the period 2005 to 2010, it was shown that the change in the cash ratio in response to net inflows differs considerably depending on the fund's ownership structure and the liquidity of the equity portfolio. Funds which are chiefly held by private investors tend to use net inflows to build up liquidity buffers to a significantly greater degree than other funds. A classification of funds according to their portfolio liquidity confirms that this effect can be demonstrated for funds lacking liquidity, whilst funds with highly liquid portfolios have no interest in building up

cash positions. According to the estimates, managers of illiquid funds dominated by private investors use a particularly large proportion of their net inflows to augment their cash holdings.⁵ This result also holds when traditional determinants of cash management are taken into account.

⁴ See N Dötz and M Weth (2013), Cash holdings of German open-end equity funds: Does ownership matter?, a Discussion Paper to be published shortly by the Deutsche Bundesbank.

⁵ Dötz and Weth (2013) show in panel estimates that the cash holdings of relatively illiquid retail equity funds in which private investors predominate are significantly more responsive to net and gross inflows than the cash holdings of other relatively illiquid funds. By contrast, funds with highly liquid equity portfolios take no account of their investor base when building up cash.

Private investors, too, have given the mutual funds market a shot in the arm with their retirement provisions, investing in "Riester" and "Rürup" pensions and in unsubsidised fund saving plans.²⁰ The "Riester" pension was launched in 2001 to make up for the declining level of statutory pension benefits. After getting off to a bad start, market observers believe that this supplementary pension plan has now gained in popularity, not only because the incentive scheme has been simplified and the payout conditions have been made more flexible,²¹ but also on account of the extensive reduction in the tax privileges for endowment policies concluded after 2004. In a "Riester" pension plan, mutual funds can be used indirectly (in fund-based pension insurance plans) or directly (via fund saving plans). However, the slowdown in the number of new investors in fund-based "Riester" pension plans would also indicate that private demand has declined markedly since the outbreak of the financial crisis. The number of new investors fell from more

than 690,000 in 2007 to less than 139,000 in 2011, outpacing the decline in the number of private pension plans and bank saving plans with "Riester" incentives. The reluctance among private investors is likely to have been driven in particular by the low-interest rate environment, but increased risk aversion and a greater awareness of the acquisition and administrative costs of financial products were probably also factors.

Mutual funds' portfolio structure

In the German retail and specialised fund segment, securities-based funds (equity, bond and

²⁰ A "Rürup" pension is a supplementary private pension plan with tax incentives designed primarily for self-employed persons and freelancers who are not covered by the statutory pension insurance scheme. "Riester" pensions are directly subsidised by the government and enjoy tax benefits.

²¹ See Dialogforum Finanzstandort Deutschland (2012), Report No 8.

Equity ratio up in retail funds, down in specialised funds

mixed securities-based funds) account for just over 60% and slightly less than 70% respectively of the total volume of assets under management. The equity ratio of retail and specialised funds, expressed as a fraction of the aggregate fund assets, has moved in opposite directions: while retail funds have slightly increased their equity ratios, on balance, to 56% since 2002, specialised funds have cut their equity exposure from 20% in spring 2003 to 10% at last count. The bond exposure of specialised funds is currently very high at just over 70%, whereas retail funds have invested just a third of their assets in debt securities. Differences in the investment focus of specialised funds and their retail counterparts reflect the importance of the individual types of fund: while equity funds account for the bulk of retail funds, bond funds and mixed securities-based funds are predominant among specialised funds.

Higher weighting of foreign securities

Looking at the international exposure of German mutual funds, there have been substantial shifts into foreign debt securities in recent years, chiefly among specialised funds. At last count, foreign debt securities accounted for just under 80% of the total bond holdings. At the same time, specialised funds' exposure to foreign equities, which likewise stands at just under 80%, has remained unchanged at this already very high level since 1999. In the years preceding monetary union, specialised funds had hugely increased the proportion of foreign shares in their overall equity holdings from a level of less than 30%. Retail funds initially had a similar domestic focus and they, too, increased their exposure to foreign shares in the years prior to 1999, following an almost identical pattern to that of specialised funds. As a result, the foreign equity exposure of retail funds rose to around 70% by the year 2000. Unlike specialised funds, however, it then diminished slightly to less than 60% at last count.

Importance of foreign bond issuers

At the end of the third quarter of 2012, foreign issuers accounted for €54 billion and €465 billion respectively of the bond holdings of retail

Buyers of domestic specialised funds

in € billion



¹ Other financial intermediaries, financial auxiliaries and non-financial corporations. ² Figures up to and including September.

Deutsche Bundesbank

funds and specialised funds. This equates to 64% and 79% respectively of the total bond holdings of retail and specialised funds. Of their foreign bond holdings, 7% and 11% respectively were denominated in US dollars, the remainder almost entirely in euro. Of the euro-denominated debt securities issued by foreign issuers held by retail funds, 28% were issued by euro-area peripheral countries, 48% by other euro-area countries, and just under a quarter by non-euro-area issuers. The breakdown was similar for specialised funds, although the weight of euro-area peripheral countries, at 22%, was slightly lower and that of other euro-area countries was a little higher, at 52%. Within the euro area, both specialised funds and their retail counterparts were most heavily invested in French bonds, followed by Dutch debt paper. Italy, Spain and Ireland were the predominant issuers among euro-area peripheral countries.

Readjustment of bond portfolios during the crisis

The euro-denominated bond portfolios held by German mutual funds have seen substantial shifts since the outbreak of the sovereign debt

Movements in the bond portfolios denominated in euro, US dollars and yen held by domestic mutual funds

Type of fund	Place of establishment of the issuer	Issuer sector				All issuer groups (including insurance corporations, rest of the world) ²	Portfolio volume (nominal values), September 2012, in € bn
		Government bonds and other public sector debt instruments	Bank debt securities	Debt securities of other financial institutions	Debt securities of non-financial corporations		
Debt securities denominated in euro		Changes in holdings as a %, December 2009 until September 2012 (nominal values)					
Retail funds	Germany	12	-23	0	53	-3	.
	Euro-area peripheral countries ¹	-19	-20	-39	48	-22	.
	Other euro-area countries	1	39	-7	68	16	.
	Non-euro-area countries	5	-27	-10	19	-9	.
	All regions	1	-14	-17	47	-4	.
Specialised funds	Germany	-3	-16	-5	69	-5	.
	Euro-area peripheral countries ¹	-40	-29	2	53	-24	.
	Other euro-area countries	34	58	18	117	46	.
	Non-euro-area countries	67	15	37	52	39	.
	All regions	-1	5	18	81	14	.
		Portfolio shares as a %, September 2012					
Retail funds	Germany	22	15	0	2	40	.
	Euro-area peripheral countries ¹	9	4	3	1	17	.
	Other euro-area countries	8	9	7	4	28	.
	Non-euro-area countries	1	6	4	3	15	.
	All regions	40	33	15	10	100	69.3
Specialised funds	Germany	12	9	0	2	23	.
	Euro-area peripheral countries ¹	6	4	5	1	16	.
	Other euro-area countries	14	11	8	7	39	.
	Non-euro-area countries	1	8	6	4	22	.
	All regions	32	32	19	14	100	486.1
Debt securities denominated in US dollars		Changes in holdings as a %, December 2009 until September 2012					
Retail funds	All regions	38	9	10	-6	17	.
Specialised funds	All regions	104	43	40	34	53	.
		Portfolio shares as a %, September 2012					
Retail funds	All regions	46	13	21	18	100	4.3
Specialised funds	All regions	30	11	28	29	100	57.6
Debt securities denominated in yen		Changes in holdings as a %, December 2009 until September 2012					
Retail funds	All regions	32	-85	-72	-93	-75	.
Specialised funds	All regions	152	87	43	-21	52	.
		Portfolio shares as a %, September 2012					
Retail funds	All regions	48	26	19	5	100	2.2
Specialised funds	All regions	19	59	7	13	100	2.7

¹ Greece, Ireland, Italy, Portugal and Spain. ² Including international organisations.

Bond portfolio shifts to the detriment of euro-area peripheral countries

crisis in autumn 2009.²² Between December 2009 and September 2012, both retail and specialised funds reduced their overall exposure not only to government bonds but also to bank debt securities of euro-area peripheral countries which had been attracting greater attention from the financial markets during the sovereign debt crisis. While retail funds scaled back their nominal holdings of public sector debt securities issued by euro-area peripheral countries by 19%,²³ specialised funds went even further, reducing their holdings by 40%. At the same time, both retail and specialised funds increased their exposure to other regions. Whereas retail funds tended to invest in German public sector debt securities, specialised funds mostly shifted their bond exposures into public bonds issued by other euro-area countries (+34%), primarily French debt instruments. In doing so, specialised funds also off-loaded German government bonds whose yields had been diminished by large-scale safe haven flows at times.

Shifts in bank debt securities and corporate bonds

Bank debt securities were also the subject of significant portfolio shifts. Retail and specialised funds not only cut their holdings of bank bonds from euro-area peripheral countries (-€0.7 billion and -€8 billion) but also scaled down their holdings of similar German paper (-€3 billion and -€9 billion).²⁴ In turn, specialised funds raised their exposure to debt instruments of issuers domiciled outside the euro area (particularly the United Kingdom), investing primarily in bank debt securities and bonds of other financial and non-financial corporations. Specialised funds held by pension fund institutions and insurance corporations invested outside the euro-area peripheral countries to a greater extent than the other specialised funds, focusing their investments chiefly on non-financial issuers, whose share of the aggregate bond portfolio rose by 5 percentage points as a result.

Growth in the US dollar portfolio

After pulling their investments out of crisis countries in the euro area, specialised funds in particular have been devoting greater attention

to foreign currency bonds. On aggregate, the US dollar portfolio of specialised funds has grown from just under US\$49 billion to almost US\$75 billion across all issuer groups. Retail funds, meanwhile, increased their exposure to US dollar bonds by less than US\$1 billion.

Conclusion

To conclude, the turbulence that has buffeted the financial markets in recent years has left a lasting mark on the mutual funds market. Investors particularly took a more critical stance towards risky, complex and less liquid investment products. Many private investors shunned mutual funds altogether or invested in them indirectly by using other institutional investors such as insurance corporations as intermediaries. While these changes in investor preferences benefited some types of funds, particularly ETFs, retail funds have hardly recorded any additional net sales receipts on the whole since 2007, especially with the escalating sovereign debt crisis also dampening the demand for fund products among private savers.

Among institutional investors, the financial crisis prompted credit institutions, in particular, to permanently reduce their holdings of mutual fund units. Specialised funds nonetheless came under less pressure than their retail counterparts during the financial crisis thanks in no small part to insurance corporations and pension fund institutions. Moreover, a structural shift towards master funds is also likely to have buoyed the attractiveness of specialised funds. Although foreign bonds account for most of the assets managed by specialised funds, the

²² This analysis is based on changes in the nominal values of the bond portfolios held by mutual funds. Accordingly, no consideration is given to price fluctuations which were particularly marked for bonds during the sovereign debt crisis. The analysis is based on new domestic mutual fund statistics, which will be presented in a press release at the end of January 2013.

²³ Including the Greek haircut in March 2012.

²⁴ However, consideration should be given to the recent decline in the outstanding volume of domestic bank debt securities.

sovereign debt crisis has not had a visibly negative impact on specialised funds' overall net sales receipts. Portfolio readjustments had a stabilising effect in this respect, with specialised funds offloading government bonds and bank

debt securities from euro-area peripheral countries in recent years and increasing their exposure to bonds from other regions and to paper issued by non-financial corporations.