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Research Department

2009 RISK AND TREND MAPPING FOR FINANCIAL MARKETS AND RETAIL SAVINGS

Risk and Trend Mapping – no 8

AUTORITÉ DES MARCHÉS FINANCIERS

AMF

CONTENTS

Editorial

The Autorité des marchés financiers (AMF) is publishing a map of risks and trends for financial markets and retail savings for the third year running. This is a hazardous undertaking because it exposes us to two possible criticisms, namely that we have:

- underestimated risks with a potentially serious impact on markets and market participants, either because we have failed to identify them or chosen not to mention them;
- overestimated the danger of an incident whose supposed effects we have misidentified, leading us to err on the side of caution and overstate the possible outcomes.

But these are chances we must take, and I accept them. In my opinion a regulator cannot only follow up on problems and try to correct *ex post* the shortcomings or loopholes of an inherently imperfect regulatory framework – although this is obviously a key aspect of our remit. We must also interpret the main market trends and investor behaviours so that we can detect the ensuing macro-prudential and micro-prudential risks in advance. Without this, we would be doing only half our job.

To prepare its risk maps, the AMF does not rely on random sampling that would allow it to confirm a hunch. Instead it methodically identifies trends in the financial and retail saving markets, and, wherever possible, suggests corrective action if it feels that these trends are sowing the seeds of future instability.

Naturally, this risk map will be read with a critical eye by the entire financial community, whose insights are vital in order to bear out or qualify various aspects of our analysis. I am counting on a strong response, with plentiful input that will enhance the document.

I also want the AMF to step up its role of risk supervision and anticipation, which is vital to cope with the ongoing financial and economic crisis. Regulators and the financial community as a whole need early-warning tools to protect investors more effectively and help the markets – which are all too often short-sighted and short-termist – to function more efficiently. As part of its reorganisation drive, the AMF will acquire tools in order to better identify risks, in collaboration with other regulators, and, at an earlier stage, to bring about changes in financial market participants' behaviour or amend regulations where necessary.

I hope you find this working paper instructive. Above all I hope it will prompt extensive dialogue and debate that will make the risk map even more precise and exhaustive.

Jean-Pierre Jouyet

Executive summary

➡ TRENDS IN WHOLESALE FINANCIAL MARKETS AND RISKS FOR INTERMEDIARIES, LISTED COMPANIES AND INSTITUTIONAL INVESTORS

The financial crisis was initially limited to the banking system and securitisation vehicles, but in 2008, it spread to all financial markets. Underlying the spread of the crisis and the growing correlation of different asset classes was the market participants' need to reduce their debt, which led to a self-perpetuating cycle of asset sales and widespread falls in market prices for securities. Arbitraging and hedging by some participants intensified the interaction between the various markets.

On debt markets, very risk-adverse investors and a gloomy macrofinancial environment stemming from the freeze on lending led to a very large jump in risk premia for all corporate issuers. The collapse of Lehman Brothers was a key event, after which tensions on the interbank market were further heightened and credit spreads widened rapidly. These developments brought with them bankruptcies and/or bailouts for major players in the debt market, especially US mortgage refinancing agencies and some monoline insurers.

The very sharp macroeconomic slump at the beginning of 2009 continued to erode credit quality and led to more and more rating downgrades for corporate debt securities in circulation. In some countries, and in the United States in particular, credit risk on consumer loans also became an increasingly acute problem as unemployment rose.

Equity markets plunged in 2008. France's CAC 40 index dropped by 43%. Falling prices hit financial stocks particularly hard, but industrial and service stocks were affected as well. The sharp drop in share prices stemmed from fundamental factors relating to falling company profits, but it was also the result of sales by some leveraged players who were forced to liquidate their assets to meet redemption requests from investors or to restore their solvency levels. The downward trend on equity markets brought with it unprecedented volatility, with some indices showing two-digit variations in the course of a single day. This volatility may have resulted from the intrinsic uncertainty in times of crisis, as well as from banks' diminished capacity to influence stock markets through their principal trading activity.

Corporate finance transactions included equity issues by financial intermediaries seeking to build up their capital. If we do not count these issues, there were very few new equity issues. Share buybacks were down over 2008 as a whole, following massive buybacks in the United States in recent years and a rise in buybacks in Europe. The fear of facing liquidity and financing problems has meant that companies prefer to keep substantial cash reserves on hand and to limit leverage rather than distribute profits by buying back shares. Not surprisingly, there has been a very large drop in mergers and acquisitions, after years of dynamic leveraged buyout activity. Very poor market conditions halted the recent trend towards more listed companies on most western equity markets.

Since the entry into force of MiFID, there has been keen competition between equity trading infrastructures with the emergence of multilateral trading facilities (MTFs). The MTFs are often based in London and they manage electronic order books for blue chip stocks. Their main distinctive traits are their order execution technology and, more specifically, the speed of execution, aggressive pricing (including actually paying liquidity providers for their orders) and inexpensive alternative post-trade solutions. There are many MTFs in business now and some of them have achieved substantial market shares. However, a new generation of platforms is developing that could increase the competitive pressure on established markets. These "dark pools of liquidity" operate outside the market, exploiting waivers and grey areas in MiFID. Their trading structures are often innovative and different from those of the conventional markets. They operate alongside the regulated markets, offering market structures for block trades or crossing networks, as well as internal order-matching systems run by banks. The resulting pressure on the exchanges' core business has pushed them to step up restructuring in two directions, with more consolidation to increase economies of scale and diversification into more lucrative market segments, such as listings for new products, post-trade activities further along the order processing chain and even providing pre-trade information systems and services.

There is still some debate about the appropriate amount of transparency for transactions on secondary markets for financial instruments. In recent times, equity markets have seen the growth of dark pools of liquidity, which seems to indicate a trend in favour of less stringent transparency requirements. On the other hand, the problems occurring during the crisis have spurred market regulators to increase the transparency of transactions on OTC markets. On these markets, post-trade transparency now appears necessary to reduce the cost of market making, by imposing appropriate deadlines for disclosing transactions. This would enhance liquidity and facilitate the assessment and supervision of market operations.

The crisis once again shone a spotlight on post-trade infrastructures, because of their importance for risk management, as well as their more structural role for trading activity in general. The collapse of Lehman Brothers highlighted market participants' difficulties in assessing counterparty risk on OTC derivatives markets, especially in the credit derivatives market. The drive to improve risk control revived market participants' interest in clearing systems. Initiatives were launched in the United States and Europe to enhance the standardisation of credit default swaps (CDS) and to create clearinghouses that could reduce systemic risks arising if a major participant is unable to meet its obligations. New alternative trading platforms have created several competitive initiatives for post-trade processing of cash transactions in equities.

These developments and trends give rise to a number of risks, including:

The macroeconomic risk of a decline in credit quality and its systemic consequences for derivatives markets

As the world's leading economies tipped into recession, there was a widespread decline in the creditworthiness of corporate borrowers and rising concerns in some countries about households' ability to meet their loan payments. Solvency and debt refinancing became particularly acute problems for companies that had gone into the financial crisis with heavy debt loads, especially those that have been the targets of leveraged buyouts in recent years. Massive rating downgrades for securitisation vehicles, such as collateralised loan obligations, exacerbated the situation. This decline in the quality of corporate and household debt was an additional problem for banks, which were already suffering from the effects of the "toxic" assets and securitised real estate loan vehicles still on their books.

Future developments in these different areas and their consequences for financial markets will depend in part on the ability of governments to halt the macroeconomic recession and breathe new life into the banking and credit systems. A specific source of risk for financial markets lies in the credit derivatives markets, which may have to cope with growing numbers of "credit events" that could strain the insurance and compensation mechanisms and the market participants behind them.

The risk of inaccurate asset valuation and market manipulation stemming from great uncertainty about balance sheets and certain market transactions

The financial crisis has manifested itself through major price swings on many markets. In addition to legitimate price corrections resulting from changes in investors' expectations in a very gloomy macroeconomic environment, these sudden price swings were also caused by massive uncertainty about the soundness of certain banking and financial institutions' balance sheets and the lack of transparency in some OTC markets with regard to transactions and positions held. This situation could persist for several quarters to come despite action by governments and regulators to introduce safeguards and manage the crisis. The risks identified relate to:

- The valuation of assets and, thereby, the efficiency of investors' portfolio allocations;
- Market manipulation, which may result from rumour spreading or insider dealing since the high levels of price volatility will make it more difficult to detect.

Risk for the relative attractiveness of equity markets, as liquidity and the population of investors decline

Activity on primary equity markets in all geographical areas was hit hard by the financial crisis, as the number of IPOs decreased sharply and the amounts of capital raised by such operations declined. In some countries, this trend led to more delistings, as companies encouraged by very low valuations bought back their shares. Consequently, the trend towards more listed companies seen in recent years was reversed on most of the major western exchanges. On the secondary market, an analysis of transactions in 2008 also shows a major decline in trading in smallcaps and midcaps, which can undoubtedly be attributed to investors' lack of appetite in light of the massive uncertainty about how and when the crisis will end.

In the future, trading will depend heavily on how the economic recession ends and how well valuations bounce back. However, in addition to short-term developments, other factors may increase the risk of a longer-lasting slump in equity markets, especially for smallcaps and midcaps:

- Accounting and prudential rules for certain institutional investors, along with liquidity constraints for some fund managers, may lead to a decline in investment in smaller companies' shares because of the lack of liquidity and higher risks involved;
- The decline in financial intermediation for smallcaps is already obvious in some countries and it could intensify as investment banks redefine their business. This negative effect on liquidity and transaction costs could be exacerbated by the fact that exchanges cannot cross-subsidise the inherent costs of listing smallcaps and midcaps, because of competition from new trading platforms for blue chip stocks;
- Venture capitalists may limit their investments in companies because it is harder to exit deals through IPOs, which could lead to a longer-lasting slump in new listings.

Liquidity risk stemming from market fragmentation and a lack of transparency

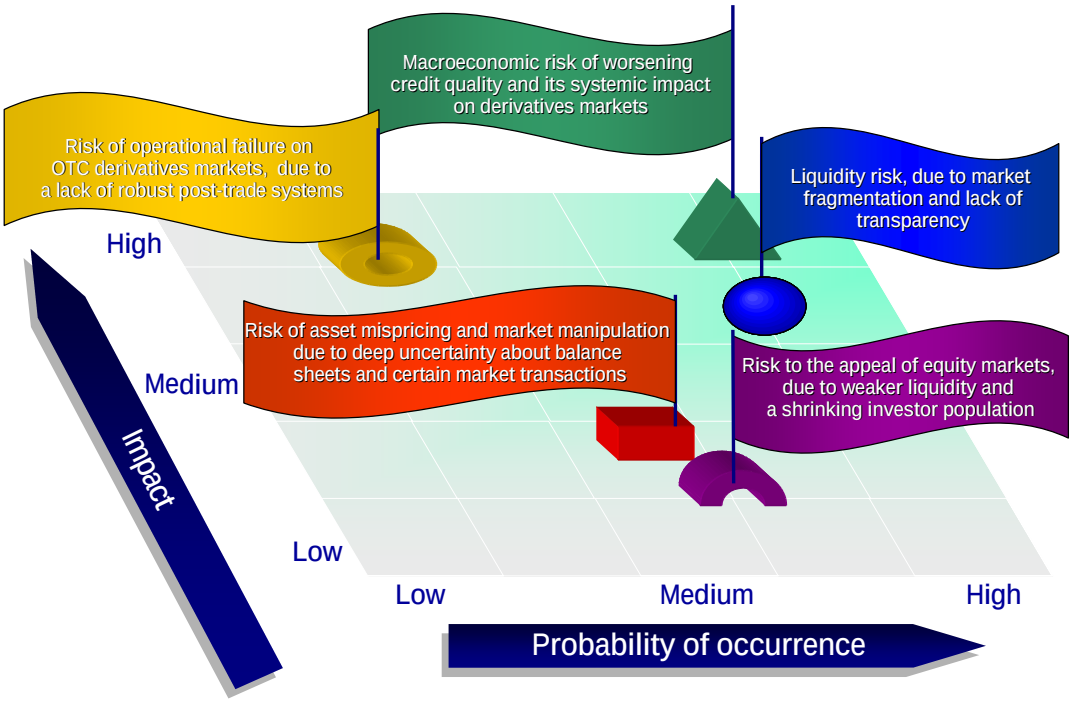
The general drive to reduce debt caused by the financial crisis translated into a decrease in the assets under management by hedge funds and a reduction in investment banks' principal trading, which uses up regulatory capital. At the same time, the new possibilities offered under MiFID translated into the emergence of new equity trading platforms, in competition with the order books of conventional markets, and a fragmentation of transaction flows. In light of all of these developments affecting both market participants and market structures we must consider:

- The risk for liquidity stemming from a decline in the overall volume of cash and forward trades on various regulated and OTC markets; the case of bond markets is noteworthy because liquidity could be severely diminished by a readjustment of banks' principal trading strategies and a persistent lack of transparency;
- The risk for liquidity on cash equity markets stemming from the mix of different trading systems with varying disclosure requirements; more specifically, there is a risk of a decline in the quality of price formation on benchmark markets.

The risk of system failure on OTC derivatives markets stemming from the lack of robust post-trade processes

The underlying growth trend of OTC derivatives markets is very strong, even though the financial crisis has led to a temporary lull. Ongoing financial innovation by fund managers is a natural factor favouring the growth of these markets. The severity of the credit and securitisation crunch, and its systemic consequences, brought a strong response from regulatory authorities and the financial community to ensure the security of credit derivatives markets. This response focused on greater control of counterparty risk. However, despite this progress, OTC derivatives markets as a whole, and the credit derivatives market in particular, are still vulnerable to major, and potentially systemic, risks.

RISKS FOR INTERMEDIARIES, LISTED COMPANIES AND INSTITUTIONAL INVESTORS



In light of the above risks, regulators have several possible courses of action:

- Enhancing monitoring and analysis of financial risks at the macroeconomic level and for market participants through closer collaboration between central banks, the industry and the regulatory authorities for banks, markets and insurance;
- Enhancing oversight of the quality of market disclosures and the lawfulness of financial transactions; for this purpose, the market abuse rules and disclosure requirements should be extended to OTC markets;
- Continuing efforts to adapt the national and European regulatory framework for listing smallcap and midcap stocks, in line with the action already taken to make equity markets more attractive;
- Continuing work to assess the impact of MiFID on the efficiency of the price formation mechanism and the liquidity of equity markets, including the implementation of indicators for transaction costs charged to investors and an examination of the uniformity of the rules applied in different trading venues;
- Enhancing transparency on primary and secondary debt instrument markets and continuing work to make OTC derivatives markets more secure, including implementation of clearing solutions.

➡ TRENDS IN RETAIL SAVINGS AND FUND MANAGEMENT MARKETS AND THE RISKS FOR RETAIL INVESTORS

The financial crisis and its consequences for the real economy have had a major impact on the investment behaviour of French households. With declining share prices, falling yields on bond markets and a gloomier economic outlook, households shifted their savings out of long-term assets and flocked to the most liquid short-term financial instruments. These portfolio reallocations were accentuated by banks out of a concern for maintaining the amounts of investments shown on their balance sheets. Bank deposits accounted for 49.3% of households' financial investment flows in 2008. In contrast, the demand for assets with high equity content (equity and diversified funds, unit-linked life insurance) reached a new low. Despite the often-highlighted diversity of investment structures, similar patterns were seen in the other European countries.

The small share of listed equities in French households' portfolios of financial assets meant that the big drop in share prices had only a moderate impact on the value of these portfolios. Furthermore, at the end of 2008, following falls on equity markets and portfolio reallocations away from shares, the proportion of listed shares held directly or through investments in collective investment schemes in households' financial assets stood at 11.1%, down by 5.5 percentage points from before the financial crisis hit.

Assets under management by conventional collective investment schemes were down sharply over 2008, as depositors withdrew their funds and investments posted very negative performances in certain market segments, and in the equity market in particular. The hedge funds' assets under management and investment performances had been strong up until the beginning of 2008. The industry was then hit by plunging equity markets and the brutal tightening up of terms for financing hedge fund strategies. The adverse effect on the funds' performances spurred investors to withdraw their assets in waves, further fuelling the downward cycle of asset sales and falling prices. The Madoff scandal merely seemed to add to the gloom. The withdrawals of assets highlighted the liquidity risk incurred by some vehicles, especially funds of hedge funds. Private equity funds also found themselves unable to continue making leveraged buyouts and some of them ended up in other forms of investment with little connection to their original mission, such as buying corporate debt securities impaired by the credit market crisis.

The overall difficult situation for fund managers meant that few markets showed any growth. One notable exception was the market for exchange-traded funds (ETFs), which continued to enjoy growing investment inflows in Europe and the United States in 2008. This market benefited from the flight to simplicity by large numbers of investors.

The financial crisis hit all asset managers hard, but it primarily affected some of the smaller managers, especially those specialising in market segments or investment strategies that were more acutely affected by the disappearance of liquidity on financial markets. On the whole, the largest participants were in a better position to cushion the impact of withdrawals because they offer a diversified range of management services. The quest for financial soundness to cope with new risks, such as liquidity and counterparty risks, and the determination to achieve economies of scale led to some large-scale joint ventures, like the one between CAAM and SGAM. In addition to these changes, the financial crisis and the decline in assets under management caused temporary changes in marketing strategies, especially with regard to distribution and product ranges.

The current trends involve a number of risks, including:

Risk of inefficient portfolio allocation stemming from an excessive and potentially lasting switch to liquid assets

With the financial crisis, households reallocated many of their investments towards bank deposits out of concern about exposure to the volatility and falling prices seen on stock markets. Their allocation decisions are prudent and guided in the short-term by a desire for security and the poor performances of long-term assets, however these decisions could be maintained in the longer term, keeping households out of equity markets for too long, as patterns observed during previous stock market corrections would suggest. This behaviour could prevent households from benefiting from the medium-term recovery in stock prices, once the process of overcoming the financial crisis has started. It would also be inconsistent with the need to build up long-term savings, especially in preparation for retirement.

Risk for marketing stemming from rapid changes in the range of financial products and conflicts of interest between savers and distributors

The financial crisis and the very important changes in the macroeconomic environment were accompanied by rapid changes in the supply and demand patterns for financial products, as can be seen in the growth of term deposits in some countries or the growth of structured bond products offered by banks. The liquidity crunch affecting banks and their concern for maintaining savings deposits on their balance sheets may have influenced their distribution policies for savings products and the investment advice that they provide to retail customers. In this context, risks of mis-selling need to be emphasised. These risks stem from either poor understanding of a recently recast product range or from a conflict of interest between savers and distributors.

Risk for transparency and investor understanding stemming from the complexity of certain mutual funds or the operating procedures of the secondary market for such funds

The range of mutual funds has grown considerably in recent years, creating more complexity for investors. On the one hand, mutual funds are relying increasingly on sophisticated management techniques and tend to offer various forms of risk structuring or access to new classes of assets that are often illiquid. On the other hand, a secondary market for listed funds, complete with market makers, is now taking the place of conventional procedures for redeeming collective investment scheme units or shares, which were handled by fund promoters through private transactions. There is nothing exclusive about this complexity. Complex and hard to value products are less liquid, which means it is structurally in their interest to be listed on a market. This explains the success of certain complex ETFs and could point to success for certain closed funds.

Access to a broader spectrum of asset classes and to financial innovations that improve risk management could provide substantial benefits for investors. But the shift of funds in this direction does carry some risks. We shall emphases the risks for transparency and investor understanding arising from various complexity factors:

- Risk of poor investor understanding of products and the risks involved relating to the structure of the investment vehicles (counterparty risks and illiquid underlying assets) or to the use of complex indicators that are not really representative or to performances that not all of the investors can observe.
- Risk of an inaccurate assessment of costs associated with the operation of the secondary market. Such costs are often hidden and arise from the structuring of products and/or intermediation.

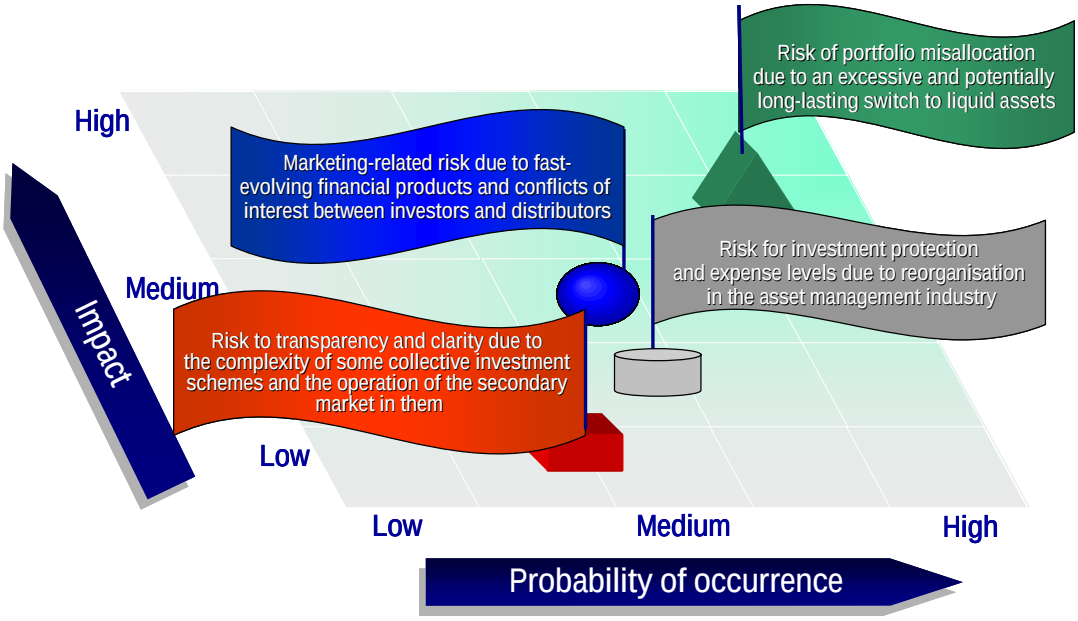
Risk for the protection of savings and level of fees stemming from reorganisation in the asset management industry

Reorganisation of the industry in preparation for the entry into force of the UCITS IV Directive has resulted in increasing complexity in the value chain and outsourcing of certain asset management and custody activities. These changes benefit market participants when they make it possible to diversify the supply of funds and rationalise the production

process, as well as enabling specialisation that generates economies of scale and lower fees. However, they do create risks for investors:

- If the changes occur when there is inadequate harmonisation of national laws resulting in unequal protection for investors, as shown in the Madoff case;
- When competition is not free enough to ensure that economies of scale are passed on in full to investors in the form of lower fees, especially when there is no true openness of distribution structures.

RISKS FOR RETAIL INVESTORS



The above risks suggest the following courses of action for regulators:

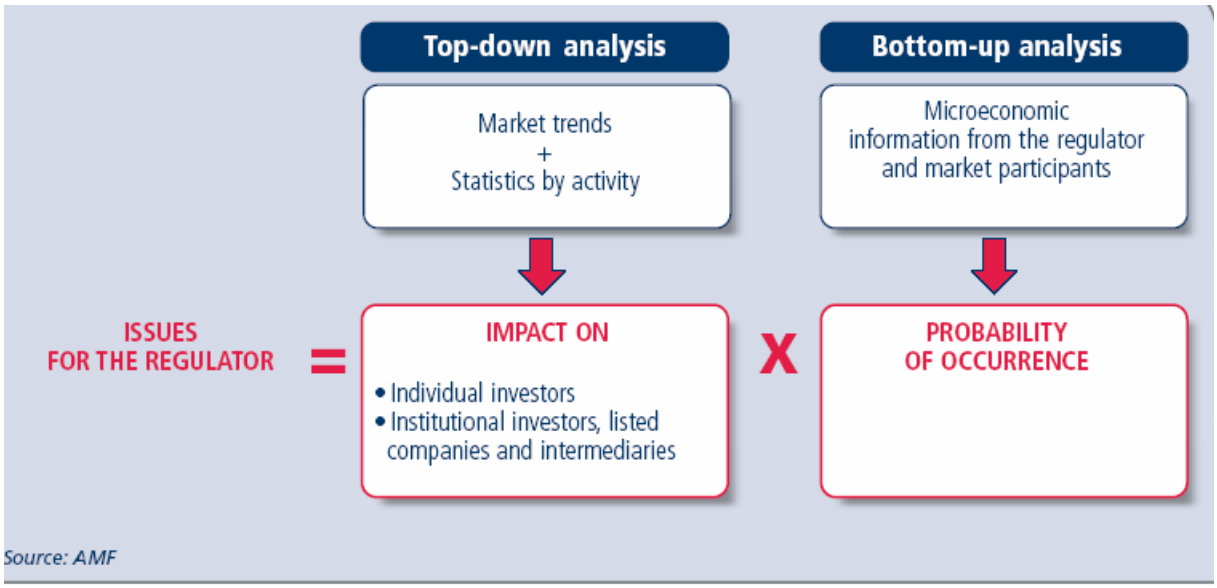
- Continuing financial education efforts aimed at retail investors, by enhancing training and extending the distribution of educational documents to the points of sale for financial products;
- Ensuring compliance with the duty to provide advice and manage conflicts of interest in the distribution networks for savings products, by accentuating and harmonising supervision of marketing;
- Enhancing the transparency and investor understanding of financial products, by recasting the documents presenting collective investment schemes aimed at investors and harmonising the marketing rules for financial products covered by different countries' laws;
- Ensuring that the riskiest and most complex products remain the exclusive preserve of qualified investors;
- The prospect of reorganisation of the industry under the UCITS IV Directive calls for enhanced harmonisation of the rules for collective investment schemes at the European level to prevent regulatory arbitrage that might undermine investor protection. It also calls for greater attention to the procedures for outsourcing or delegating certain business activities.

INTRODUCTION

The AMF's annual risk mapping exercise analyses short-term and medium-term economic and financial trends in order to identify the risks for the financial sector and its main participants. The risks identified are then ranked according to the probability of their occurrence and their potential impact on the markets and participants concerned.

For each main area of interest, the general methodology analyses and compares microeconomic information from market participants and regulators and macroeconomic information about overall trends in the savings market and financial markets. The scope of the exercise corresponds to that of the market regulator's jurisdiction and breaks down into two main parts: retail savings and fund management markets and wholesale financial markets.

AMF risk ranking method



The previous risk mapping exercise, published in April 2008[1], helped to shape the work programme of the AMF. Several initiatives were undertaken relating to the sources of risk identified in order to reduce the probability of their occurrence and their potential impact (see figures below). Three main areas for action were involved:

Problems relating to the financial crisis and credit ratings

The 2008 risk mapping exercise highlighted a number of risks relating to the macroeconomic and financial environment and the unfolding of the financial crisis: the risk to other assets of contagion from the subprime crisis, the risk relating to the activity of rating agencies and the risk of post-trade system failure on OTC markets.

In response to these risks, the AMF played a very active role in shaping international responses to the crisis within such bodies as the FSF (Financial Stability Forum), IOSCO (International Organization of Securities Commissions and CESR (Committee of European Securities Regulators). The AMF then helped to define courses of action to strengthen the international and European financial regulation architecture, by contributing to the work of the Task Force on institutional capacity building at the CESR, in conjunction with the de Larosière Group. Finally, the AMF co-chaired the IOSCO task force on unregulated markets and products set up on the basis of the recommendations made by the G20 in November 2008.

[1] The 2008 risk mapping exercise can be found on the AMF website at the following address: http://www.amf-France.org/documents/general/8292_1.pdf.

The AMF made its contribution to shaping a new regulatory framework for credit rating agencies by providing technical assistance to the Ministry of the Economy, Industry and Employment during the negotiations on a proposed regulation for credit rating agencies and by producing studies and analyses, which it then disseminated to Members of the European Parliament and international bodies. At IOSCO, the AMF also took part in making recommendations about credit rating agencies' compliance with their code of conduct, which was amended in May 2008 to enhance the transparency of the rating process. On the more general topic of credit risk, the AMF chaired the IOSCO group on due diligence and the valuation function of fund managers.

The AMF started discussions on regulating certain practices by financial intermediaries, by leading the domestic working group on regulating short selling and participating in the CESR group on this practice.

Smooth operation and attractiveness of financial markets

A number of risks relating to the operation of financial markets had also been identified, including the risk for valuation of assets resulting from a lack of liquidity and market depth, the risk of fragmentation of liquidity stemming from competition between different trading systems and venues, the risk of falling numbers of listings and loss of competitiveness for regulated markets and, finally, the risk of inadequate corporate governance in listed companies and a lack of transparency in takeover transactions.

The AMF responded to the identification of these sources of risk by working to clarify the requirements for trading securities, by taking an active part in CESR's work on the transparency of markets in debt instruments, centralised systems for reporting transactions to regulators and organising the supervision of branches for the purposes of MiFID. The AMF also took part in discussions on strengthening post-trade infrastructures and on the security of European OTC derivatives markets, as part of the work on clearing organised by the Paris Market Committee and the work organised by Paris Europlace on market infrastructures. The AMF also took part in discussions at CESR on the regulators' role in monitoring the implementation of the code of conduct for post-trade infrastructures.

The AMF's work on corporate governance included improving the transparency of takeover transactions by proposing a reform of the procedures for calculating notifiable shareholdings to cope with the sophisticated techniques that some operators have used to take large positions in listed companies and a reform of statements of intent[2].

Finally, the AMF responded to the falling numbers of listed companies and specific issues relating to the listing of smallcaps, midcaps, and foreign stocks by enhancing fluidity between trading platforms, increasing the international visibility of French platforms and by developing bilateral relationships to facilitate cross listing with other regions in the world.

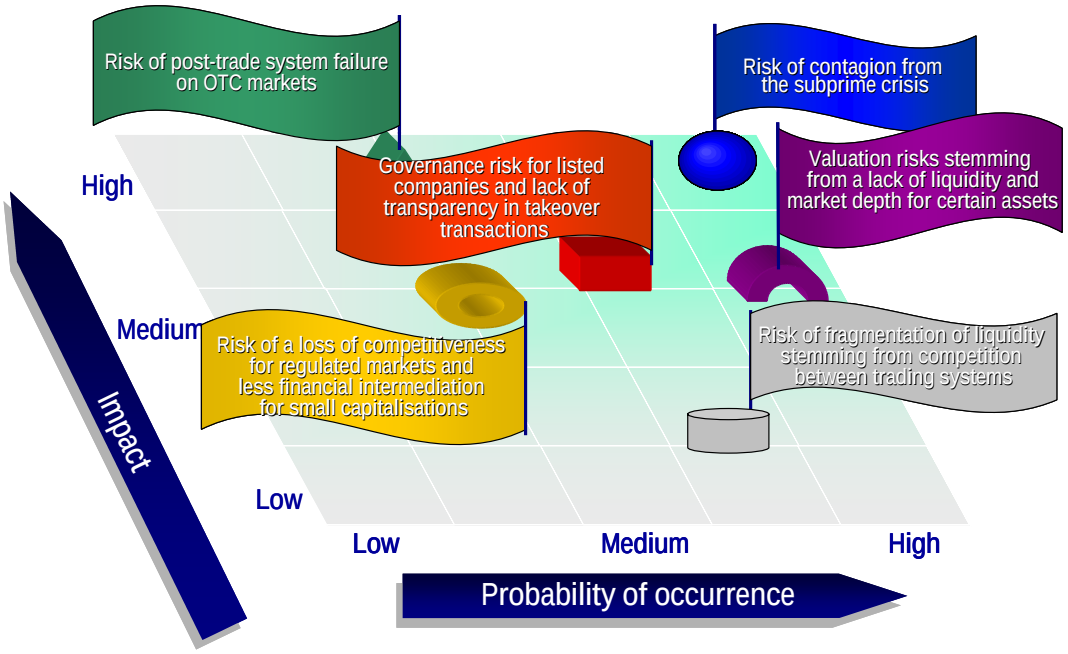
Savings and asset management

The 2008 risk mapping exercise highlighted the risks for savings and asset management. These included the risk of regulatory arbitrage, which is harmful for investors and stems from the fragmentation of the legal frameworks governing the various types of savings products, the risk of mis-selling and poor investor understanding of some products because of their complexity, the risk of inefficient portfolio allocation by households and, finally, the risk of insufficient liquidity and inaccurate valuation of certain types of funds.

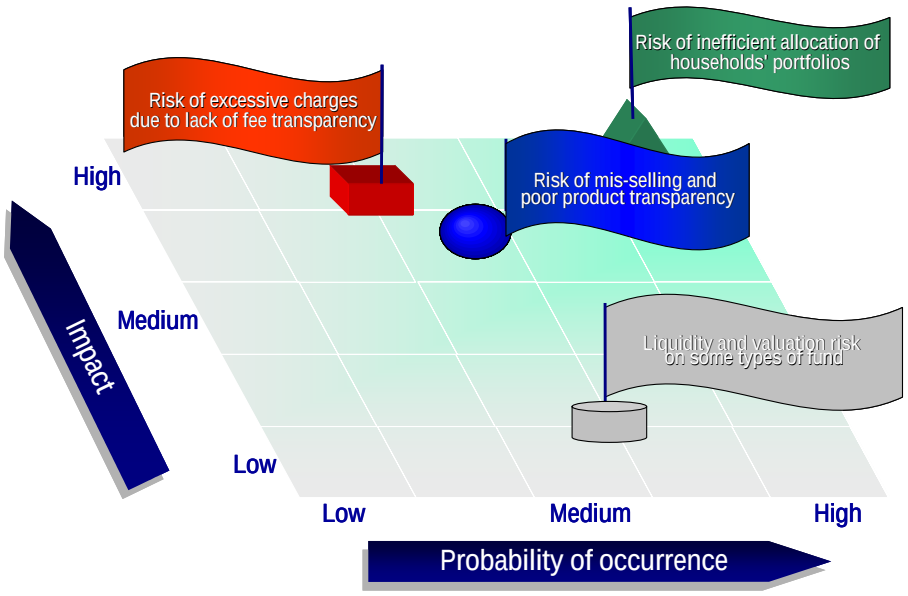
[2] The Decree of 30 January 2009 is based on the Economic Modernisation Act and it includes some of the recommendations made by the AMF for legislative amendments.

Summary of the Risks Published in April 2008:

Wholesale financial markets



Retail savings and fund management markets



The AMF took a number of initiatives to deal with these risks. First of all, it took part in rationalising the scope of savings product regulation by leading national initiatives to enhance the harmonisation of the rules applying to the marketing of collective investment schemes, structured investment products and life insurance products. It also contributed to the European Commission's call for evidence on rules for marketing "substitute" products. The AMF

took an active part in CESR's work on investor information aimed at shaping the technical provisions of the future UCITS IV Directive concerning the Key Information Document. The AMF also participated in the consultation organised by the Ministry of the Economy, Industry and Employment, which led to the December 2008 decree requiring agreements between the producers and distributors of financial products on the information that producers must provide to distributors to ensure that they have a proper understanding of the products that they market. The problems encountered by some "money market funds" and poor investor understanding of some of these vehicles gave rise to a working group tasked with coming up with proposals to improve regulation with regard to the investment rules for money market funds on the one hand, and with regard to the marketing rules and investor information requirements applying to them, on the other hand.

Consideration of the liquidity risk incurred by some collective investment schemes led to changes in regulations, such as the new possibility for ARIA funds with streamlined investment rules to limit redemptions through gate clauses, which was introduced in October 2008. The AMF led a number of discussions on the strategic allocation of investment flows by studying employee savings schemes and, more generally, long-term savings patterns.

The 2009 risk mapping exercise

This 2009 issue of "Risk and Trend Mapping for Financial Markets and Retail Savings" follows the same three-part outline as the previous edition. The first section provides an overview of financial market events in 2008 and in early 2009. The second section deals with current trends on wholesale financial markets in greater detail and identifies the sources of risk for listed companies, investors and financial intermediaries. The third section focuses on developments in retail savings and fund management markets and the resulting risks for retail investors. An executive summary is included at the start of the report. It covers all of these analyses and proposes some short-term and medium-term courses of action for the market regulator.

GLOBAL ENVIRONMENT IN 2008,

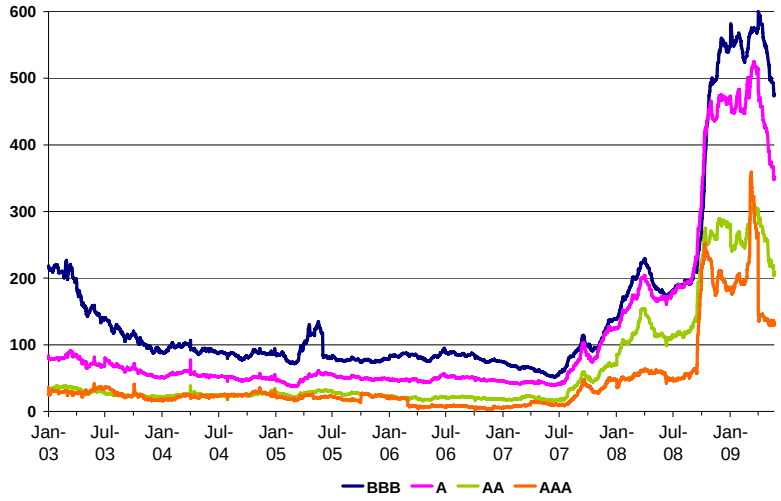
A YEAR OF EXTREMES FOR FINANCIAL MARKETS

The financial crisis that started in the third quarter of 2007 intensified and spread in 2008. The turmoil was initially limited to the money market, but it then spread to the whole credit market, before propagating to the equity market and then to the real economy. Underlying the spread of the crisis was many market participants' need to reduce their debt, which led to a self-perpetuating cycle of asset sales and widespread falls in market prices for securities. The start of 2009 saw a persistence of the existing harsh trends for financial markets and, more specifically, for equity markets. However, after a very gloomy start to the year, signs of market recovery and stabilisation appeared in the second quarter. Intervention by governments, central banks and regulators played a fundamental role in these developments.

The crisis spread to the entire credit market

Risk premia on credit markets surged in 2008 for much more than just US and European mortgage debt. Higher risk premia were the result of investors' growing risk aversion and fears of a general decline in the creditworthiness of corporate issuers, and even some sovereign issuers (Figure 1). The widening of spreads was limited at first, but it accelerated in September, following the collapse of Lehman Brothers. This meant that all borrowers had to cope with a jump in their financing costs and some even had trouble obtaining the funds they needed to continue doing business. This was particularly true for banks, which had great difficulty gaining access to debt markets at the time. The banks' refinancing problems finally forced governments and central banks to step up their support for the financial system.

Figure 1: iBoxx indices and credit spreads (bps)



Source: Thomson Financial

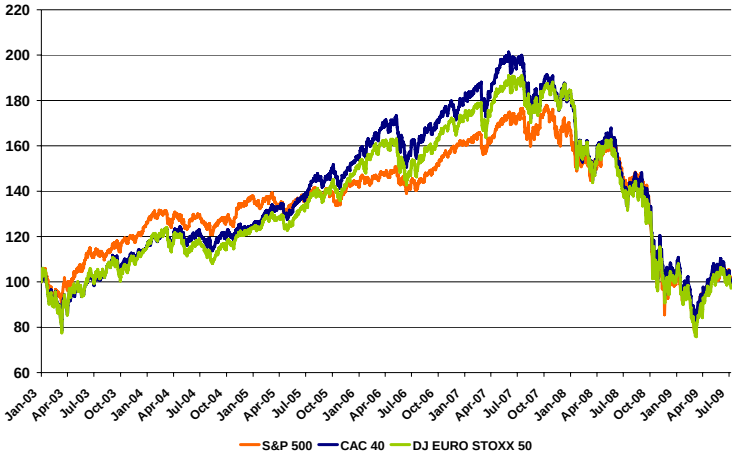
The worsening crisis on the credit market also created problems for some leading non-bank financial institutions. Monoline insurers, which were undercapitalised and heavily exposed to securitisation markets, became vulnerable as their balance sheet risks grew, their portfolios of assets, including CDOs and ABSs, were impaired and their solvency was undermined. This situation led credit rating agencies to downgrade monoline insurers' credit ratings, which meant that the latter had to provide more assets to collateralise their current contracts. These collateral requirements created untenable financial tensions, leading to several bankruptcies, like the emblematic failure of AIG, which was bailed out by the Federal Reserve and then nationalised. The American mortgage refinancing agencies, Fannie Mae and Freddie Mac, were also undercapitalised and hit hard by the real estate crisis, as mortgages and RMBSs in their books were impaired. These agencies play a critical role in mortgage financing in the United States and their rescue took the form of a government takeover.

Plunging equity markets

Equity markets, which managed to limit their fall to some extent in 2007, underwent an outstandingly severe correction that started in 2008 and lasted until the first quarter of 2009. World stock markets plunged as a result of a combination of factors. First of all, the thesis of decoupling between the real economy and the financial economy had a popular following when the financial crisis started, but investors stopped seeing it as a credible thesis. Once it became certain that the real economy would suffer as a result of the problems afflicting banks and the losses suffered by various economic agents, equity markets adjusted to the new outlook for growth and corporate earnings. Then, some investors and collective investment schemes had to obtain cash and limit their leverage. This led to unplanned asset sales of massive proportions in some cases, accentuating the decline warranted by the deterioration of the economic "fundamentals". This was particularly true for hedge funds, when their prime brokers forced them to reduce their leverage and increased the haircuts applied for repurchase agreement transactions. The negative impact on hedge funds' performances and the tightening up of financing terms led investors to redeem their shares or units in the funds, further fuelling securities sales.

After hitting bottom in March 2009, stock markets started to recover in the second quarter. Massive government intervention in support of banks and macroeconomic regulation made a big contribution to restoring investment inflows on equity markets, even though these markets remained fragile in the absence of any clear indication about the short-term and medium-term direction of macroeconomic and financial developments.

Figure 2: Stock market indices

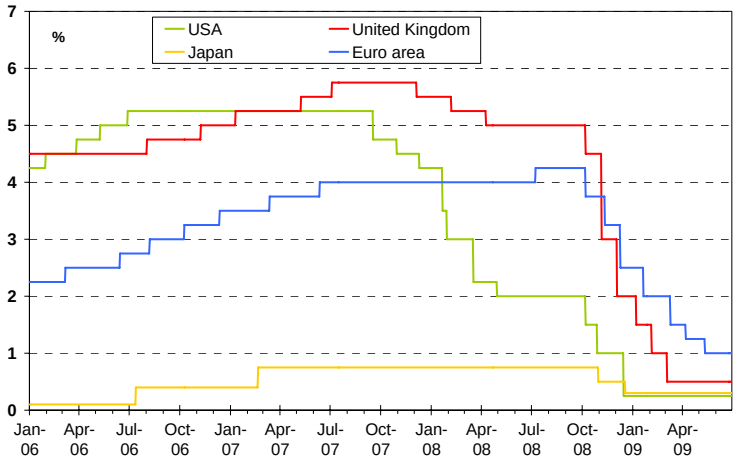


Source: Thomson Financial

Falling yields on bond markets and looser monetary policies

Monetary policies were loosened up considerably in 2008 (Figure 3). In the United States, key rates reached their lowest level to support economic growth, financial markets and the profitability of financial institutions by increasing lending margins. The European Central Bank took similar action, but with a major time lag compared with the Federal Reserve. Pressure on consumer prices created by rising commodity, food and energy prices up until the end of the third quarter of 2008 delayed the loosening of monetary policy (see box on following page). However, starting in October, there were massive cuts in key rates, which shed 275 basis points to stand at 1% in mid-May 2009.

Figure 3: Monetary policy rates

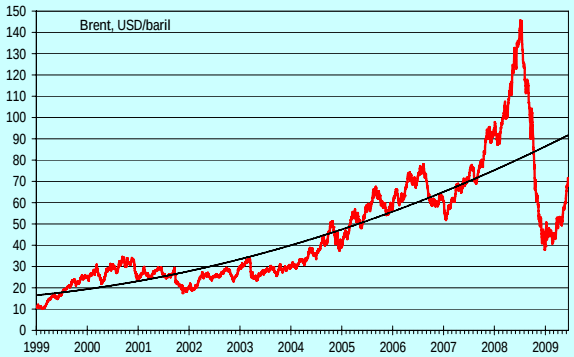


Source: Thomson Financial

The oil price controversy

Commodity prices and, more specifically, oil prices, have fluctuated widely in recent years. From the start of the decade until the third quarter of 2008, oil prices posted very rapid and virtually uninterrupted increases, with the price of a barrel of Brent hitting a high of nearly USD 150 in July 2008. After that, the oil market plummeted, leading to a massive fall in the price of a barrel in the first quarter of 2009, followed by a resumption of the upward trend.

Oil prices



Source: Thomson Financial

Analyses have been conducted to get a clearer idea of the factors behind the wide fluctuations in prices and, more specifically, their very rapid increase up until mid-May 2008. In simple terms, two quite different views are expressed. The first highlights the role of "financial" investors and, more specifically, new index investors, who buy commodities indices through such vehicles as Exchange Traded Funds and certificates as part of their overall portfolio allocation*. The individual investors' positions are quite small, but the aggregate investment flows are quite large compared with the size of the commodities markets. The surge in oil prices in the first part of 2008 could be explained by investors moving out of falling markets for conventional assets, such as equities and corporate debt securities, and into this new market. Similarly, the huge drop in oil prices seen in the fourth quarter of 2008 could be explained as part of a shift towards re-correlation of all markets triggered by investors' cash needs and moves to reduce leverage.

The second view highlights the role of fundamentals, yet does not invalidate the thesis of the "financialisation" of the oil market**. There is a serious mismatch of supply and demand on the physical oil market for clearly identified reasons. On the one hand, demand for oil from emerging countries has been boosted by very strong economic growth. On the other hand, oil production is increasing at a much slower rate. This mismatch has been accentuated by subsidies in some emerging countries that protect oil consumers from price increases. Therefore market mechanisms are inoperative since government subsidies mean that the demand for oil from consumers and businesses is not tempered by rising prices.

In any event, the recent period has seen the arrival in force of conventional investors on the oil market, who invest for the purposes of managing their portfolios and diversifying their investments. The exact consequences that such developments have on the operation of the market warrant further study.

** This argument was illustrated in testimony to the US Senate from M. W. Masters, a portfolio manager (http://hsgac.senate.gov/public/_files/052008Masters pdf).*
*** This argument was put forward, for example, in the preliminary report of the Interagency Task Force on Commodity Markets, dated July 2008 (http://www.cftc.gov/stellent/groups/public/@newsroom/documents/file/itfinterimreportoncrudeoil0708.pdf).*

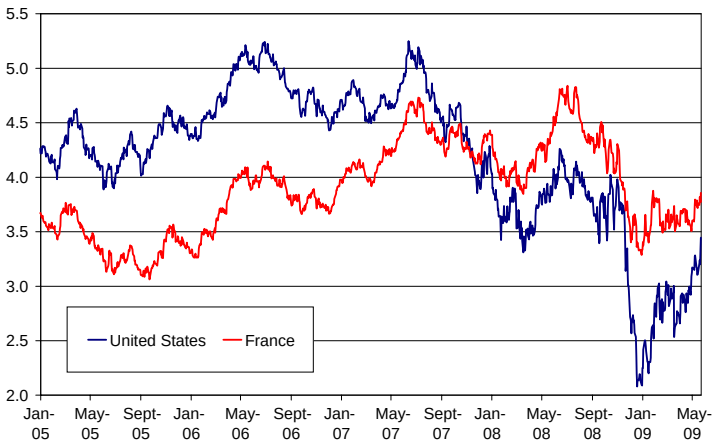
In parallel to conventional monetary policy moves to cut interest rates, central banks initiated very determined actions combining management of banking liquidity and, more recently, implementation of "unconventional" measures. The collapse of Lehman Brothers in September 2008 and its negative impact on the operation of the money market marked a turning point in these matters. Central banks sought to pump liquidity into the banking system and relieve the complete seizing up of the interbank market following the collapse of Lehman Brothers. On the other hand, they sought to ease the prevailing financing terms in the economy by attempts to act directly on the prices of certain assets. Therefore, central banks pumped large amounts of cash into banks, in some cases adding new assets to the list of eligible collateral for repurchase agreement transactions, and some central banks bought debt securities and bonds outright to have a direct impact on the rate curve as a whole[3]. Substantial increases in the total assets of the Federal Reserve and, to a lesser extent, the European Central Bank, testify to these large injections of cash (Figure 4).

Figure 4: The Federal Reserve's assets
(USD billion)

Source: Federal Reserve

Interest rate movements on government bond markets in 2008 reflected changes in monetary policies. There were two very distinct phases (Figure 5). Up until the third quarter of 2008, inflationary pressures were a factor for rising long-term yields, which were more pronounced in Europe than in the United States. Fading fears of widespread surges in consumer prices, combined with an increasingly gloomy macroeconomic outlook and clearly expansionary monetary policy in the United States and Europe, led investors to flock to risk-free assets, triggering a widespread fall in long-term yields. In the United States, yields on 10-year government bonds stood at around 2% at the end of 2008, representing a fall of nearly 200 basis points compared with the beginning of the year. In the euro area, the fall in yields was much smaller, but still significant, at approximately 100 basis points over the same period.

Figure 5: Long-term government bond yields (%)



Source: Thomson Financial

[3] See "Unconventional monetary policy measures", *Focus*, no. 4 – 23 April 2009, Banque de France, or "Unconventional monetary policy measures in response to the crisis", O. Loisel and J-S Mésonnier, *Current issues*, no 1 – April 2009, Banque de France.

The decline in long-term yields that started in mid-2008 halted at the beginning of 2009. The rise in long-term rates at that time can be attributed in part to the predictable consequences of the stimulus packages implemented in all countries, which foretell major deepening of fiscal deficits and more government bond issues to cover borrowing requirements.

Spread of the crisis to currency markets and the banking systems in certain emerging countries

Worsening economic and financial conditions and the very strong risk aversion of investors and financial intermediaries had repercussions for certain emerging economies, especially those that rely heavily on foreign currency financing. The slump in world trade eroded current account balances, dragging down exchange rates, draining the foreign exchange reserves of countries with fixed exchange rates and halting investment inflows. The depreciation of local currencies placed a great burden on domestic economic agents with debts denominated in foreign currencies, including banks and businesses, leading to solvency problems in some cases.

The financial crisis took a particularly heavy toll on Central and Eastern European economies, but to varying degrees depending on the country. The Baltic countries found themselves in the direst situation, since they had to cope with both a currency crisis and a banking crisis at the same time.

The pressures on exchange rates in Central and Eastern European countries in the early days of the financial crisis were merely a catalyst for a macroeconomic and financial situation that was already very shaky, but its fragility had been masked by strong economic growth in the period from 2002 to 2007. As these countries caught up economically, domestic demand increased substantially and a current account deficit appeared, which was financed by investment inflows and, more specifically, by lending from Western European banks for acquisitions of local banks and lending to domestic companies. This led to an increase in foreign debt denominated in foreign currencies. It was inevitable that, when investors lost confidence in the soundness of these countries' economies, the cycle would be broken and result in a credit crunch.

The gravity of the situation and the growing difficulties of these countries' main creditors, which were German, Italian, Swedish and Austrian banks, meant that international institutions, primarily the IMF, had to intervene in some Central and Eastern European countries. This intervention took the form of loans for a total of some USD 80 billion as of the end of March 2009. The table below summarises the loan amounts by country.

Table 1: Amounts of loans from international organisations to Central and Eastern European countries (USD billion)

Country	Agreement date	Lender	Amount	Conditions
Belarus	January 2009	IMF	2.5	
Hungary	November 2008	IMF, European Union and World Bank	25.1	Cutting public spending
Latvia	December 2008	EU, IMF, EBRD, Sweden, Czech Republic, Poland and Estonia	10	Improving the balance of payments
Romania	March 2009	IMF, EU, World Bank, EBRD	20	Fiscal reforms
Serbia	March 2009	IMF	4.2	Fiscal rigour
Ukraine	November 2008	IMF	16.4	Fiscal rigour
Total			**78.2**	

Source: IMF, Natixis, press articles

Losses for the financial system in the neighbourhood of USD 4 trillion according to the International Monetary Fund

The International Monetary Fund has conducted a periodic exercise to estimate the losses incurred by the financial community as a whole, ever since the financial crisis struck and all through its spread to the credit market as a whole. These losses concern the portfolios of claims that financial intermediaries hold directly and portfolios of securities acquired on the credit market. The latest estimates dated April 2009 show potential losses for the period from 2007 to

2010 exceeding USD 4 trillion. These losses can be attributed to loan portfolios, consisting primarily of property loans, and securities portfolios in nearly equal amounts (Figure 6). Banks, especially US banks, will bear most of these losses, with estimated writedowns of slightly more than USD 1.6 trillion for US banks, as opposed to USD 737 billion for European banks[4] (Figure 7).

Losses stemming from the credit market crisis
(USD billion)

Figure 6: By assets

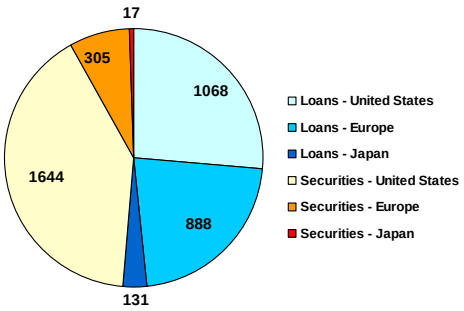
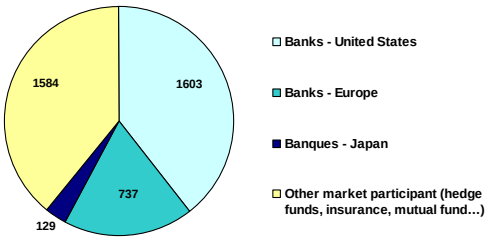


Figure 7: By market participant



Source: IMF

[4] These figures should be interpreted with great care. They are estimates that can vary significantly from one institution to another, depending on the calculation method and the assumptions used. The ECB published its own estimate of euro area banks' losses in the latest edition of the Financial Stability Review (June 2009). The ECB's estimate is substantially different from that of the IMF.

Government Intervention

The banks' serious problems and the risk of a credit crunch led to massive government intervention in various forms. Government action was generally aimed at preventing bank failures and enabling banks to obtain refinancing on financial markets. The main forms of intervention were:

- ***Expansion of deposit insurance schemes*** to limit the risk of a bank run that could cause the banks concerned to fail. This was one of the first steps taken by governments as the crisis unfolded to respond to the rush of depositors withdrawing their deposits, triggered by rumours of default, which ultimately led to the failure of the British bank, Northern Rock, in September 2007. The schemes were expanded by raising the maximum amount of insured deposits. This was the solution applied in the United States, the United Kingdom and Spain. In Germany, the cap on insured deposits was eliminated altogether in October 2008.
- ***Government guarantees for bank debt*** in order to give banks access to the resources that they need to finance their lending. This supply of medium-term cash took different forms in different countries. In the United States, Germany, the United Kingdom, Spain and Italy, the government guaranteed banks' new bond issues. Under the German scheme, for example, the government guarantees for banks' new debt issues came to EUR 400 billion for maturities up to five years. The guarantee covers interbank loans, commercial paper, covered bonds (Pfandbriefe) and ordinary bonds. In the United Kingdom, the government guarantee for new bank debt came to GBP 250 billion and banks also have the option of exchanging highly-rated Asset Backed Securities (ABSs) for Treasury bills, at a discount and subject to paying a commission. In France, the system was based on the creation of a special body, Société de Financement de l'Economie Française (SFEF), which was tasked with issuing bonds to raise funds that it then lends to banks. SFEF was authorised to issue up to EUR 320 billion in debt by the end of 2009.
- ***Government funds to replenish the capital of many financial firms***, or even nationalisation, so that banks can increase their capital ratios and maintain adequate solvency. This was done in two ways:
    - The first way was to *strengthen the numerator of the capital ratio* by injecting capital directly into the banks. In the United States, for example, USD 265 billion out of the USD 700 billion in the Trouble Asset Relief Program (TARP) was injected into banks' capital in the form of subordinated debt, preferred shares and ordinary shares. The TARP funds came on top of other specific recapitalisation efforts, such as the nationalisation of Fannie Mae and Freddie Mac, and the bailout of AIG. The British government committed itself to injecting at least GBP 50 billion of capital into British banks. In France, EUR 40 billion was initially budgeted to recapitalise banks, but the European Commission later trimmed this figure to EUR 21 billion. The recapitalisation was carried out through Société de Prise de Participation de l'Etat (SPPE) with preferred shares, subordinated debt and ordinary shares. Germany's recapitalisation plan came to EUR 80 billion. In most cases, capital injections carried restrictive conditions, which suspended the payment of dividends to shareholders and gave the government a say in the governance of the institutions concerned. In France, the government money came with the proviso that the bailed out banks must participate actively in financing the economy by facilitating loans for households and businesses.
    - The second way was to *reduce the denominator of the capital ratio* by reducing banks' holdings of certain claims, primarily by having the government buy them or through an ad hoc structure called a defeasance structure that was supposed to relieve banks of their toxic assets and restore market confidence. Up until now, governments have made less use of this tool. For example, the American Troubled Asset Relief Program included a provision for purchasing banks' toxic assets, even though the bulk of the funds initially earmarked for this purpose were ultimately used for direct injections of capital. At the end of March 2009, the United States started a 500-billion-dollar programme to buy up US banks' toxic assets. In Switzerland, the Central Bank bought some USD 40 billion-worth of illiquid assets from UBS. In the United Kingdom, government intervention included a guarantee for Asset Backed Securities (ABSs) and protection against future losses in relation to one or more predefined portfolios of assets.
- ***Greater flexibility in the enforcement of accounting standards*** and, more specifically, allowing the reclassification of certain assets so that they do not have to be marked to market. The amendments to accounting standards that the European Commission adopted in October 2008 allowed European Union companies to reclassify their "assets held for trading" as "assets held to maturity", as US companies are allowed to do, so as to avoid sudden impairment of assets.

At the same time as governments provided this direct support to the financial sector, they implemented more or less massive macroeconomic stimulus packages. Meanwhile, market regulators in several countries imposed temporary bans on short selling of financial stocks in order to stabilise financial markets.

TRENDS IN WHOLESALE FINANCIAL MARKETS AND RISKS FOR INTERMEDIARIES, LISTED COMPANIES AND INSTITUTIONAL INVESTORS

I – CREDIT AND EQUITY MARKETS

1. Investors in debt markets are more selective

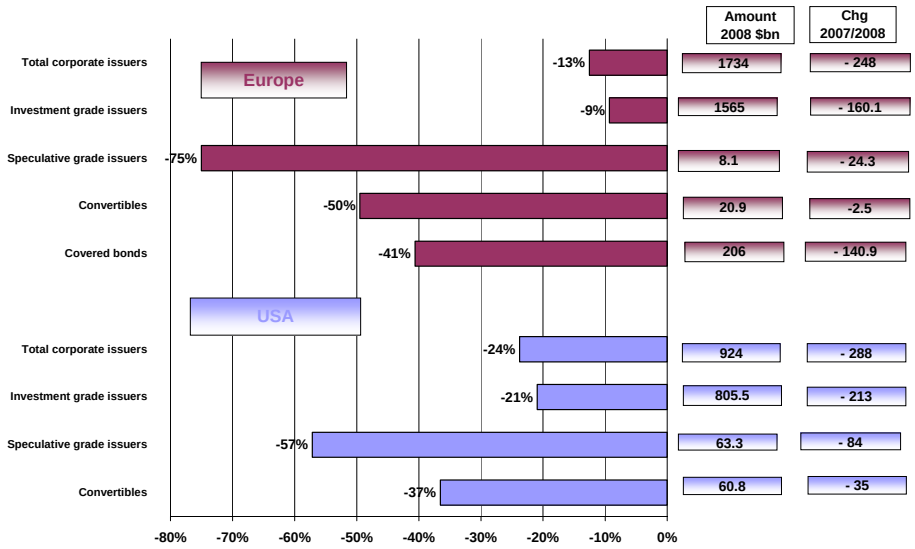
A large drop in corporate high yield issuance and great mistrust of banks

Recent developments on the primary credit market reflected contrasting trends, depending on the market segment under consideration. The events of 2008 reflected a major correction for past excesses and greater selectivity on the part of investors. The financial soundness of many businesses, judged by their earnings and generally low debt ratios, gave them fairly easy access to market financing, despite the severity of the crisis in some segments of the credit market and the spread of the financial crisis into the real economy. Over the year as a whole, in 2008, corporate issuance from all sectors taken together, ultimately posted a moderate decline (Figure 1). The biggest drop was seen in the United States, the epicentre of the economic and financial crisis, with a 24% decline compared with 2007. Nevertheless, corporate debt issues did raise USD 924 billion.

Not surprisingly, the drop in investors' demand for the riskiest securities and fears about declining creditworthiness did lead to a very big decrease in high yield issuance, which was off by 75% in Europe and by 57% in the United States, representing a contraction of equivalent issuance of USD 108 billion in both markets[5]. Convertible bonds, which had been unpopular with issuers and investors since 2004, did not benefit from the volatility on equity markets caused by the financial crisis, which usually spurs renewed interest for such assets.

The statistics for the start of 2009 suggest that bond market investors are still very selective in the United States and Europe, with more issues of investment grade securities and very limited adsorption capacity for speculative grade corporate issues[6].

Figure 1: Corporate bond issuance between 2007 and 2008 in Europe and in the United States



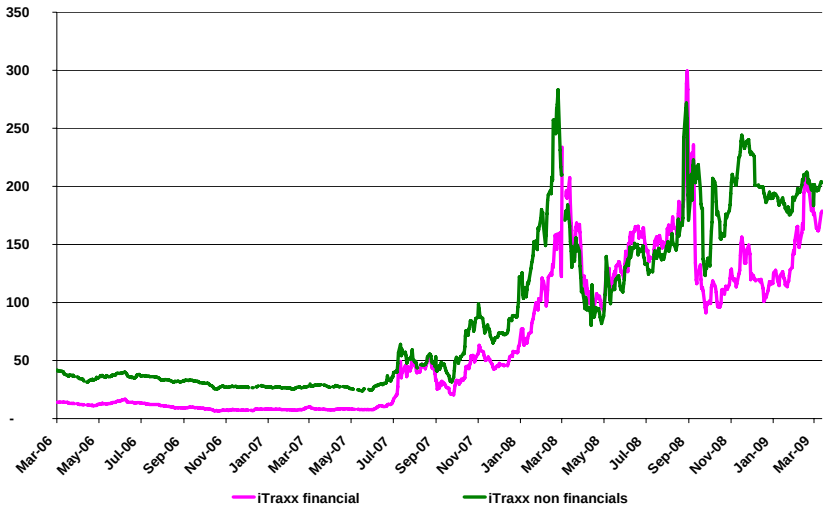
Source: Bloomberg

[5] There was not a single issue of high-yield bonds in the United States in the fourth quarter of 2008.
[6] The most recent data cover June 2008. They point to a recovery on the high-yield bond market.

Since the beginning of the financial crisis, US and European banks had to cope with both liquidity problems and solvency problems stemming from the erosion of their capital. Banks had to cope with losses relating to the American real estate market, losses stemming directly from loans carried on their balance sheets or bonds issued by securitisation vehicles, as well as impairment of a broader range of claims and securities, as the financial crisis spread to the real economy. Fears about the financial soundness of banks in this unfavourable situation had repercussions for their ability to issue debt on the markets and for the cost of this financing, as investors demanded much higher risk premia (Figure 2). This led to a decline in banks' bond issuance in the United State and in Europe. Covered bonds, which come with a high level of protection since they are covered by a pool of assets, also posted declines in issuance in the countries where this type of instrument is used (primarily Germany) because of banks' difficult circumstances and the real estate market slump. Issuance was down by 41% in 2008.

The banks' lack of access to the debt market became particularly acute after the collapse of Lehman Brothers in September 2008. The European Central Bank's statistics show that monetary financial institutions' debt repayments in the last quarter of 2008 largely exceeded their new issuance. Under these exceptional circumstances, net issuance was negative. The support policies implemented by governments and central banks for the banking system and, more especially, the government loan guarantees, went on to play a critical role in this matter, by reopening the capital market to banks in 2009 and by reducing risk premia, even though these premiums were still high at the end of March[7]. In the euro area, the European Central Bank's decision in the second quarter of 2009 to start buying collateralised debt securities, such as covered bonds, should help this specific sector of the bond market to rebound.

Figure 2: CDS markets: risk premia (bps)

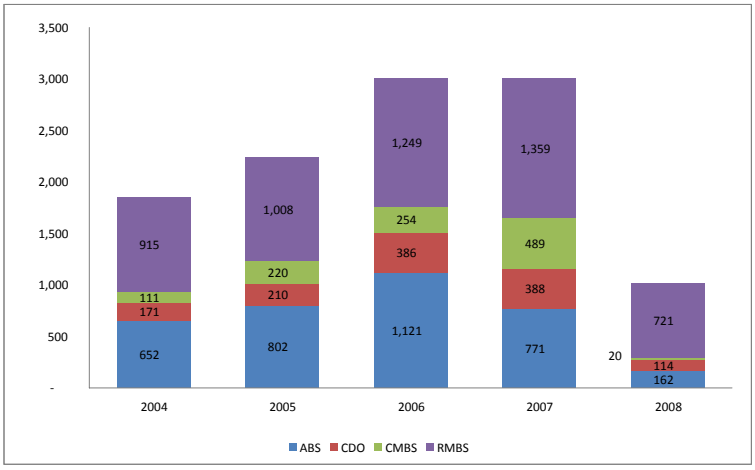


Source: Thomson Financial

[7] See the ECB Monthly Bulletin dated April 2009. Government intervention, nonetheless, raises a number of issues for investors and ultimately creates risks for them. More specifically, government shareholdings in banks may lead to restructuring that is harmful for certain bondholders (see "Uncertainty mounts over outstanding bank bonds", *Financial Times*, 24 February 2009).

Securitisation activity remained sluggish, as it had been since the start of the subprime crisis. With great uncertainty about the nature of the underlying assets and the creditworthiness of the debt issued, particularly as a result of great instability in the agencies' ratings, securitisation deals dropped off very sharply (Figure 3) Logically enough, the most complex vehicles were hit hardest, since the current market will accept only the simplest and most standardised products. For example, CDO issuance fell from nearly EUR 390 billion in 2007 to some EUR 110 billion in 2008. RMBS issuance was strong in Europe, where these securities are used as collateral for bank refinancing transactions introduced by the European Central Bank and the Bank of England.

Figure 3: Worldwide securitisation issuance by vehicle
(EUR billion)



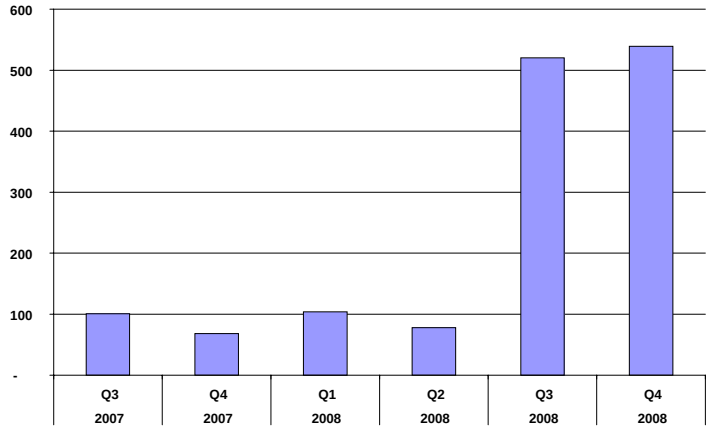
Source: Bloomberg

The developments on the markets for debt securities were broadly echoed developments in syndicated loans. Banks' inability to refinance their lending through securitisation or, on the contrary, to keep the claims on their balance sheet for lack of regulatory capital, meant that they found themselves suddenly cut off from this type of financing, with a 64% decline in the United States and a 46% decline in Europe in 2008. The decline in bank issuance went hand in hand with a halt in buyouts on equity markets and, more specifically, the lull in leveraged buyouts by private equity funds, which had previously contributed greatly to the rapid growth of risky debt.

A massive increase in government debt security issuance

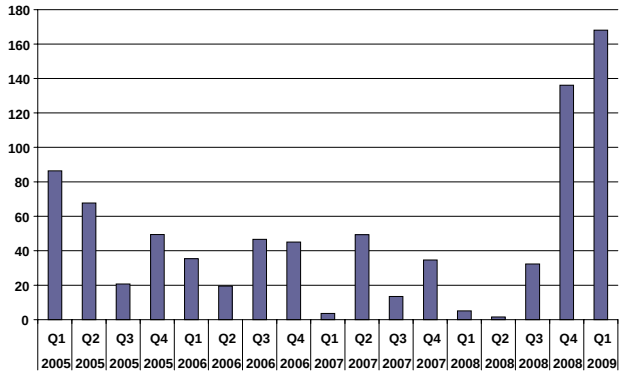
The governments of most leading industrialised countries implemented policies to support the economy and the financial sector and help them cope with the financial crisis. The support provided increased government deficits and required governments to issue securities on the financial markets. The US federal government launched a very large-scale stimulus package. At the same time net issuance of Treasury securities was up sharply in 2008, standing at USD 1.241 trillion (Figure 4). In Europe, and in the euro area in particular, issuance of government debt securities followed the same pattern, albeit on a completely different scale than that seen in the United States (approximately EUR 170 billion, or USD 230 billion, Figure 5). The statistics of the European Central Bank specifically show a big increase in issuance in the euro area starting in the fourth quarter of 2008 and continuing in the first quarter of 2009. The widespread increase in government securities issuance had repercussions on long-term interest rates, halting the downward trend seen since the middle of 2008 (see above). The increase in interest rates was very modest in the case of the euro area. It stemmed from a shift in the balance on securities markets as a result of the current and future increase in issuance volume, as well as from investors' discounting of the transfer of risk involved in the guarantee schemes introduced by various government to restore banks' ability to find refinancing.

Figure 4: United States: net issuance of Treasury securities
(USD billion)



Source: Federal Reserve

Figure 5: Euro area: net issuance of debt securities by central governments (EUR billion)

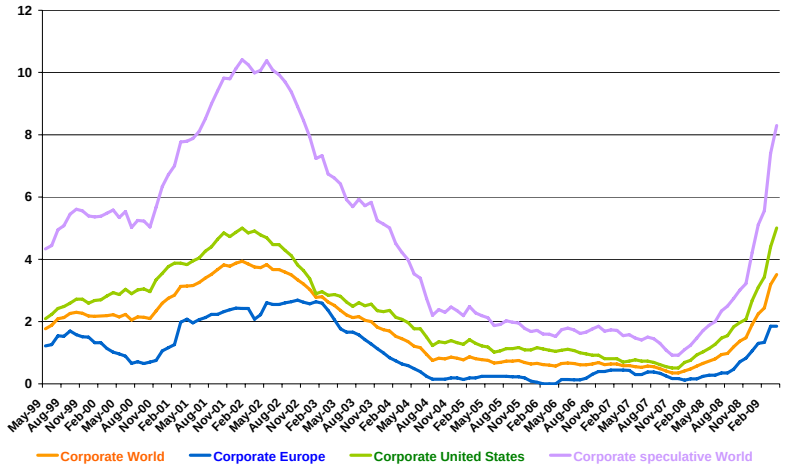


Source: ECB

2. Credit quality declines as the economy slumps

Debt markets were heavily influenced by dire macroeconomic developments, following the eruption of the financial crisis. These developments included a marked slowdown of economic growth, and even a contraction of the economy, as well as increasing fearfulness on the part of the main economic agents. The bad economic news started to affect the creditworthiness of businesses in the United States and Europe at the end of 2007. Default rates had reached historic lows before the financial crisis, but 2008 saw a steady rise in defaults, particularly on speculative grade debt (Figure 6). The worldwide default rate on high-yield bonds rose from 0.12% in January 2008 to 8.3% at the end of the first quarter of 2009. The total amount of debt in default reached USD 226 billion in 2008, with the Lehman Brothers default accounting for USD 145 billion on its own. This figure compares with that of only USD 6 billion in 2007. It is noteworthy that, at the end of the first quarter of 2009, the default rates in all areas and for all credit ratings combined stood at levels similar to those seen during the macroeconomic and stock market slump in 2001 to 2003. It would be unreasonable to draw any conclusions about probable short-term and medium-term developments in credit quality on the basis of this simple comparison because there great differences between the crisis in the early years of the decade and the current crisis.

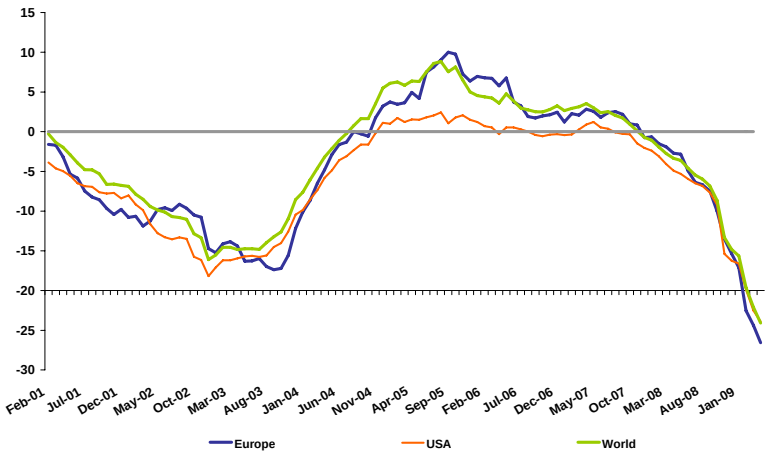
Figure 6: Default rates (%)



Sources: Thomson Financial, Moody's

Credit rating agencies' changes to ratings sent a similar message, since downgrades account for an increasingly large share of rating changes[8]. In 2008, there were more rating downgrades than upgrades and the trend grew more pronounced over the year and into the early months of 2009 (Figure 7). A large share of the rating downgrades affected banks and certain industrial sectors, such as the automotive industry. In Europe, rating downgrades meant that 57 issuers became speculative grade, whereas another 41 issuers were in danger of the same fate in March 2009, following successive downgrades that ranked them at the bottom of the investment grade category, with ratings of Baa3 or BBB-, depending on the agencies.

Figure 7: Rating upgrades net of downgrades as a proportion of the number of rated companies (Rating drift, %)

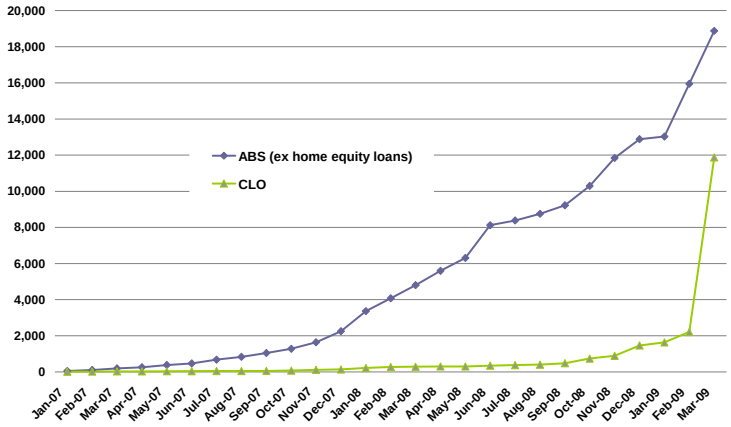


Sources: Thomson Financial, Moody's

[8] As part of the ongoing monitoring of the creditworthiness of the various debt securities on the market, Standard and Poor's revised its methodology for rating covered bonds. This initiative is primarily aimed at providing a better account of the liquidity risk arising from possible problems realising the assets used as collateral. It could lead to linkage of the covered bond's rating and the issuer's rating. According to Standard and Poor's, the stricter rating requirements resulting from the change in methodology could affect 60% of covered bond programmes and result in widespread rating changes, all else being equal (see "Covered Bonds Rating Methodology", *Ratings Direct*, 4 February 2009, Standard and Poor's).

The scale of the decline in creditworthiness and the increase in default rates will ultimately depend on a combination of factors, including the intensity of the recession and the capacity of the financial system (banks and financial markets) to refinance debts at maturity. The latter factor will be very important for companies with the largest debt burdens, especially those that were targets of leveraged buyouts in recent years. These concerns were illustrated by the marked fall in the share prices of listed companies specialising in private equity deals (see below) or the rating downgrades affecting collateralised loan obligations (CLOs), which are the vehicles that banks prefer to use for transferring debt created in leveraged buyouts to the market (Figure 8). On this point, we should also emphasise the interaction between defaults and rating downgrades, because of trigger clauses contained in many of the loan agreements that companies have signed.

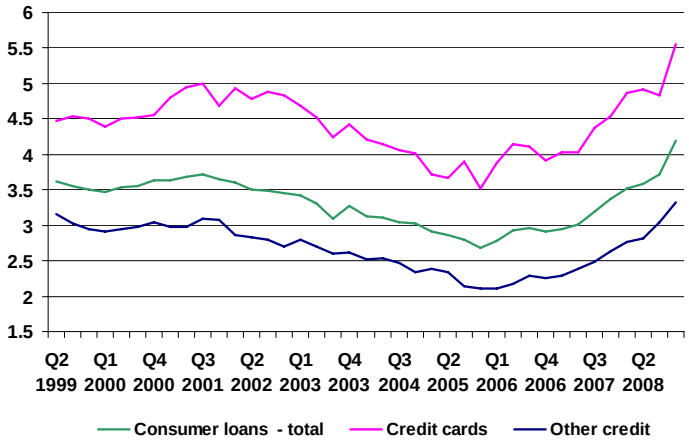
Figure 8: Cumulative rating downgrades of ABSs* and CLMOs



** Not counting ABSs backed by home equity lines*
Source: Bloomberg

After the big jump in defaults on the subprime market stemming from reckless lending and from massive waves of resets (increases in interest rates on loans as they switch to variable rates) during the period from 2007 to 2008, the economic downturn in some countries could also lead to increased credit risk on all loans to households for real-estate investment and consumption, with major repercussions for the securitisation vehicles backed by these assets. Statistics dealing with consumer credit in the United States bear out this thesis, showing that there are more and more delinquent consumer loans. Rising unemployment and declining purchasing power are probably major factors here (Figure 9). Credit rating agencies downgraded the ratings on massive amounts of asset-backed securities, providing further evidence of this pattern (Figure 8).

Figure 9: Percentage of delinquent consumer loans in the United States

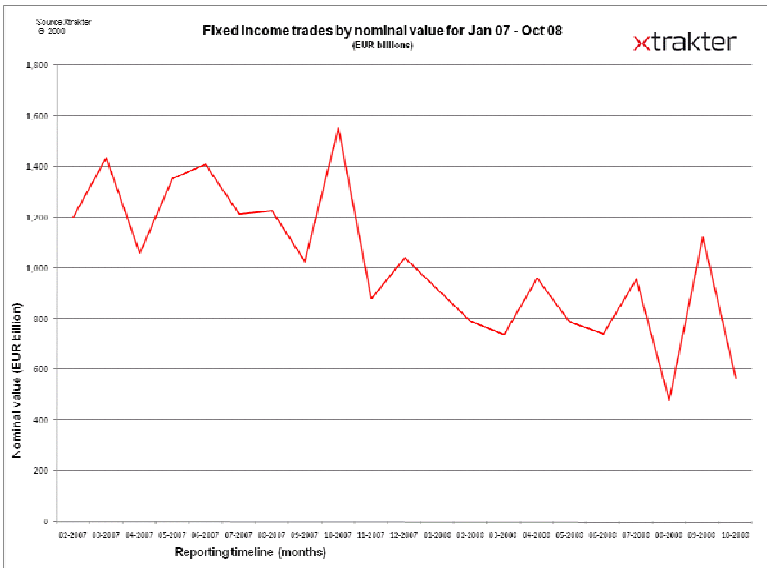


Source: Thomson Financial

3. The crisis disrupted liquidity on the secondary market

The financial crisis not only influenced the amounts issued on primary markets or price movements on the secondary market. It also had a significant impact on the liquidity of the debt market, and not just on the market segments for securitisation vehicles, as reported in a CESR Consultation Paper from December 2008[9]. Great uncertainty about macroeconomic and financial trends, combined with a lack of transparency compared with regulated equity markets, depressed the volume of trading in corporate bonds and affected pricing (quoted spreads, see below). The trend was also accentuated by the investment banks' problems, which led them to cut back their principal trading to limit the risks carried on their balance sheets. Without exhaustive market statistics on trading volumes and bid-ask spreads, because of the lack of post-trade transparency, the volume data reported by Xtrakter illustrate the drying up of liquidity during the financial crisis (Figure 10).

Figure 10: Trading volume on the corporate bond market*



** including variable-rate bonds and convertible bonds*

Source: Xtrakter

[9] "Transparency of corporate bond, structured finance product and credit derivatives markets", Consultation Paper, CESR, 19 December 2008.

4. Equity markets: historic falls in stock market indices

In the wake of the second half of 2007 and following the eruption of the subprime crisis, stock market indicators declined steeply all through 2008. As measured by the Morgan Stanley Capital International (MSCI) indices denominated in local currencies, the worldwide valuation of stock markets was down by 40% (Figure 11). The main stock market indices posted big declines starting in the first quarter of 2008. Stock market valuations were depressed by fears of a systemic crisis in the banking sector, following the default of the US investment bank Bear Stearns and the nationalisation of the UK bank Northern Rock, combined with expectations that the American economy would tip into a recession. In mid-March 2008, the Dow Jones Industrial Index was down by 17% from the end of 2007 (Figure 12). European stocks fared particularly poorly, with plunges of 16%, or even 22%, for the CAC40 and the DJ Euro Stoxx 50.

Figure 11: MSCI indices in local currencies in 2008

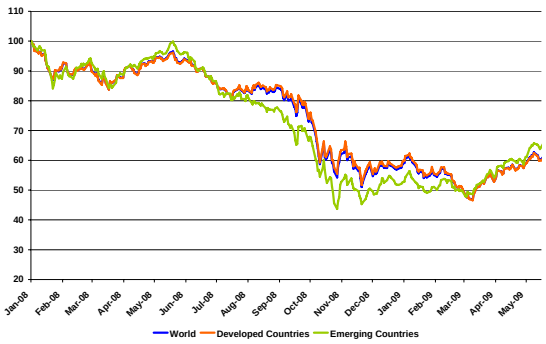
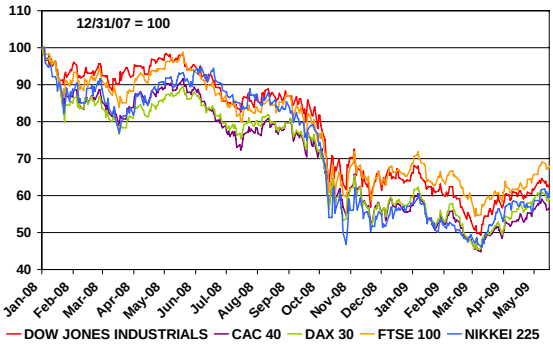


Figure 12: Main stock market indices in 2008



Source: Thomson Financial

After a short-lived rebound, triggered by the Fed's very accommodative monetary policy and sustained growth in the United States and emerging economies, the markets entered a new correction phase in the second half of May, because the publication of disappointing quarterly results by leading US investment banks and Standard & Poor's and Moody's downgrades of the credit enhancers MBIA and Ambac meant that a quick end to the crisis was relatively unlikely. Over the first half of the year, the Dow Jones index fell by some 15%, whereas European indices fell by more than 20% in most cases, including DJ Euro STOXX 50, the CAC 40 and the DAX 30.

But, in mid-September, the scale of the crisis became unprecedented. Stock prices literally collapsed, with the sudden aggravation of turmoil in the American financial system, as Lehman Brothers defaulted, the federal mortgage agencies, Freddie Mac and Fannie Mae, were nationalised, Bank of America bought Merrill Lynch and the Federal Reserved bailed out AIG, and turbulence in Europe, with the nationalisation of Fortis and the recapitalisation of Dexia. Other big influences on valuations in the last quarter included persistent uncertainty about the scale and duration of the recession in the United States and Europe, despite massive and coordinated central bank intervention and action by western governments, slowing growth in emerging economies and the discovery of massive frauds. In mid-November, stock market indices were back to their level of April 2003, which corresponds to the low point of the previous stock market cycle. Some of them, including the S&P 500 and the MIB-30, even reached 10-year lows (see Table 1).

Table 1: Equity market performances

	15 May 2009	Change since end 2008 (%)	Change in 2008 (%)	10-year high	Date	Variation from high	10-year low	Date	Variation from low
DJIA.	8,268.6	-5.8%	-33.8%	14,164.5	09/10/07	-41.6%	6,547.1	09/03/09	26.3%
S&P 500	882.9	-2.3%	-38.5%	1,565.2	09/10/07	-43.6%	676.5	09/03/09	30.5%
NASDAQ	1,680.1	6.5%	-40.5%	5,048.6	10/03/00	-66.7%	1,114.1	09/10/02	50.8%
CAC 40	3,169.1	-1.5%	-42.7%	6,922.3	04/09/00	-54.2%	2,403.0	12/03/03	31.9%
DAX 30	4,737.5	-1.5%	-40.4%	8,105.7	16/07/07	-41.6%	2,203.0	12/03/03	115.1%
FTSE 100	4,348.1	-1.9%	-31.3%	6,930.2	30/12/99	-37.3%	3,287.0	12/03/03	32.3%
MIB 30	20,378.0	1.6%	-48.4%	51,093.0	06/03/00	-60.1%	13,636.0	09/03/09	49.4%
DJ EURO STOXX 50	2,364.1	-3.4%	-44.4%	5,464.4	06/03/00	-56.7%	1,810.0	09/03/09	30.6%
DJ STOXX 600	9,265.0	4.6%	-42.1%	20,833.2	12/04/00	-55.5%	7,055.0	10/03/09	31.3%

Source: Thomson Financial

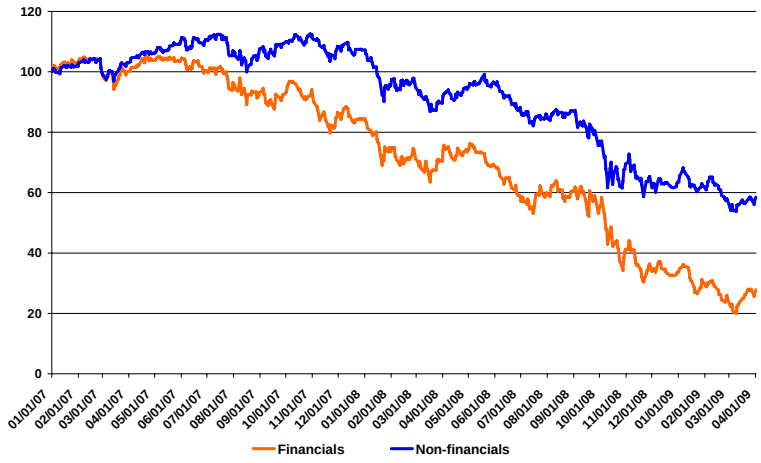
In 2008, the main stock market indices posted major losses, especially in Europe, where, with the exception of the FTSE, indices declined by more than 40%. The DAX 30 was down by 40.4% and the MIB 30 was down by some 50%. The CAC 40 was down by 42.7% at the end of the year to 3,218 points. The declines were somewhat less pronounced in the United States, where the DJIA was down by nearly 34% and the S&P500 was down by 38.5%. In addition, for the first time in eight years, emerging markets, particularly in Asia and Eastern Europe, performed less well than the developed markets.

The downward trend continued in early 2009 before a rebound was seen in March. This rebound must be seen in light of investors' brighter expectations, following the publication of better-than-expected earnings reports by most of the leading American banks and the announcement of a support plan for the financial sector by the US Treasury. In mid-May 2009, the MSCI World index posted positive performances, compared with the levels seen at the beginning of the year.

Very negative performances in the financial sector in a time of great uncertainty and record volatility

Remarkably, the collapse of share prices in 2008 affected all business sectors. However, there were still significant disparities between sectors. As was the case in 2007, the crisis hit financial stocks the hardest (Figure 13). If we take the beginning of 2007 as our starting point, the MSCI index of financial stocks posted a decline of 72% at the end of the first quarter of 2009, compared with a decline of 42% for non-financial corporations. In contrast to 2007, energy and basic industry stocks also posted major falls, most of which occurred in the second half of the year, primarily as a result of plunging commodity prices in the third quarter. The deterioration of the economic outlook during the year was also hard on cyclical stocks. On the other hand, defensive stocks, such as those in the healthcare sector, proved to be fairly resistant.

Figure 13: MSCI European equity market indices: financial stocks vs. non-financial stocks

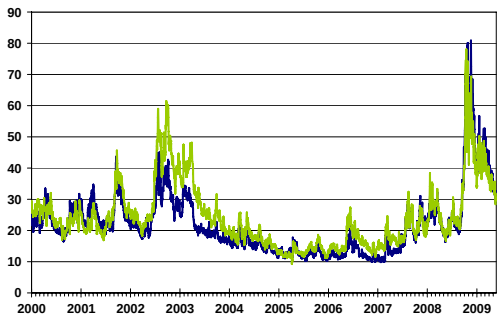


Source: Bloomberg

Stock market turmoil was characterised by sudden declines in indices as well as very erratic movements. Stock market indices on major international markets posted very large daily variations, swinging up or down by more than 10% on some days. Generally speaking, these developments reflect investors' great uncertainty about market trends in the short term and the medium term. This uncertainty translates into prices that overreact to the news and a sudden jump in implied volatility to historic highs, much higher than the highs seen in 2002 (Figures 14 and 15). In addition, the banks' limited ability to engage in principal trading was surely an aggravating factor.

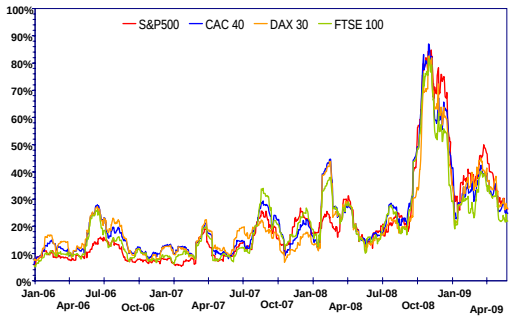
Financial stocks, and more specifically bank stocks, were influenced by the various developments surrounding the financial crisis. The failings and lack of transparency on some markets, combined with the introduction of new and untested accounting rules, led to acute pricing problems. Another factor fuelling the steep decline in financial stocks, along with very high volatility, was the uncertainty about the value of risky debts, about various participants' actual exposure to these debts, about the role and content of various government support plans and about the scale of the "second round" effects on banks' balance sheets caused by recession in the main economies. This situation spurred some regulators, including France's AMF, to suspend short selling of financial stocks at the end of the third quarter of 2008, and to enhance the transparency of short positions in such stocks so as to limit price pressures.

Figure 14: Implied volatility



Source: Thomson Financial

Figure 15: Historical volatility

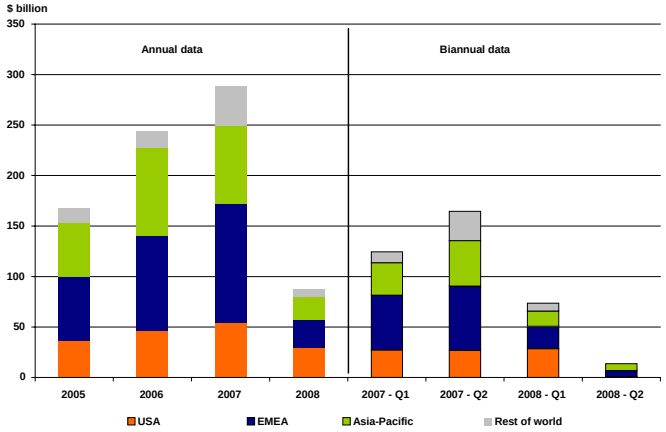


Source: Thomson Financial, AMF calculations

5. Listings are shrinking as fewer IPOs are made and more companies are delisted

The financial crisis had major repercussions for IPOs, which were down sharply in 2008 and the early months of 2009. The total amount of capital raised in IPOs worldwide was down by 70% to less than USD 100 billion. Furthermore, the number of IPOs that were postponed or cancelled showed a sharp rise in 2008, at 308, compared with 207 in 2007, representing an increase of nearly 50%. IPOs were down in all geographic areas, including emerging economies, which had been particularly dynamic in 2007 (Figure 16). In the United States, growth was more resilient in the first half of the year, with the IPO from Visa, before collapsing in the second half of the year.

Figure 16: Capital raised through IPOs, by geographical area
(USD billion)



Source: Bloomberg

In Paris, the number of new listings on Eurolist and Alternext sank from 65 in 2007 to 20 in 2008, and only one IPO was recorded in the first four months of 2009. More importantly, the amount of capital raised by IPOs has become insignificant (Table 2). The pattern was similar on other European markets. In London, new listings were down by 60% over the year, whereas the amount of capital raised was only one quarter of what it had been, at less than EUR 9 billion.

Table 2: Number of new listings (including transfers and private placements) and the capital raised by IPOs on European stock markets[1] (EUR billion)

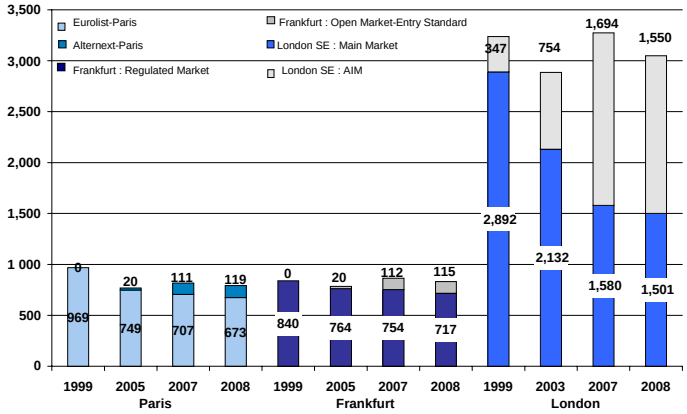
	London Stock Exchange		Deutsche Börse		Euronext		Euronext Paris	
	Number[2]	Capital raised	Number	Capital raised	Number	Capital raised	Number	Capital raised
2006	468	42.34	99	7.64	109	21.37	84	9.75
2007	338	36.98	72	7.85	92	9.67	65	3.35
2008	127	8.85	17	0.38	34	2.52	20	0.06

Sources: LSE, DBAG, Euronext

Notes: (1) LSE: including AIM; DBAG except Freiverkehr and including Open Market-Entry Standard; Euronext, except for Marché Libre, including Alternext (2) Excluding relistings

In recent years, the main European equity markets saw an increase in the number of listings. This trend stemmed primarily from the rapid growth of markets or market segments dedicated to mid caps, such as the Alternative Investment Market (AIM) on the London Stock Exchange, Alternext on Euronext and the Entry Standard segment of the Open Market in Frankfurt. On the other hand, European regulated markets continued to see a decline in the number of listings, to the point that, in London, there were more companies listed on AIM than on the Main Market for the first time in 2007. The shrinking number of IPOs meant that the trend halted in 2008. In both Paris and Frankfurt, the increase in the number of listings on the mid cap markets failed to offset the erosion of listings on the regulated markets. Meanwhile, the number of companies listed on AIM decreased for the first time since the market was created in 1995.

Figure 17: Number of listings



National sources

The decline of listings on AIM can be attributed to the collapse of IPOs from 223 in 2007 to 72 in 2008[10], and a major jump in the number of delistings to 259, representing an increase of 16%. This increase reflects the growing number of delistings made at the issuers' request, as well as a larger number of delistings for failure to comply with the AIM rules and, more specifically, Rule 1, which requires issuers to use a nominated adviser[11] (Table 3).

Table 3: Reasons for delistings on AIM

	2007	2008	2009Q1
Following a takeover	63	40	3
Requested by the company	121	156	46
AIM Rule 1	12	47	15
Other AIM rules	12	0	10
Transfers	13	12	2
Others	3	4	1
Total	224	259	77

Source: LSE

[10] Only 5 IPOs were recorded in the first quarter of 2009.

[11] The nominated advisers are at the heart of AIM operations and have four main responsibilities:

- They must inform the company executives of the AIM rules and the obligations that the executives, the company and its shareholders must comply with;
- They carry out appropriate due diligence to ensure that a company is admissible to AIM;
- They prepare the company's admission document;
- Once the company has been listed, they must ensure that it complies with the AIM rules at all times and be constantly available to advise the company executives.

Generally speaking, the financial crisis and low stock market valuations actually represent an opportunity for shareholders and company executives to delist, if the advantages of a listing fail to offset the costs and constraints involved[12]. Similarly, the slump in share prices is likely to mean that some companies no longer comply with certain minimum requirements for listing and will consequently be delisted. In view of the scale of the crisis, the exchanges took measures to prevent delistings from going too far. For example, the NYSE and Nasdaq suspended minimum market capitalisation requirements[13] at the end of 2008.

On a more structural level, the transposition of the European Prospectus, Transparency and Market Abuse Directives, along with application of IFRS, led to a significant increase in the regulatory burden imposed on companies listed on regulated markets. In the case of small caps and mid caps, these changes may cause problems, with respect to the human and financial resources that they will need to meet regulatory requirements. The AMF has endeavoured to give due consideration to the specific needs of small caps and mid caps in its regulations in order to maintain the attractiveness of financial markets for small and medium-sized enterprises and to facilitate their financing. To this end, the AMF amended its regulations on financial disclosure requirements for small caps and mid caps in 2008. In early 2009, the AMF worked on implementing a procedure enabling small companies listed on Eurolist to transfer their shares to Alternext.

6. Share issues boosted by recapitalisation in the banking sector

Compared with IPOs, share issues by listed companies remained somewhat firm in 2008. Worldwide share issues stood at USD 287 billion, representing a decrease of 14% compared with the previous year. In France, share issues by companies listed on the Paris market came to EUR 27.4 billion, down by 8.5% from 2007. Generally speaking, share issues were sustained by recapitalisation transactions and very large-scale acquisitions in the banking and financial sector. The latter sector accounted for nearly 60% of worldwide share issues in 2008, which is more than double the figure in the previous year (Figure 18). The ten largest share issues worldwide in 2008 included the 12-billion-dollar capital increase by Wells Fargo in November, as part of its takeover of Wachovia, and the 11-billion-dollar capital increase by JP Morgan. On the other hand, share issues by non-financial corporations were virtually halved in 2008. The worldwide economic slump proved to be a disincentive for capital spending and it depressed demand for financing, while low valuations and high price volatility made share issues difficult.

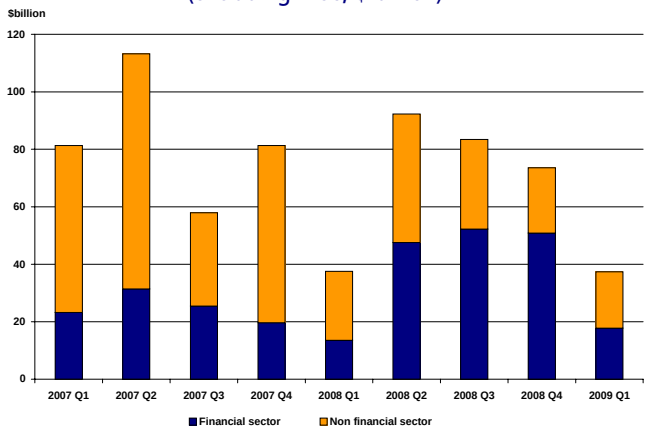
The statistics from the first half of 2009 should show a similar pattern. Following the publication by the Federal Reserve of the stress test results for the main US banks in early May, some of these banks had to strengthen their capital through massive share issues[14].

[12] The notion of listing costs for small caps and mid caps may be specifically linked to the lack of liquidity for their stock, with a small number of trading days, a small float and small trading volumes. This lack of liquidity means that the company incurs costs for maintaining liquidity and suffers from a poor valuation of its stock by the market. This may turn out to be harmful for the company, for example, if it goes to the market to raise capital. In this respect the financial crisis probably exacerbated the structural liquidity problems encountered by some stocks, especially those with the smallest market capitalisations. On Euronext, the average trading in companies in the C Compartment (companies with a market capitalisation of less than 150 million euros) dropped off in 2008, both in terms of the number of trades, which was down 54%, and in terms of the amounts concerned, which were down 70%.

[13] The NYSE also lowered its minimum capitalisation threshold from 25 billion to 15 billion dollars.

[14] Stress testing resulted in capital requirements estimated at nearly 75 billion dollars, including 33 billion dollars for the Bank of America alone.

Figure 18: Worldwide share issues by listed companies
(excluding IPOs, $ billion)

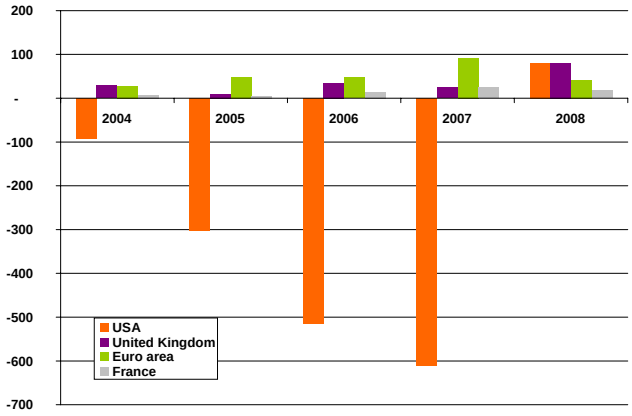


Source: Bloomberg

Total corporate financing raised on equity markets or, in other words, the sum of issues and sales of shares in IPOs and "secondary" issues by listed companies was down by nearly 40% in 2008 to USD 380 billion. If we compare gross issues with buybacks and cancellation of shares by residents to estimate the contribution that equity markets make to net corporate financing, we see that the balance was still positive in Europe in 2008. The remarkable event was the break in the trend in the United States, where share buybacks had outstripped new issues for years. The trend reversed in 2008 as the crisis in the banking and financial sector worsened (Figure 19). Share issues net of buybacks and cancellations, which still stood at –EUR 600 billion in 2007, topped EUR 80 billion in 2008, according to the Federal Reserve's estimates.

The reversal of the trend in the United States can be explained solely by major share issues by banks that were not offset by share buybacks on a similar scale by non-financial corporations. If we break the figures down for financial and non-financial corporations, we see that the latter continued their strategy of distributing income to shareholders by buying back their shares. Non-financial corporations' net share issues stood at a negative USD 395 billion in 2008, compared with -USD 831 billion in 2007. The decline in net share buybacks in 2008 probably stems from the financial crisis, which required a number of companies to hold significant cash reserves to cope with a foreseeable fall in profits or possible financing constraints resulting from more difficult access to bank credit or a future shutdown of capital markets.

Figure 19: Net share issues by listed companies
(issues less share buybacks and cancellation, EUR billion)

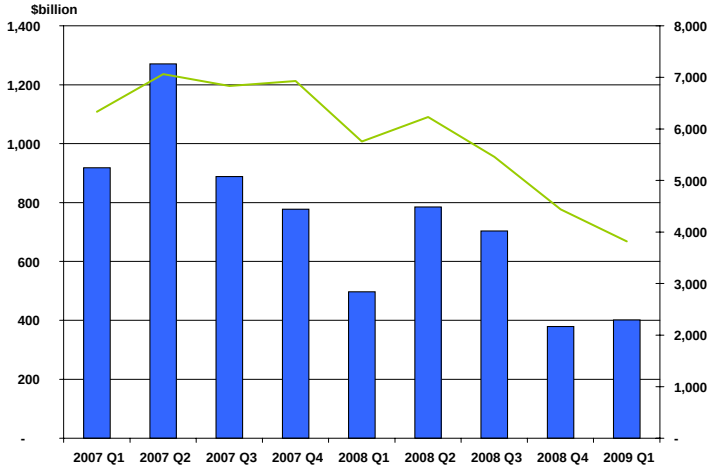


Sources: Federal Reserve, ECB, Banque de France and ONS

7. A large drop in mergers and acquisitions

After peaking in the third quarter of 2007, mergers and acquisitions dropped off sharply in the second half of the year. The trend continued in 2008 and the early months of 2009, as the economic and financial climate worsened. The amount of M&A transactions involving at least one listed company that were announced worldwide in 2008, and which were not subsequently cancelled, fell by 40% to less than USD 2.4 billion, and the number of deals decreased by 17% (Figure 20).

Figure 20: Worldwide merger deals
(USD billion)



Source: Bloomberg

8. Do investors have an incentive to move out of the equity markets?

The sharp drop in stock market prices since the start of the financial crisis stems from portfolio reallocations by the majority of retail and institutional investors. In addition to the portfolio reallocations warranted by the macrofinancial context, the crisis seems to indicate the presence of constraints that accentuate the investors' tendency to limit their exposure to equity markets and prevents them from adopting a long-term investment policy to make the most of the opportunities offered by extremely low valuations of some listed companies. The only exceptions to this overall pattern were sovereign wealth funds, which are able to make contracyclical investments in equity markets. One illustration of this phenomenon is the massive stakes that some of these funds have taken in US banks in the recapitalisation transactions (Figure 21). GIC-Singapore provided substantial capital contributions to Citigroup (nearly USD 7 billion in January 2008) and then to UBS (USD 14.4 billion in February 2008).

Table 4: Selected sovereign wealth funds' equity stakes in the banking sector
(USD billion)

Buyer	Target	Investment date	Purchase value	Value at 27/03/2009	Gain/Loss
GIC-Singapore	UBS	08/02/2008	14.4	4.3	-10.1
GIC-Singapore	UBS AG	10/12/2007	9.8	2.1	-7.6
ADIA	Citigroup Inc.	27/11/2007	7.5	0.7	-6.8
GIC-Singapore	Citigroup Inc.	15/01/2008	6.9	0.7	-6.2
CIC (China)	Morgan Stanley	19/12/2007	5.0	2.5	-2.5
Temasek	Merrill Lynch	27/12/2007	4.4	0.5	-3.9
Temasek	Merrill Lynch	27/07/2008	3.4	1.8	-1.6
QIA	Credit Suisse	21/01/2008	3.0	1.7	-1.3
KIC (Korea)	Merrill Lynch	15/01/2008	2.0	0.2	-1.8
KIA (Kuwait)	Merrill Lynch	15/01/2008	2.0	0.2	-1.8

Source: W. Megginson (2009), Paper presented to the colloquium of the AMF Scientific Council on 15 May 2009.

Several factors seem to contribute to the big drop in institutional investors' demand for equities during hard times, which is excessive compared with the downward revisions of corporate earnings forecasts:

- Some institutional investors have more or less urgent solvency constraints, combined with mark-to-market valuation of their portfolios. We can mention insurance companies and the pan-European reform of prudential rules for them under the proposed Solvency II draft, along with UK and US private-sector defined-benefit pension funds, where impairment of equity portfolios has worsened solvency ratios and may have convinced sponsors to recapitalise by increasing their contributions. There is strong pressure under such circumstances to protect portfolios as much as possible by reallocating them to risk-free assets, thus avoiding further impairment, which could be expensive for businesses[15];
- Deleveraging was necessary for all financial intermediaries and players in general and certain hedge funds in particular. These funds may have realised their most liquid assets first, meaning European and US equities listed on the main market segments;
- The procyclical nature of households' investments may ultimately have led to asset sales by institutional investors such as mutual funds or insurance companies. More specifically, with the development of savings schemes on an international scale where the final responsibility for portfolio management rests with retail investors (defined-contribution pension schemes and unit-linked life insurance), the supply and demand flows for securities from many fund managers depend increasingly on investment decisions made by individual investors.

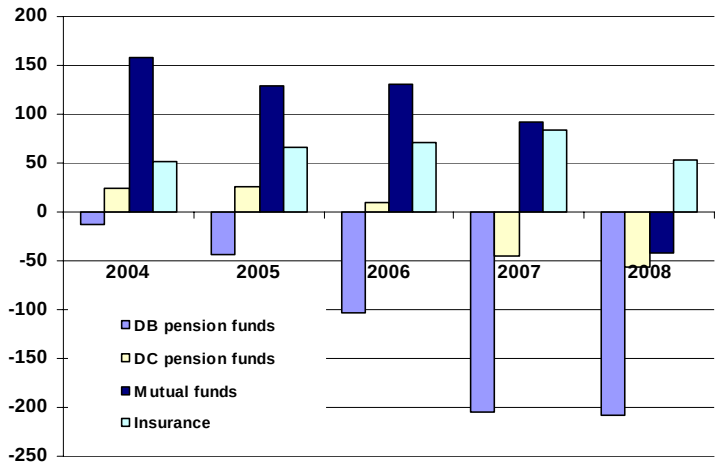
It is difficult to provide proof for these arguments. On the one hand, changes in portfolio allocations observed at the macroeconomic level are the result of the aggregation of individual decisions and depend on a large number of different factors that are difficult to distinguish. Furthermore, some information is simply not available, such as movements within hedge funds' portfolios. Statistics on equity purchases in the United States do provide some elements for analysing the balance of the American equity market during the recent period. Overall, these statistics highlight sales of equities by defined-contribution pension funds and mutual funds sales, but these sales seem to be relatively modest in aggregate compared with the size of the markets concerned and the funds' assets under management (Figure 21). Insurance companies made more than USD 50 billion in equity purchases. On the other hand, defined-benefit pension funds sold off massive amounts of equities in the recent period, continuing a trend that started at the beginning of the decade. These funds sold

[15] The decline in the value of equity portfolios is not the only factor straining pension fund solvency ratios. The big drop in interest rates led to an increase in the discounted value of their liabilities. This macroeconomic scenario of simultaneous falls in interest rates and stock prices had already come up in the 2001-2002 stock market crisis, causing huge problems for many pension funds.

more than USD 400 billion in equities in 2007 and 2008. At the end of 2008, equities accounted for only 40% of their aggregate portfolios of financial assets, compared with 54% at the end of 2007 and 61% at the end of 2005.

In the euro area, aggregate statistics from the European Central Bank covering both pension funds and insurance companies do not show any massive sales of equities by these agents, even though there was a clear move towards bonds and liquid assets in the recent period.

Figure 21: Net equities purchases by pension funds and mutual funds in the United States (USD billion)



Source: Federal Reserve

Institutional investors' investment patterns will be an important area for analysis in the future in order to assess their capacity to provide capital financing for companies on a long-term basis and ensure the ongoing operation of equity markets by buying shares in smaller newly listed companies.

9. Summary of trends and risks on financial markets

In 2008, the financial crisis spread to all asset markets and, more specifically, to the corporate debt market. Very risk-adverse investors and a gloomy macrofinancial environment stemming from the freeze on lending led to a very large jump in risk premia for all corporate issuers. The collapse of Lehman Brothers was a key event, after which tensions on the interbank market were further heightened and credit spreads widened rapidly. These developments brought with them bankruptcies and/or bailouts for major participants in the debt market, especially US mortgage refinancing agencies and some monoline insurers. The very sharp macroeconomic slump at the beginning of 2009 continued to erode credit quality and led to more and more rating downgrades for corporate debt. In some countries, and in the United States in particular, credit risk on consumer loans also became an increasingly acute problem.

Equity markets plunged in 2008. For example, France's CAC 40 index dropped by 43%. Falling prices hit financial stocks particularly hard, but industrial and service industry stocks were affected as well. The sharp drop in stock markets was the result of sales of equities by some very highly-leveraged firms, as well as

fundamentals linked to falling corporate earnings. The decline in equity markets also brought with it unprecedented price volatility, which must be attributed to the intrinsic uncertainty created by the crisis and the banks' reduced capacity to intervene on stock markets through their principal trading.

Corporate finance transactions included share issues by financial intermediaries seeking to build up their capital. If we do not count such issues, there were very few new share issues. After years of massive share buybacks in the United States and growing share buybacks by European companies, such transactions were much more modest in 2008. This change is most likely the result of the financing constraints that companies have to cope with in the midst of the banking and financial crisis. Not surprisingly, there has been a very large drop in mergers and acquisitions, after years of dynamic leveraged buyout activity. Very poor market conditions also halted the trend towards more and more listings on most western equity markets.

These developments and trends give rise to a number of risks.

The first is the macroeconomic risk of a decline in credit quality and its systemic consequences for derivatives markets The deterioration of the economy weakens the creditworthiness of corporate borrowers and gives rise to concerns in some countries about the ability of households to meet their loan payments. Solvency and loan refinancing became particularly acute problems for companies that had gone into the financial crisis with heavy debt loads, especially those that have been the targets of leveraged buyouts in recent years. Under these circumstances, a specific source of risk for financial markets lies in the credit derivatives markets, which may have to cope with growing numbers of "credit events" that will strain the insurance and compensation mechanisms and the participants behind them.

The second risk is that of inaccurate asset valuation and market manipulation stemming from great uncertainty about balance sheets and certain market transactions. The financial crisis has manifested itself through major price swings on many markets. The sudden price swings stem from changes in investors' expectations, as well as the very great uncertainty surrounding the balance sheets of certain banking and financial intermediaries and the value of certain assets on markets with little transparency. These circumstances create the risk of inaccurate asset valuations and undermines the investors' ability to allocate their capital efficiently. The circumstances also give rise to the risk of market manipulation, which may result from rumour spreading or insider dealing, which will be more difficult to detect because of the high levels of price volatility.

The last risk relates to the relative attractiveness of equity markets, as liquidity and the population of investors decline. The primary market for equities suffered greatly from the financial crisis, with a drop in IPOs and rising numbers of delistings in some countries. Consequently, the trend towards more and more listed companies seen in recent years was reversed on most of the major western exchanges. On the secondary market, an analysis of transactions in 2008 also shows a major decline in trading in smallcaps and midcaps, which can undoubtedly be attributed to investors' lack of appetite in light of the massive uncertainty about how and when the crisis will end. In the future, trading will depend heavily on how the economic recession ends and how well valuations bounce back. On a more structural level, we must keep an eye on the factors that are likely to prevent sustainable growth of equity markets, especially the markets for small caps and mid caps:

- The accounting and prudential rules for certain institutional investors, along with liquidity constraints for some fund managers, may lead to a decline in investment in smaller companies' shares because of the lack of liquidity and higher risks involved;
- The decline in financial intermediation for smallcaps is already obvious in some countries and it could intensify as investment banks redefine their business;
- Venture capitalists may limit their investments in companies because it is harder to exit deals through IPOs, which could lead to a longer-lasting slump in new listings.

II – Trading and post-trade infrastructure

1. Organised markets' income was squeezed by competitive pressures and the effects of the financial crisis

In 2008 and early 2009, the crisis had a major impact on most of the sources of income for stock exchanges, including their income from the primary market (new listings), trading in shares and derivatives and technology and information services. However, the biggest impact was on the profitability of the core business of the incumbent exchanges, trading in equities. Trading volumes are cyclical by nature and, before the crisis, their importance as a source of profit increased substantially (Figure 22). The crisis was a particularly adverse event because it amplified the direct impact of shrinking trading volumes stemming from the decline in hedge funds' activity and banks' principal trading (Figure 23), and from the fall in stock market valuations and shrinking profit margins (price effects) as a result of renewed competitive pressure on transaction commissions. Under the circumstances, we need to look at the short-term or structural nature of these developments. This requires us to look at the nature of competition for regulated markets from new trading platforms that have developed since MiFID came into force.

Figure 22: Importance of trading volume in the profitability of regulated markets

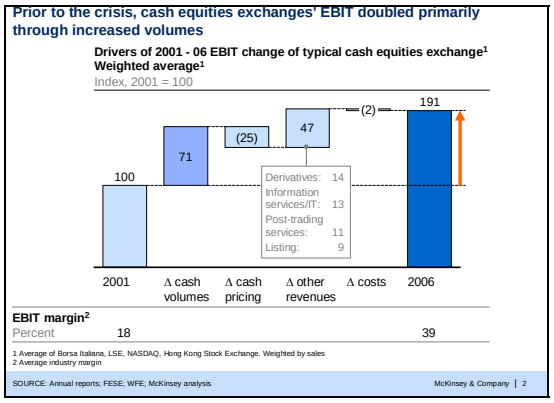
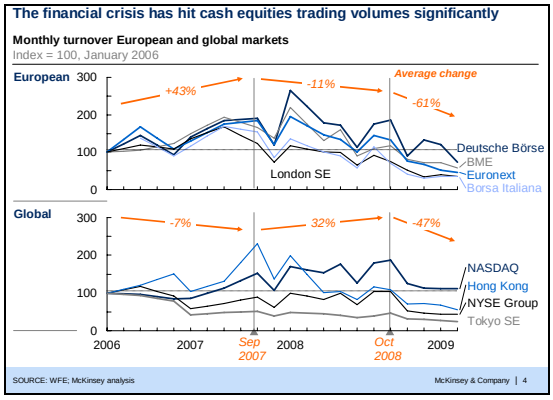


Figure 23: Falling trading volume due to the crisis



Source: Impact of the Financial Crisis on Exchanges' Strategies, IOMA/IOCA Annual Conference, 22/04/09

Usually, fluctuations in income from cash trading were offset by income from derivatives trading, which is contracyclical. This should eventually be true again, but the decline in hedge funds' trading and banks' principal trading had a significant impact on derivatives trading, despite the historically high level of volatility. Regardless of technical considerations, such as the problems financing margin calls, the impact of shrinking speculative exposures and deleveraging on derivatives markets is likely to last beyond 2008.

Income from post-trade services proved more resilient up until the end of 2008. OTC transactions cleared by LIFFE Euronext's Bclear subsidiary, for example, were up by more than 50% in 2008 and the European Commission's determination to increase competition between post-trade service providers in Europe has had only a limited impact so far and only on equity markets. In the short term, income from securities settlement and custody is bound to be boosted by the big bond issues to be made to finance the economic stimulus packages. The main beneficiaries will be Clearstream Banking Frankfurt, for the German market, and Euroclear, for the Euronext markets. On the other hand, income from data dissemination is under threat in Europe from alternative data providers or banking consortiums, such as Markit Boat.

2. Equities trading: early development of market structures based on transparency waivers

Competition from new alternative platforms concentrates on the core business of regulated equity markets

MiFID defines two types of competitors for regulated markets (RMS, conventional stock exchanges): multilateral trading facilities (MTFs) and systematic internalisers (SIs). An additional factor for differentiating trading platforms also relates to whether they use the pre-trade transparency waivers under the Directive, either because they handle block trades or trades at prices imported from regulated markets. The number of alternative platforms in operation is the most compelling testimony to their development since the entry into force of MiFID (Table 5). The vast majority were started in London, most often by financial service providers that are also members of regulated markets[16].

Table 5 – Competition for equities trading in Europe at the end of April 2009

	Multilateral Trading Facilities			**Systematic Internalisers***
	Central limit order book	**Central limit order book + Dark pool**	**Dark pool** (pre-trade transparency waiver)	
Banks and brokers	BATS Trading** (UK) Burgundy (project) (DK) MTF PEX	Chi-X (Chi-Delta project) (UK) Turquoise Plus Markets	ITG Posit Now (imported prices) (UK) Instinet BlockMatch (blocks) (UK) Liquidnet (blocks) (UK) NYFIX Euro Millennium (imported prices)(UK) ICAP BlockCross (project) (blocks) (UK) Pipeline Block Board (blocks) (UK)	ABN AMRO (NL) BNP Paribas Arbitrage (BIX) (FR) Citigroup Global Markets Credit Suisse (CrossFinder) (UK) Danske Bank (DK) Deutsche Bank (DE) Goldman Sachs (Sigma-X) (UK) Knight Equity Markets (Link) (UK) Nomura International Nordea Bank (DK) UBS (UK)
Exchanges	Equiduct**** (Börse Berlin)	NYSE Euronext : NYSE Arca Europe (NL)+SmartPool (imported prices) (UK) Nasdaq-OMX Europe+Neuro Dark (blocks) (Baltic)	DBAG (Midpoint Xetra) (imported prices) SWX (Swiss Block) (blocks) LSE (projet Baïkal) (blocks)	***

* Given the rapid pace of innovation, the classifications of systematic internaliser and dark pool probably need to be clarified. There are questions about the classification of the execution systems operated by Société Générale (Alpha-X Europe), CA Chevreux (Blink), Barclays (LX) and Morgan Stanley (Pool). Morgan Stanley, Goldman Sachs and UBS recently interconnected their dark pools.

** BATS Trading's European business is hosted by a subsidiary of the regulated market (with the third largest market share) in the United States. The owners of BATS include the banks Citigroup, Crédit Suisse, Deutsche Bank, JP Morgan, Merrill Lynch and Morgan Stanley, as well as the brokers Getco, Lime Brokerage and Wedbush.

*** The NYSE Euronext Internal Matching Facility enables market members to provide a service similar to systematic internalisation.

**** Equiduct is actually classified as a regulated market, but we are looking at it only from the competitive point of view, where it is more like a trading platform[17].

Source: AMF

[16] This is not the case for BATS Europe or Nasdaq OMX Europe, for example, which are promoted by American regulated markets. There are others, such as ITG, where the promoters are not broker-dealers, but merely brokers. The platforms reserved for the exclusive use of investors, such as Liquidnet, are still exceptions.

[17] Equiduct aims at providing pan-European trading. Since April 2009, it offers trading in FTSE 350 shares and world like to expand to trading in French, Dutch and Belgian blue chips.

Some platforms, which usually matched anonymous orders, had sprung up in Europe before the entry into force of MiFID in November 2007. They were started by specialised US players, such as ITG Posit (since 1998) and Liquidnet (since 2002)[18]. Players like Chi-X were also able to anticipate the entry into force of MiFID for trading that did not require order concentration and started their trading business in March 2007. But alternative platforms did not really develop significantly until after the entry into force of MiFID. The remarkable aspect of this development is that gains were made in direct competition with the core business of the incumbent operators, rather than in competition with their alternative or innovative services. Some MTFs gained substantial shares of the equity trading market by operating central limit order books for the blue chip stocks that make up the leading stock market indices.

An evaluation of MTFs' market share gains calls for a detailed examination

MTFs' market shares are measured by transaction volumes. There are two main types of data looked at for this purpose: data relating to central limit order books and data relating to over-the-counter transactions published on the market through trade reporting services, which may be managed either by regulated markets or by specialised firms such as Markit Boat in the United Kingdom. The systems' ability to identify both counterparties to a transaction makes the order book data more reliable, whereas separate trade reporting by the buyer and seller on OTC markets may lead to double counting. There are also other reservations about the quality of data on OTC trades. Regardless of concerns about data quality, the aggregation of data creates a fundamental risk of confusing the provision of execution services with the provision of publication services. This confusion seems to make it more difficult to grasp the real competitive situation of the various trading venues, since aggregated data may mistakenly attribute trades to venues providing publication services, even though the actual trades were executed elsewhere[19]. It follows, for example that the data published by X-Trakter in the United Kingdom on the basis of significant, but not exhaustive sampling, gives a very different ranking of players than the Market Share Report by Reuters mentioned by CESR.

If we consider only central limit order books for trading equities that do not benefit from pre-trade transparency waivers, some of the new MTFs made substantial market share gains in the trading of liquid stocks, which is the market segment where most MTFs are concentrated. The three leading MTFs' share of trading in stocks from the five main national blue chip indices in Europe ranged from 20% to 25% in March 2009 (Figure 24)[20]. In addition to examining market shares, we can see from the available statistics that MTFs are very frequently able to offer better market terms for liquid stocks (Figure 25). In March 2009, for example, they were able to offer the best prices and the best quantities one in ten times for CAC40 stocks, which puts them not very far behind regulated markets (one in four times for NYSE Euronext, see Figure 26). The competition for trading in equities is keenest for a few blue chip stocks, which account for the bulk of the transactions, and, with a few exceptions, does not concern trading in smallcaps and midcaps[21].

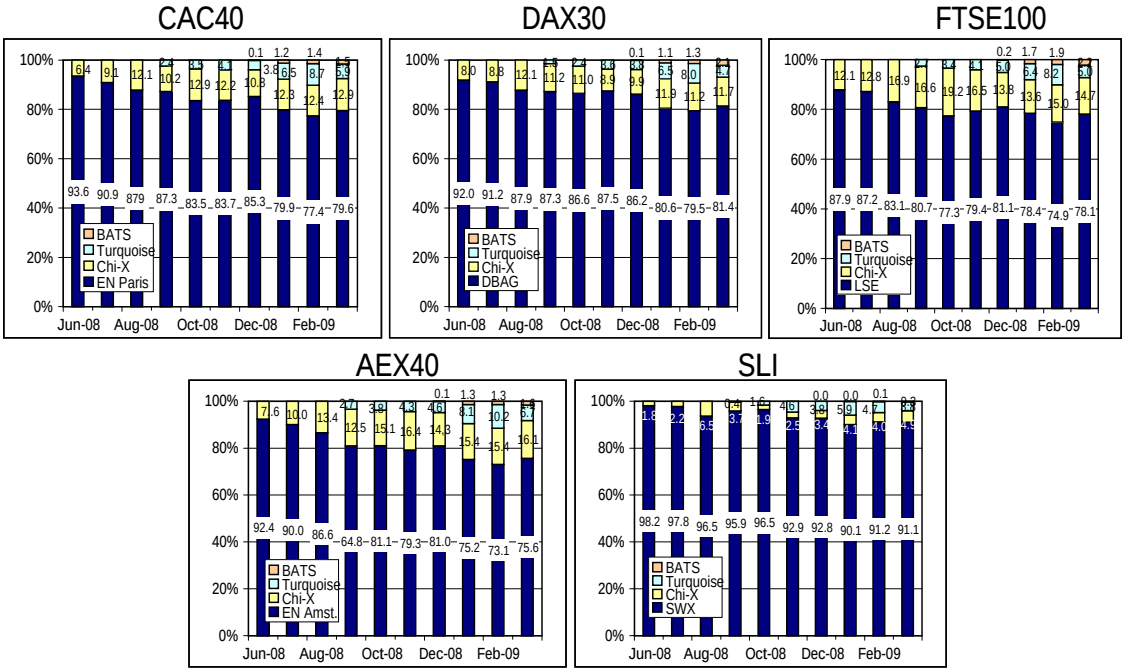
[18] The former is an order matching system and the latter is a block matching system. Their operating procedures currently correspond to the two main grounds for pre-trade transparency waivers under MiFID.

[19] It should be noted that transaction costs are very closely linked to liquidity, which means that the market shares of various execution venues are of strategic importance, since they guide investors' choices of execution venues. Incorrect data lead to inefficient execution venue choices and distort competition. Concerns about data quality have been expressed publicly by certain institutional investors on the buy side. For example, IMA in Britain, called for a consolidated tape, similar to the one in use in the United States. In any event, this led CESR to comment: "According to market data vendors who responded to the Call for Evidence, investment firms do not always take the necessary steps to ensure that equity trade data is accurate and reliable, leading to a confusing picture of the OTC market. This contrasted with equity data from regulated markets and MTFs which is generally considered to be of high quality." We should also add that the CESR MiFID Market Sub-Group is currently working on the definition of "execution of a transaction" in order to improve data quality in reports filed with OTC market regulators.

[20] In the case of the Swiss SLI index, the figure is less than 10%.

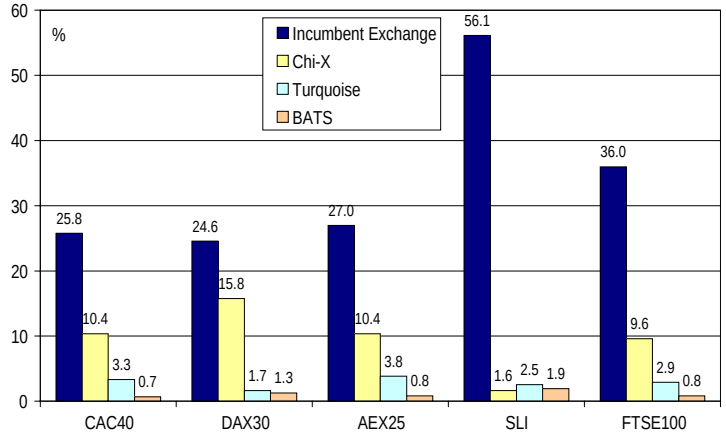
[21] Burgundy, an initiative of Nordic intermediaries handling 600 stocks listed on OMX and open since 12 June 2009 is a special case because of its declared intention to compete for trading in the midcap market segment.

Figure 24: Market shares of the main regulated markets and MTFs in Europe for electronic trading in equities subject to pre-trade transparency
(June 2008 – March 2009)



Sources: Transaction Auditing Group, AMF

Figure 25: Times that the order books of the main regulated markets and MTFs in Europe showed the highest quantities with the best limits (March 2009)



Sources: Transaction Auditing Group, AMF

Analysis of the competitive advantages that encouraged the development of MTFs

MTFs are usually set up as electronic order books using advanced technology and operating with low overheads. They gained substantial market shares and owe their growth primarily to aggressive pricing, as in the case of Chi-X, Turquoise and BATS. Their business development policy, however, also led them to offer other competitive advantages.

- "Open" infrastructures

MTFs primarily distinguish themselves by their ability to integrate stocks of different European markets on a single trading screen. The stocks in question are generally the ones defined as liquid by CESR. However, their competitive advantage could be reduced by regulated markets, such NYSE Euronext and Deutsche Börse, which announced trading in foreign stocks either on alternative platforms (NYSE Euronext subsidiary Arca Europe and NYSE Euronext's SmartPool), or on their own trading system (Xetra for Deutsche Börse[22]).

- Trading infrastructures

In the early days, MTFs, like BATS in the United States, could boast of technological advantages, particularly in terms of low latency order execution, and they aimed at meeting demand for algorithmic or "high frequency" trading. These advantages on their own, do not seem to be lasting differentiation factors given the context of rapid technological process, leading to constant adjustments to meet demand, and because regulated markets have also improved their own trading infrastructures in this area[23].

-Pricing of market order execution

MTFs primarily distinguished themselves by their execution pricing. This had an impact on price levels as well as price structures. The average execution cost for a round-trip transaction in the first three quarters of 2008 (Figure 26) ranged from 0.25 to 0.30 basis points (bp), which is lower than the trading commissions on regulated markets, which ranged from 0.80 and 2.90 bps. The MTFs' pricing put strong downward pressure on the regulated markets' trading commissions. These were reduced by 10% to 15% on Xetra and SETS and by approximately 30% on NYSE Euronext in 2008. In the latter case, the reductions were specifically aimed at users that generate large transaction volumes. More recently, NYSE Euronext announced an "overall reduction in trading commissions of some 20% on all markets in Europe"[24].

The MTFs' aggressive pricing led to greater use of asymmetrical pricing to attract liquidity from regulated markets, which involves different prices for orders that make liquidity and orders that take liquidity. This development echoes many pricing initiatives in the United States[25] that have led the regulated markets to adopt

[22] On 16 April 2009, Deutsche Börse announced the launch of Xetra International Market slated for the end of 2009. This will be a trading platform for pan-European stocks and it intends to provide clearing solutions through Eurex Clearing in Frankfurt.

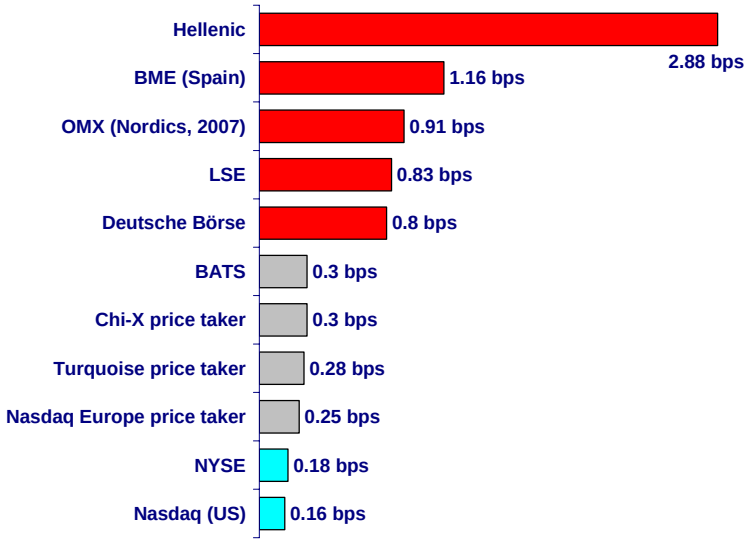
[23] See, for example, the press release from NYSE Euronext dated 5 May 2009: "NYSE Euronext and Ciena Partner on the First 100G Network - World's most diverse exchange group implementing high-speed, ultra-low latency trading and market data network with Ciena technology".

[24] See the press release: "*NYSE Euronext introduces new integrated transaction fee structure across its pan-European cash equity markets*" dated 24 March 2009.

[25] An illustration of the complexity of pricing policies can be found in the United States with an initiative from BATS Trading on the market segment for stocks trading at less than five dollars. In April a counter-intuitive pricing structure was adopted that pays liquidity takers and charges liquidity makers. This pricing, which is differentiated by market segment, is linked to the decision of some operators to adopt a multiple-book tactic with different prices to squeeze more profit from their infrastructures, while targeting several customer groups (see, for example, Traders' Magazine dated 27 March 2009, "*BATS to Pay Liquidity Takers for Low-Priced Stocks*").

inverted pricing structures, which means that they pay for orders that take liquidity. In Europe, MTFs generally charge about 0.20 bps for orders that make liquidity and about 0.30 bps for orders that take liquidity. However, some MTFs have also adopted pricing structures that pay customers generating large volumes for making liquidity, but such pricing is rather exceptional at this point.

Figure 26: Average execution cost for a round-trip trade (2008Q1 to 2008Q3)*



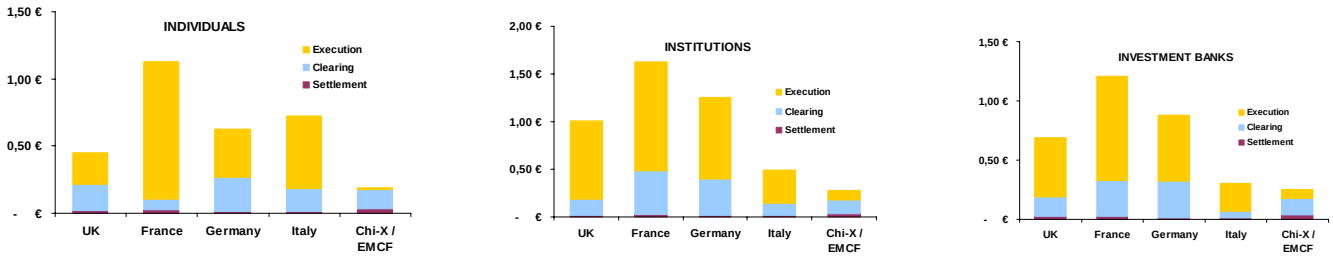
** Over this period NYSE Euronext assessed its fees at levels just under those charged by Deutsche Börse.*
Source: Morgan Stanley Research based on data from stock exchanges (average Jan.-Sept. 2008).

-Post-trade processing costs and implicit costs

The MTFs trading cost competition is not limited to explicit negotiation fees. It also extends to the post-trade costs as same MTFs used new clearing providers and, more specifically, the Fortis subsidiary EMCF and EuroCCP, a subsidiary of the American mutual entity DTCC. Even though it is still difficult to determine the competitive impact of these cost reductions with any precision, estimates (Figure 27) show a substantial differential compared with the prices of "incumbent" clearinghouses. However, this differential seems bound to narrow. For example, LCH Clearnet has developed competing services for MTF customers[26].

[26] LCH.Clearnet Ltd provides its clearing services to users of Equiduct, Smartpool and NYSE Arca and has acted as a second central counterparty for BATS Europe since 5 May 2009.

Figure 27: Explicit transaction costs by type of investor (May 2008)



** Methodology: these data are produced by simulations based on the price structures of the exchanges and assumptions about the size of a transaction and the total transaction volume for each investor. The simulation for a retail investor is based on the observed average transaction size of EUR 2,500 and a transaction volume that is equivalent to 0.2% of the total transaction volume on the market in question. The parameters for institutional investors are EUR 20,000 and 3.0% and the parameters for investment banks are EUR 15,000 and 11.0%. The results are robust to threshold effects, because they are not very sensitive to slight changes in the parameters.*

Source: AFTI/ Equinox Consulting 2008.

Recent changes in the competitive environment spurred MTFs to change their business model and diversify their sources of income:

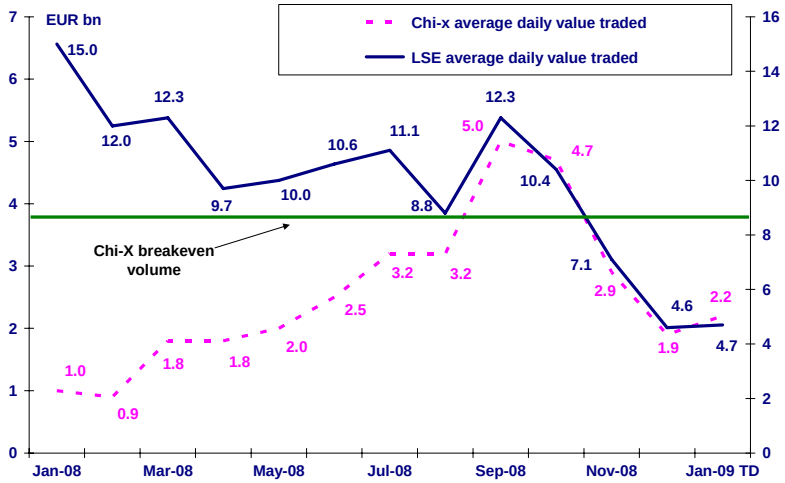
- Questions about the viability of the business model that produced the recent success of MTFs

The viability of the business model based on direct competition with the order books of regulated markets, which has been successful for MTFs so far, seems to be under threat from various factors. We can distinguish some short-term factors and some structural factors in this threat. It seems that the sensitivity of the MTFs to short-term developments, such as changes in transaction volumes, has changed since the beginning of 2008. Figure 28 shows that the strong growth of volume handled by Chi-X remained uncorrelated to changes in volumes handled on the London Stock Exchange until the third quarter of 2008. The subsequent big reductions in volumes affected the MTFs and the London regulated market in similar proportions. This trend seems to stem largely from a drop in the transaction volumes generated by hedge funds and algorithmic trading. On this basis, most of the new MTFs have yet to reach their break-even point. For example, Chi-X, despite its rapid growth and limited costs, seems to have turned a profit only briefly at the beginning of 2009[27]. Thus, in view of the MTFs' stalled development, their shareholders may take a second look at the attractiveness of their shareholdings, especially as some shareholders have stakes in several competing projects[28]. The effects of the crisis (especially on banks' balance sheets) have certainly made shareholders more demanding with regards to profitability, but things are less straightforward than they seem, since the shareholders often benefit indirectly from the downward pressure on transaction costs in their capacity as investment service providers.

[27] Morgan Stanley estimated that Chi-X needs some 4 billion euros of transaction volume each day in order to break even (Figure 29)

[28] More specifically, the leading investment banks (Bulge Bracket Firms) often hold stakes in several competing projects. In early 2008, for example, only one of the nine banks (Deutsche Bank) with a stake in Turquoise did not own shares in Chi-X as well. Conversely, of the thirteen financial intermediaries owning stakes in Chi-X (BNP Paribas, Citigroup, Credit Suisse, Goldman Sachs, Merrill Lynch, Morgan Stanley, Société Générale, UBS, Citadel, Fortis, Getco, Lehman Brothers and Optiver), only the last five did not own stakes in Turquoise, which was still developing its system at the time.

Figure 28: Trading volumes on the London Stock Exchange and Chi-X since January 2008



Source: Company data, Morgan Stanley Research

In more structural terms, some MTFs may have managed to gain market share, but alternative platforms in general are still unable to provide liquidity to the extent of regulated markets. This was revealed by their relative inability to capture transaction volume from regulated markets during various episodes when the latters' trading systems were accidentally disrupted[29]. At this stage, therefore, it seems unlikely that these MTFs will follow the path taken by their US opposite numbers, BATS and DirectEdge, which have recently transformed themselves into regulated markets[30].

- MTFs are currently undergoing major changes

In view of the threats to the viability of their business model, MTFs are seeking new areas for growth. Three avenues for development can be identified. The first is providing data and data processing services, which some MTFs have made into a fully-fledged source of income. As service providers for users of automated order management techniques, MTFs have also developed technical skills that can be turned to profit by developing specialised services. This can be seen in various initiatives by MTFs, like Chi-X, which recently developed a technological business (Chi-Tech) that develops algorithmic trading platforms for financial intermediaries[31], or Equiduct's entry into the market data business[32].

The second avenue for development is trading other products besides shares. Several platforms have decided to extend or considered extending their business to other types of products, such as structured products in the case of Chi-X, equity derivatives in the case of Turquoise and funds in the case of Equiduct, which is planning to list ETFs. These new businesses may provide higher profit margins and will also help stabilise income[33].

[29] More specifically on the London Stock Exchange on 8 September 2009 or during the first two hours of trading on NYSE Euronext on 20 April 2009. For more details see, for example "*Technical Trouble Delays Trade on NYSE Euronext*" in the Wall Street Journal dated 20 April 2009.
[30] The SEC is examining such an application from DirectEdge.
[31] See, for example, "*Oddo & Cie deploys Chi-Tech trading platform*" (Finextra dated 8 April 2009).
[32] See Reuters, "Equiduct eyes market data as revenue driver" dated 8 May 2009.
[33] The article in the Financial News dated 5 May 2009 "MTFs respond to pressure", explains that MTFs will be able to meet the demand from certain market participants to trade in different asset classes on a single screen so that they can implement arbitraging strategies and hedge large equity positions.

The third avenue for development is to provide dark pools of liquidity services. MTFs manage electronic order books that are usually similar to the central limit order books on regulated markets. A majority of MTFs have however introduced dark pools as well, which are trading platforms with pre-trade transparency waivers. The trend seems to be growing as well, with several new initiatives in recent months. In reality, the market features that enable to reduce the cost of transactions market impact form a continuum from regulated markets, where various types of hidden orders and functions make it possible to limit pre-trade transparency, to dark pools, which are separate order books with pre-trade transparency waivers.

These observations on MTFs and regulated markets show that regulators do not yet have enough elements to draw any conclusions about the benefits of competition with regard to trading in equities. The trading costs to be considered for such an evaluation include both explicit and implicit costs. Yet, the trading costs considered above represent only part of the explicit costs, which are the transaction commissions and post-trade fees. They do not include the costs of acquiring and consolidating information in a fragmented trading universe, which various market participants report as rising[34], or the implicit costs. If we were to consider implicit costs, we would need to look at two additional families of indicators: instantaneous indicators of liquidity cost (such as bid-ask spreads) and indicators of the impact costs of transactions (over time), which would enable us to evaluate how well the development of dark pools of liquidity has actually attenuated price movements on the market following very large transactions[35]. The rare empirical evaluations available show significant growth in the quoted spreads in recent months[36], but a long-term interpretation of this trend is still difficult because of the disruption caused by the volatility induced by the crisis. Furthermore, the smaller transaction sizes seen on regulated markets could point to higher impact costs, since operators could be avoiding such costs by fragmenting their orders, but, once again, this indirect indicator is still cursory. For lack of more systematic analysis, it is still difficult to assess how much the keen competition between MTFs and regulated markets has actually reduced trading costs. Even though we may consider that the reduction of costs has become permanent, we must also consider the fact that it may have undermined the price formation process.

3. The crisis revealed shortcomings in the structure of the bond and credit derivatives markets

The financial crisis highlighted the value of enhanced transparency in OTC markets

The propagation of the US subprime crisis to virtually all credit markets since the end of 2007 affected three OTC market segments in particular when the "second-round" macroeconomic effects started to be felt. These were the securitised debt market that restructured and redistributed the risks originally incurred by the banks, the credit derivatives (CDS) market and the corporate debt market. Consequently, the corporate debt market saw a drop in prices (see above), as well as a fall in liquidity, which was much more pronounced than the fall in liquidity seen on the markets for listed shares[37]. This movement in Europe featured a significant widening of quoted spreads, which measure the instantaneous bid-ask spread for a given security. These short-term developments underlined a structural feature of the credit markets, which is that credit spreads are wider than warranted by historical default rates. This is known as the credit spread puzzle. The spreads also include a significant liquidity premium[38] that is likely to increase greatly in a crisis.

[34] Without giving any actual figures.
[35] More generally, impact costs correspond to adverse price movements stemming from asymmetrical information.
[36] See, for example, the *time-weighted spread* indicator on the London Stock Exchange proposed for this purpose in CESR's report entitled "Impact of MiFID on Equity Secondary Markets" from June 2009.
[37] The width of quoted spreads on the London Stock Exchange, for example, has been documented in the LSE's response to the CESR call for evidence made as part of its evaluation of the impact that MiFID on secondary markets in equities.
[38] This has been documented by various academic studies and, more specifically, by Elton, Gruber, Agrawal and Mann (2001). With regard to the European market, see Jong & Driessen (2005).

Trends are ultimately favourable for greater transparency in certain market segments, but questions remain about the optimum market structure

Questions about the lack of market liquidity have encouraged discussions about reforming the structures of the secondary markets for the products that played a substantial role in propagating the crisis. More specifically, the time seemed right for a discussion in Europe about the scope of the transparency requirements in MiFID. Article 65 of the Directive gives the European Commission a mandate to review the possibilities for extending the pre-trade and post-trade transparency requirements to other asset classes besides equities. This mandate led to the publication of a report in April 2008[39] that concluded provisionally that there had been no market failure and, consequently, no need for regulatory intervention. An extension of the transparency requirements to certain segments of the credit market is now being discussed. The segments in question are the corporate debt market, as well as the securitised debt market and credit derivatives market[40].

The work initiated by CESR could lead to convergence of market structures in America and Europe, with stricter post-trade transparency requirements in the European market for corporate bonds. This would be inspired by America's experience with the implementation of the TRACE system for post-trade publication[41] of trades in corporate bonds by the NASD in 2002, which has had well-documented beneficial effects for liquidity[42], and by the recommendations of studies on market structures aimed at informing the debates of the European Commission[43].

But two other ways of extending the regulatory provisions could also considered:

- The first way would be to devise pre-trade transparency requirements. In view of their negative impact on the incentives for market makers to provide market liquidity, the liquidity benefits of such an increase in pre-trade transparency requirements are more difficult to evaluate and call for prudence.
- The second way involves extending the transparency requirements to other products besides corporate bonds and, more specifically, to structured products and credit derivatives, with the knowledge that transactions in unlisted instruments are not currently subject to any requirements with regard to transparency or reporting to authorities.

One of the benefits of greater post-trade transparency would be the ability to extend the MiFID best execution requirements to new asset classes in a situation where investors do not currently have the information they need to assess compliance with this requirement, except in the case of transactions on regulated markets or on MTFs that are subject to the transparency requirements. In any event, if transparency requirements were to be set for OTC trading, the governance and the technical features of the reporting systems to be implemented would take on special importance.

[39] EU Commission's Report on non-equity Market Transparency – April 2008

[40] See "Consultation on transparency of corporate bond, structured finance products and credit derivatives markets" by CESR dated 19 December 2008 (CESR/08-1014).

[41] The information published includes prices and quantities, and is released within 45 minutes more than half the time.

[42] See in particular Edwards, A., L. Harris, and M. Piwowar, 2006, "Corporate Bond Transaction Costs and Transparency," *Journal of Finance* forthcoming; Bessembinder, H., W. Maxwell, and K. Venkataraman, 2006, "Market Transparency, Liquidity Externalities, and Institutional Trading Costs in Corporate Bonds", *Journal of Financial Economics*; and Goldstein, M., E. Hotchkiss, and E. Sirri, 2006, "Transparency and Liquidity: A Controlled Experiment on Corporate Bonds," *Review of Financial Studies*.

[43] Two empirical studies were conducted in 2006 under the aegis of different financial intermediary trade associations to inform the European debate about regulations: Biais, Declerck, Dow, Portes, von Thadden (2006), "European Corporate Bond Markets: Transparency, Liquidity, Efficiency", CEPR and Dunne, Moore, Portes (2006), "European Government Bond Markets: Transparency, Liquidity, Efficiency", CEPR.

4. Strategic repositioning of market intermediaries and its effect on competition and market organisation

The preceding examination of competition between regulated markets and MTFs in equities trading does not consider the third type of participant defined by MiFID: systematic internalisers. Consequently, the development of systematic internalisation by banks, which may have been expected by some, turned out to be quite limited at first. In the case of NYSE Euronext, this development was probably curbed by the Internal Matching Facility offered by the exchange. Since then, however, a number of initiatives have been launched, including one by BNP Paribas in France. More generally speaking, the crisis led the leading investment banks to reduce their principal trading and develop their agency trading, which takes less liquidity[44]. Yet, this brokerage business, which has been developed on the basis of major technological infrastructures, may be considered to be in direct competition with the stock exchanges' brokerage businesses. This means that a review of the competitive structure seems to be even more necessary, since innovation in the structure of equities trading calls for more frequent reviews by regulators and the dividing lines between the businesses of different types of market participants seem to be growing fainter in this respect, especially where there are transparency waivers concerning the terms of transactions.

Looking beyond the equity markets, there are problems in the mechanisms for providing liquidity during times of crisis. This calls for reconsideration of the organisational and structural principles of the OTC markets, which represent significant sources of profit for investment banks'. The markets concerned are fixed income markets and OTC derivatives markets, with no uniform progress on the different market segments at this stage. Changes on derivatives markets have mainly concerned operational processing and post-trade processing of transactions on the CDS market segment so far. In the corporate debt and securitised debt market segments, changes have mainly concerned trading infrastructures, which have been altered by the adoption of pre-trade and/or post-trade transparency rules. Banks' strategies are also determined by the development of their post-trade business, where profitability relies mainly on providing financing services, such as prime brokerage, as a sideline to their custody business. In this respect, we have seen simultaneous business concentration aimed at achieving economies of scale, as technological investments become increasingly large and markets become more international, and specialisation in less competitive market segments that are more lucrative, when the services on offer enable to a provider to differentiate itself from the competition.

Generally speaking, these changes could cause market structures to evolve and the dividing lines between regulated and OTC markets could shift in such a way that it changes the banks' role in market intermediation.

5. Post-trade infrastructure: advances in risk control on OTC derivatives markets

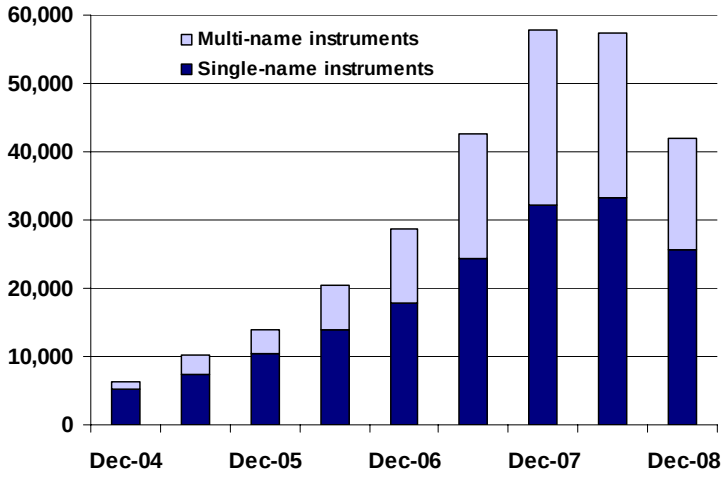
The spotlight has been on OTC derivatives markets recently because of the significant role that they played in propagating the effects of the crisis on the securitisation market by providing hedging instruments for certain credit risks. One result was spontaneous development of clearing in certain market segments, such as the interest rate swap market and, more especially, a raft of regulatory and industry initiatives on the CDS market. Under the circumstances, it would be helpful to review the main changes in the market structure for these securities, since changes on these markets are likely to feature in a more general debate about the risks related to OTC derivatives markets.

[44] "Wholesale Banks-Outlook for Global Wholesale & Investment Banking" (Oliver Wyman & Morgan Stanley, 30 March 2009).

The growth of the CDS market and the role of CDS contracts in the crisis call for better risk management

After a period of very rapid growth to the order of 110% per year between 2004 and 2007, the BIS estimated outstanding notional amounts of CDS contracts in circulation worldwide at USD 57.9 trillion at the end of 2007, representing 9.7% of the world market in OTC derivatives (Figure 29). At the end of 2008, outstanding amounts were down by 27.6% to USD 41.9 trillion. Much of the decrease can be explained by a move to rationalise contracts[45]. This led to massive cancellation of outstanding notional amounts, with the elimination of USD 17 trillion in the first half of 2008 alone. The cancelled trades were replaced by a smaller number of contracts that reduced positions through multilateral offsets (see below). However, much of the decrease is "technical" in that the gross market value of the contracts, which is a better risk indicator, because it measures the replacement value of existing contracts, increased by 182.3% in 2008 because of increased credit risk and counterparty risk.

Figure 29: Outstanding notional amounts of CDS contracts
(USD billion)



Source: Bank for International Settlements

Under these circumstances, the financial crisis was an acute reminder of the specific risks in the CDS market. These risks, which are potentially features of other OTC markets, were identified in the AMF's 2008 risk mapping exercise. They are mainly operational in nature and they concern the different links in the order processing chain. More specifically, the risks identified include:

- Risks relating to internal processes, such as risks resulting from trade confirmation backlogs;
- Risks relating to the compliance of contracts, for example, when a contract is not enforceable in certain jurisdictions, or fails to define default events appropriately;
- Counterparty risks, when a participant does not know or underestimates the risk incurred by a counterparty to a contract. The importance of such risks became acutely apparent when the financial crisis led to be bank failures;
- Risks relating to inadequate tracing of trades and their volume and price characteristics, which hampers the market transparency of transactions and reporting to the competent authorities.

[45] TriOptima, which started offering multilateral trade terminations through portfolio compression in 2003, reports that it eliminated 30.2 trillion dollars in CDS outstanding notional amounts over 2008 as a whole and 5.5 trillion dollars in the first half of 2009.

Furthermore, the conjunction of structural and short-term factors emphasised the systemic dimension of these risks. Initially, the purpose of the CDS market was basically to enable banks to pool the credit risk on their assets. Therefore, the market contributed to reducing systemic risk. But its role has changed. The market's recent growth was sustained largely by the development of risky complex structured financing instruments such as synthetic CDOs, which increased the demand for CDS contracts. The supply of default risk hedges was provided to a certain extent by institutional investors, such as hedge funds, which were not really in the business of selling credit insurance and sometimes it was difficult to assess their financial soundness because of the lack of transparency surrounding their activities. But the importance and systemic nature of counterparty risk was actually revealed by the scale of the bank failures and problems encountered by monoline insurers. Ultimately, the risk turned out to be the result of a concentration of short positions and long positions and the inadequate visibility of these positions owing to the lack of centralised information about transactions and inadequate standardisation of the contracts[46].

The review of the CDS market organisation raises more general questions about the optimum market structure

Despite the problems quantifying the benefits of reducing systemic risk versus the cost of the risk reduction mechanisms, the crisis produced a consensus among regulators[47] and market participants as to the need to improve transparency and risk management on the CDS market by developing appropriate infrastructures. This consensus led to several developments, including:

- The DTCC's promotion of a "Trade Information Warehouse" in the United State offering various services related to administrative management of CDS contracts (automated payments, etc.) and centralising trade information. Plans to set up a similar system in Europe are now being considered;
- Greater use of portfolio compression services for US and European CDS contracts provided by such platforms as TriOptima[48] and, more recently, Creditex and Markit[49]. These services consolidate information from different counterparties about the contracts in question and replaces them with bilateral contracts that maintain the same net exposures, but reduce the gross exposures under the initial contracts, which are ultimately cancelled;
- ISDA's launch of two types of initiatives, the first of which affected the operational procedures without making any changes to the contracts[50], and the second amended the contracts themselves. The first initiatives led to the adoption of new Auction Settlement mechanisms[51] for contracts to improve management of counterparty risk[52]. ISDA has applied the new procedures to all contracts since 16 March 2009. The second set of initiatives significantly enhanced standardisation of the contracts[53];

[46] The non-uniformity of complex transactions has been greatly reduced in recent years, especially in the case of index CDS contracts through the combined effects of ISDA standardisation and the role that the reference index "sponsors" (ITraxx or Markit) play for these instruments. This standardisation makes it possible to integrate liquid CDS contracts on indices into conventional clearing architectures.
[47] See, for example, the G20 communiqué dated 2 April 2009.
[48] "Since 2003, the private firm TriOptima has been offering multilateral termination services to OTC derivatives dealers, initially for interest rate swaps and subsequently for CDS. A termination cycle consists of two steps. Dealers first provide contract-by-contract information on their derivatives positions, and the firm then checks whether each individual contract is reported by both counterparties with identical terms. In a second step, TriOptima computes a set of bilateral contracts between participants that provides the same net exposures but lowers gross exposures." Source BIS, December 2008.
[49] Creditex and Markit, under the aegis of ISDA, launched compression runs for single name CDS contracts in the third quarter of 2008. The first run ended on 27 August. By the end of November, after 26 compression runs, the outstanding notional amounts were down by 1.1 trillion dollars. Source: Creditex, Press Release dated 14 November 2008.
[50] The adoption of standard 100 bp and 500 bp coupons, and the removal of Modified Restructuring clauses, under which debt restructuring (as defined by ISDA) may trigger a payment default on the CDS. The new contracts contain a No Restructuring Clause, which removes restructuring from the list of Credit Events and makes the contracts more fungible.
[51] This mechanism gives a single value to the underlying debts and makes uniform settlement at the maturity of the CDS contracts possible. By allowing for cash deliveries, it also reduces the problems of physical delivery, especially when the number of CDS contracts issued is greater than the amount of the underlying debt.
[52] Following the bankruptcy of Lehman Brothers on 15 September 2008, ISDA managed the Auction Settlement of the CDS on the banks' debt on 10 October 2008.
[53] In April 2009, ISDA launched its "Big Bang Protocol for CDS".

- The development of central counterparty clearing[54] for fungible and standardised products, which will reduce operational risks and counterparty risks. It is however particularly important to note that clearing services require standardisation of the relevant contracts beforehand, whereas many contracts, which are generally single-name instruments, are not fungible, especially if they have different coupon payment schedules.

6. Post-trade infrastructures are the focus of competitive and market structure issues

The analysis of the role played by post-trade infrastructures varies depending on whether it looks at markets, such as the regulated markets in equities, for which clearing, automated settlement and a wide range of securities services are provided, or OTC markets, where the development of the role of post-trade infrastructures has been hampered by the limited fungibility and standardisation of the products traded. On regulated markets, the aim has primarily been to rationalise infrastructures in a European market, where fees for post-trade services are still predominant in the overall transaction cost structure[55], especially for cross-border transactions, and to organise competition between infrastructures where appropriate. On OTC markets, the analysis takes a more fundamental look at the nature of the services that are needed or would be helpful and raises questions about organising competition between clearing providers. Dealing with these issues requires some thought about market access and the fungibility of contracts.

The optimum organisation of competition between clearing providers has yet to be found

Organising competition between clearing infrastructures raises two types of problems. The first is the possibility that such competition could give rise to operational risks linked to the organisation and interoperability of clearinghouses. Interoperability requires harmonised credit, operational and legal risk management mechanisms, particularly with regard to cross margining and the use of valuation models. It also calls for international harmonisation of oversight and supervision, meaning a common definition of operators' rights and obligations, whereas some countries, such as France and Germany, require clearing providers to be authorised as credit institutions and to comply with the related regulatory obligations, other countries have no such requirement. The difficulty in reaching a common understanding about the systemic risk that a clearinghouse is likely to have implications for governance, since choosing between incorporation as a commercial company or a mutual entity status is not a neutral decision in this respect. In this field, where a few national and regional players have achieved a certain stature and developed international strategies, the implementation of market structures intended to promote competition seems bound to be hampered by the prevailing rationales on the markets. To date, the adoption of a code of conduct by the post-trade industry at the initiative of the European Commission has given competition between clearing infrastructures the biggest boost on cash equity markets.

In practice, competition has been limited to some multilateral trading facilities, set up in London for the most part, following the adoption of MiFID. However, it has promoted the emergence of new clearing providers, such as EuroCCP and EMCF, a subsidiary of Fortis.

[54] Central counterparty clearing means that the clearinghouse, in addition to its technical function of calculating net balances, legally substitutes itself for the initial sellers and buyers to guarantee the proper execution of transactions through a legal process called novation. The benefits of having a central clearinghouse are many: guarantee that transactions will be properly executed, transparency of transactions, especially as regards prices, which has a potentially beneficial effect on the liquidity of contracts, implementation of supervisory procedures and margin calls. The main tasks of the clearinghouse are to ensure the solvency of its members, define the rules for collateralising open positions and the rules for liquidations.

[55] See "Nouvelle organisation des marchés européens : Enjeux et perspectives pour le *post*-marché". Presentation by Equinox-AFTI on 19 June 2008 by G. Bonin and A. Pertriaux.

In contrast to the cash markets, the regulated derivatives markets seem to be moving towards a "silo" structure, like LIFFE, which has instituted internal clearing solutions to replace the services provided by LCH Clearnet. This can be explained in part by the specific features of the markets concerned, which are more concentrated and more specialised, with LIFFE being the European leader for short-term interest rate derivatives and Eurex being the leading market for long-term rates, etc., as well as by the specific features of the products traded, with trading in such products being more closely linked to the availability of clearing solutions. This change is in line with the trend seen in the United States, where the merger of CBoT and CME in 2007 had the primary effect of enhancing the vertical integration of trading and clearing structures[56].

The development of post-trade services on OTC markets calls for special consideration

The growing use of clearing on OTC markets calls for specific problems to be overcome, particularly those resulting from the structural illiquidity of most of the products traded on these markets, even when there is no crisis. In particular, it seems necessary to consider situations where the use of valuation models is required as an alternative to market prices, which has implications for margin calls and delivery settlement prices.

In more general terms, central transaction clearing infrastructures provide a high level of risk control on these markets, but they seem similar to the ISDA uniformity initiatives on the OTC markets or the development of such infrastructures as the Trade Information Warehouse for the CDS market in the United States, in that they only make sense for standardised and fungible products. Therefore the existing clearinghouses (ICE Trust and CME in the United States, LCH.Clearnet Ltd in Europe) and planned clearinghouses (Eurex and LCH.Clearnet SA) handle only CDS contracts on indices at this stage.

7. Summary of trends and risks relating to market and post-trade infrastructures

Stock exchanges face keen competition. Following the adoption of MiFID, the initial competition came from multilateral trading facilities. The MTFs are often based in London and they manage electronic order books for blue chip stocks. Their main distinctive traits are their order execution technology, aggressive pricing and inexpensive alternative post-trade solutions. There are many MTFs in business now and some of them have achieved substantial market shares. However, a new generation of platforms is developing that could increase the competitive pressure on established markets. These "dark pools of liquidity" operate outside the market, exploiting waivers and grey areas in MiFID. Their trading structures are often innovative and different from those of the conventional markets. They operate alongside the regulated markets, offering market structures for block trades or crossing networks. Banks are entering the field too, offering internal order-matching systems. The resulting pressure on the exchanges' core business has pushed them to step up restructuring, with more consolidation to increase economies of scale and diversification into more lucrative market segments, such as listings for new products and post-trade activities further along the order processing chain.

There is still some debate about the appropriate amount of transparency for transactions on secondary markets for financial instruments. In recent times, equity markets have seen the growth of dark pools of liquidity, which seems to indicate a trend in favour of less stringent transparency requirements. On the other hand, the problems occurring during the crisis have spurred market regulators to increase the transparency of transactions on OTC markets. On these markets, post-trade transparency now appears necessary to reduce the cost of market making, by imposing appropriate deadlines for disclosing transactions. This would enhance liquidity and facilitate the assessment and supervision of market operations.

[56] The US Department of Justice expressed misgivings about the effects of this merger and the risks that it was likely to create in terms of competition.

The crisis once again shone a spotlight on post-trade infrastructures, because of their importance for risk management, as well as their more structural role for trading activity in general. The collapse of Lehman Brothers highlighted market participants' difficulties in assessing counterparty risk on OTC derivatives markets, especially in the credit derivatives market. The resulting drive to improve risk control revived market participants' interest in clearing systems. More specifically, CDS market initiatives were taken in the United States and Europe to enhance the standardisation of contracts and to create clearinghouses that could reduce systemic risks. New alternative trading platforms have created several competitive initiatives for post-trade processing of cash transactions in equities. The scope and impact of these initiatives have yet to be evaluated.

In light of these trends in markets and market infrastructures, a number of risks can be highlighted.

First of all, risks weighing on the liquidity and smooth operation of markets in financial instruments need to be discussed:

- Debt markets saw liquidity dry up during the financial crisis, especially the securitisation vehicles market segment. The lack of transparency on these markets, where bilateral trades take place with no requirements regarding pre-trade or post-trade disclosure, was certainly an aggravating factor in the crisis. The contraction of investment banks' principal trading on debt markets may have been another obstacle to the resumption of satisfactory liquidity conditions.

- Liquidity on regulated equity markets became fragmented. This fragmentation creates the risk of a deterioration of the price formation process and a subsequent increase in total transaction costs. This stems from the market participants' problems in obtaining market information and the growing confusion about the dividing line between order books and dark pools of liquidity, because of innovations intended to reduce the cost of transactions' impact. This raises questions about setting limits on the MTFs' initiatives to make the most of transparency waivers. It also raises questions about competition between MTFs and regulated markets and between MTFs and banks, which have expressed renewed interest in the agency brokerage business, which consumes little regulatory capital.

The second risk relates to the security of OTC markets, since the post-trade infrastructures are still underdeveloped. Despite real and substantial advances in the credit derivatives market, operational and counterparty risk management on OTC derivatives market is still inadequate, largely because of inadequate automation and traceability of transactions. The dangers of such a situation need to be considered in light of the size and rapid growth of these markets.

Finally, on a more general level, questions could be asked about the "economically optimal" organisation of secondary markets and post-trade infrastructures, particularly with regard to certain procedures for organising competition and their effects on infrastructures. In particular, the following possibilities have been identified.

- The benefits of competition could be overestimated with regard to the cost of duplicating expensive infrastructures in order to achieve it. This could be the case for certain post-trade infrastructures, where major economies of scale can be achieved, as well as for various innovations on the trading market. For example, lower latency is an undeniable competitive advantage, but the economic benefit accruing to the customer (the end investor) from a reduction in order execution times of a few microseconds is less clear-cut[57]. Furthermore, competition must apply uniformly to all market segments. Trading in blue chip stocks, for example, is subject to keen international competition, whereas there is bound to be less competition for trading in smallcaps and midcaps, which are much

[57] In a similar vein, the United States limits tick sizes to 1 cent, whereas some European markets have tick sizes as small as a thousandth of euro.

less liquid and handled primarily on a domestic basis. This gives rise to the risk that ruthless competition for trading in blue chips will come at the expense of less cross-subsidization of the cost of listing smallcaps and midcaps on stock exchanges and ultimately lead to higher transaction costs for such stocks.

- The market power of some participants, especially in market segments where competitors are differentiated, could be increased as a result of concentration, which is exacerbated by the financial crisis, and the merger or even the disappearance of major banks. This concentration is bound to lead to the emergence of oligopolistic rents and barriers to entry on the market, even though it is due in part to the high technological content of financial services and the integration of European markets. From the market regulator's point of view, the main task is to consider the potential effects that these changes will have on smaller players, on market access for new players and to measure the impact of innovations that help to differentiate service providers.

TRENDS IN RETAIL AND COLLECTIVE INVESTMENT MARKETS AND RISKS FOR RETAIL INVESTORS

I – Household saving

1. Households favoured bank deposits while other forms of financial investment were at a standstill

Households favoured bank saving instruments in 2008, in preference to life insurance products in particular and collective investments in general.

In 2008 financial investment flows from French households (excluding unlisted equities) totalled EUR 86 billion (figure 1), a sharp decline from the preceding year's figure of EUR 136 billion. Mounting uncertainties stemming from the severe deterioration in the financial and economic outlook led households to modify their choice of investments, tending more towards less risky savings instruments.

Bank deposit inflows increased significantly, reaching 49.3% of households' financial investments at the end of December 2008, compared with 27.6% at the end of 2007. This represented an amount of EUR 42 billion. However, not all types of deposits benefited to the same degree. Withdrawals from homebuyer savings plans (PELs) increased relative to the preceding year, approaching EUR 22 billion at the end of December 2008, compared with EUR 16 billion at the end of December 2007. In contrast, passbook saving accounts and time deposits attracted nearly EUR 48 billion and 17 billion respectively. In addition to their high degree of safety and relative liquidity, these financial instruments benefited from the favourable movements in short-term interest rates, which not only trended upwards through October but also remained higher than long-term rates through December. This asset class may also have benefited from special offers from banking networks, concerned about maintaining the volume of savings deposits on their balance sheets in a period of liquidity crisis.

Meanwhile, life insurance products, while maintaining their dominant position in French households' investment portfolios, were at a relative standstill. The sector took in EUR 65.7 billion, a sharp decline from the preceding year's EUR 89.5 billion, while still capturing 76.5% of total household investments. This very relative decline was the result of the stock market correction, which affected unit-linked policies, and also of the continued fall in bond yields that began in the summer of 2008 and affected non-unit-linked policies, albeit to a lesser extent.

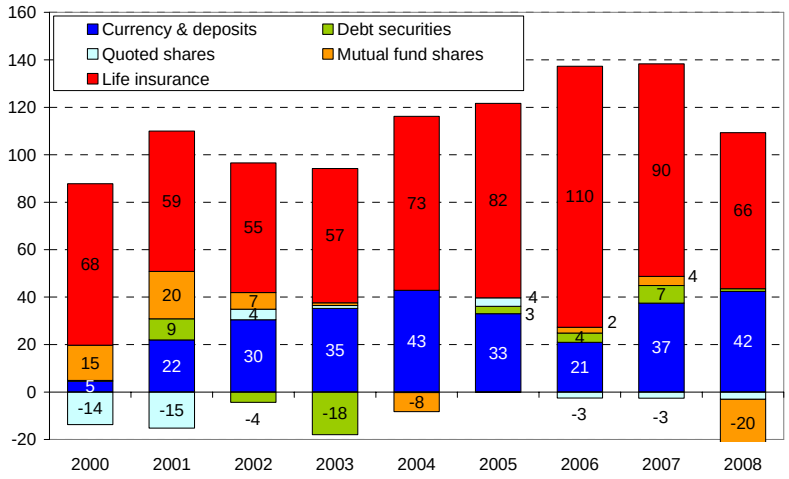
The other notable feature of 2008 was the attitude of households towards collective investment schemes. Redemptions of shares and units far outweighed subscriptions, with net withdrawals of EUR 20.4 billion. However, this overall trend conceals pronounced variations between different classes of funds. While households made very significant withdrawals (EUR 27.6 billion) from long-term investment funds (equity, bond, balanced, hedge, guaranteed, structured, etc.), they were net purchasers of money market funds to the tune of EUR 7.2 billion[58]. These differences are also explained mainly by the monetary and financial outlook prevailing in 2008. The sharp drop in stock prices deterred households from investing in equity funds, while the large increase in short-term interest rates in the first three quarters and the inversion in the yield curve made money market funds much more attractive.

Finally, household investments flows into debt securities declined appreciably in 2008, falling to EUR 1.2 billion, compared with EUR 7.4 billion in 2007. Holdings of listed equities also fell, with net sales of EUR 3.1 billion.

[58] Note that insurance companies purchased EUR 5 billion of shares in guaranteed and structured funds in 2008. These purchases were undoubtedly associated with household inflows to unit-linked life insurance policies.

Figure 1: French households' financial investment

(annual flows in EUR billion)



Source: Banque de France – Calculations: AMF

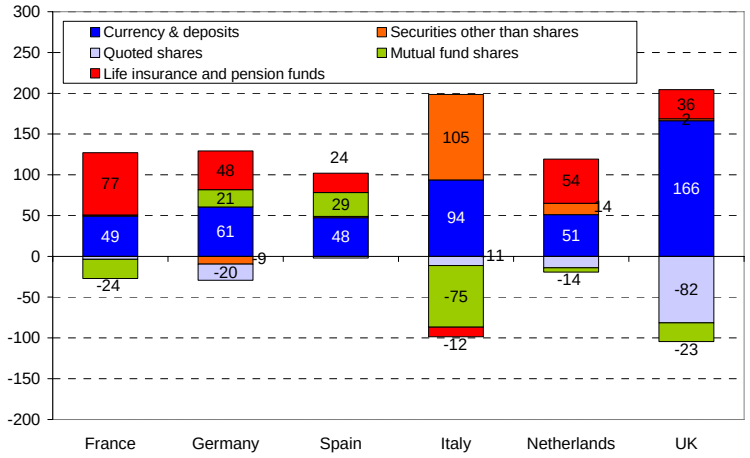
A comparison of the investment flows of French households with those in other major European countries (figure 2) shows that investments in bank deposits have increased in most countries, with the possible exception of the Netherlands. British households, in particular, have turned overwhelmingly to bank saving instruments, with inflows of nearly EUR 166 billion at the end of 2008, substantially more than the EUR 36 billion that flowed into life insurance policies and pension funds. Italian households have sold large numbers of shares and units in collective investment schemes in favour of bonds. Most of these were issued by banking institutions, sometimes in the form of structured bonds with an exposure to various asset classes, raising issues of competitive distortions at the expense of collective investment schemes.

These trends and the vast reallocations in household portfolios highlight the potential risks to savers arising from the absence of regulations governing the marketing of savings instruments that are economically similar but covered by different legal frameworks. The importance of this issue is evidenced in the work being conducted by the European Commission on retail investment products and by the working group of the AMF's Consultative Commission on Retail Investors, which has highlighted the absence of a level playing field in the regulatory treatment of investment funds, structured bank instruments and unit-linked life insurance policies[59].

[59] The European Commission has noted that "the retail investment market is largely dominated by 'packaged retail investment products'. These provide retail investors with easy access to financial markets, but can be complex for investors to understand. Those selling these products can also face conflicts of interest since they are often remunerated by the product manufacturers rather than directly by the retail investors. A complex patchwork of regulation has grown up to address these risks, and inconsistencies and gaps in the patchwork have raised concerns as to the overall effectiveness of the regulatory regime, both in relation to its capacity to protect investors and its ability to ensure the markets work efficiently. These concerns have been further heightened by the impact of the financial crisis." The Commission's April 29, 2009 press release ("Financial services: Commission proposes better investor protection measures for packaged retail investment products") summarised the Commission's orientation on this issue and announced that it will provide "a more detailed orientation on the shape of the legislative proposals…by the end of 2009".

Figure 2: Structure of households' annual financial investment flows in the major European countries at the end of December 2008 (*)

(Annuals flows, in %)



Source: National central banks, OECD for the Netherlands
(*) The figures for the Netherlands are for end December 2007, and those for Germany and Italy are for end September 2008

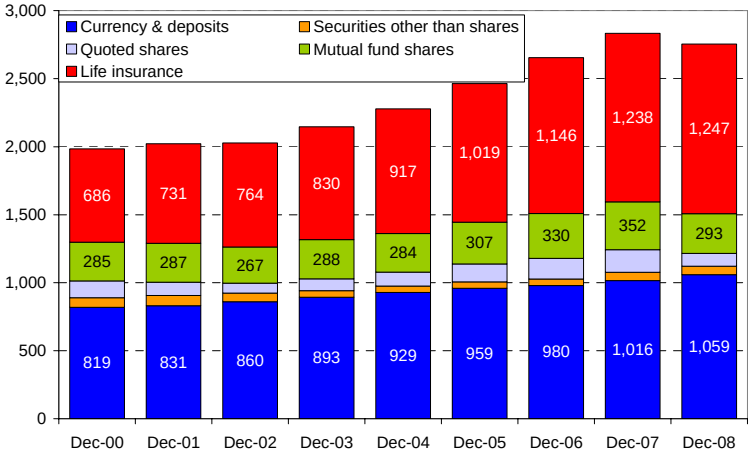
Outstandings are still highly concentrated in life insurance contracts and bank savings instruments.

In 2008 the assets of French households (excluding unlisted shares, figure 3) declined relative to the preceding year, indicating a drop in wealth that stems directly from the impact of the financial crisis on the markets. However, the losses were extremely modest, due to French households' limited direct and indirect holdings of listed equities (see below). At the end of December 2008 the overall amount of financial investments held by French households (excluding unlisted shares) reached EUR 2,754 billion, compared with EUR 2,832 billion at the end of December 2007. Bank deposits and life insurance contracts represented 38.5% and 45.3% of total financial investments held, with both percentages registering an increase over the preceding year.

French households invested 11% of their financial wealth in investment funds, a share that has been declining continuously since 2000. The portion invested in listed stocks has not exceeded 3.5% during that time, while the portion invested in debt securities now stands at 2.3%.

Figure 3: Financial assets of French households at the end of December 2008

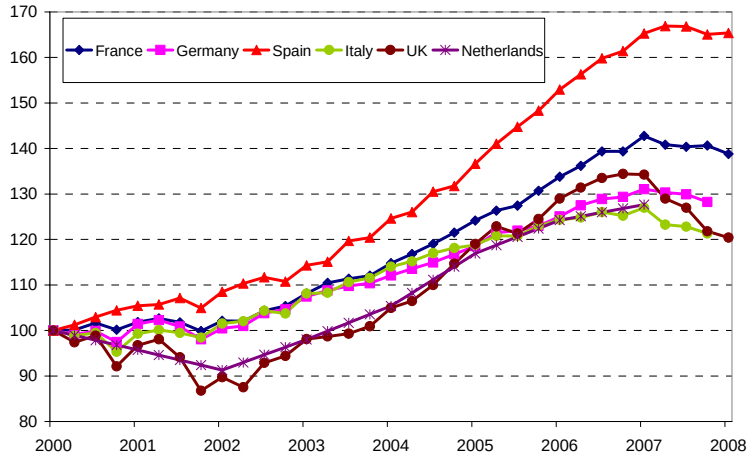
(Outstandings in EUR billion)



Source: Banque de France

The total financial assets of French households have increased by 38% since 2000 (figure 4), with an average annual growth rate of 5%. This is the second highest growth rate in Europe, behind that of Spain. In 2008 there was a slight drop in total outstandings in all of the countries studied, linked to the severe correction in stock prices on all exchanges.

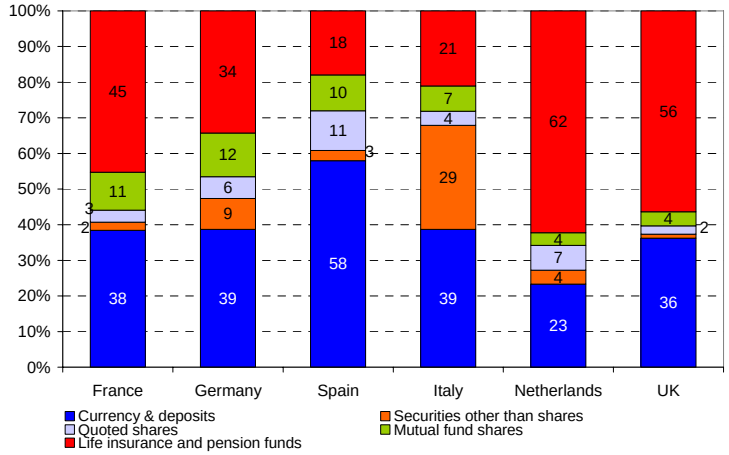
Figure 4: Growth in financial assets of households in the major European countries between December 2000 and December 2008 (*)
(December 2000 = 100)



Source: National central banks, OECD for the Netherlands
(*) The figures for the Netherlands are for end December 2007, and those for Germany and Italy are for end September 2008

A comparison of the structure of households' financial assets by country (figure 5) reveals that the historical opposition between Spain and Italy on the one hand and the United Kingdom and the Netherlands on the other hand remains unchanged. In the first group of countries, a large portion of households' financial assets is devoted to bank deposits, reflecting the central role of traditional bank intermediation. In contrast, the financial assets of British and Dutch households are composed mainly of life insurance products and investments made through pension funds, due to these countries' funded pension systems. France and Germany are midway between these two groups: the financial assets of French and German households include large percentages of both bank savings instruments and life insurance contracts.

Figure 5: Structure of households' financial assets in the major European countries at the end of December 2008 (*) *(in %)*



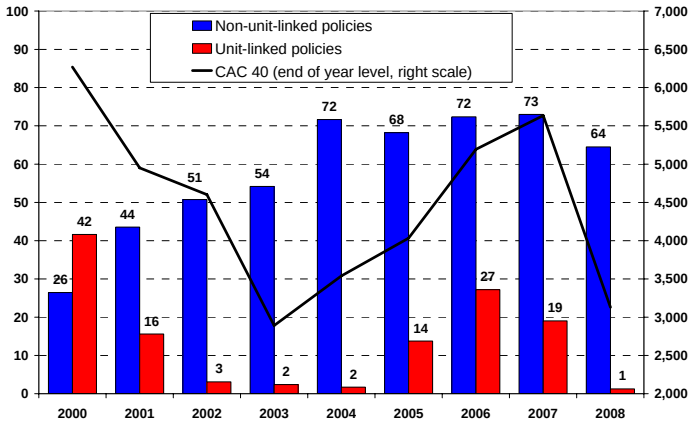
Source: National central banks, OECD for the Netherlands
(*) The figures for the Netherlands are for end December 2007, and those for Germany and Italy are for end September 2008

2. The share of financial assets invested in collective investment schemes fell significantly in 2008, mainly as a result of the financial crisis

Unit-linked life insurance suffered from the deterioration in equity markets

The life insurance sector was marked in 2008 by a drop in household investment flows into unit-linked life insurance policies (figure 6), due mainly to the turbulence in stock markets, while net subscriptions in non-unit-linked policies fell only slightly relative to the preceding year. This is a repeat of the phenomenon observed in the preceding stock market correction (2001 – 2003), namely a pronounced aversion for financial products with a high equity content when stock prices decline, reflecting the procyclical nature of households' investment choices.

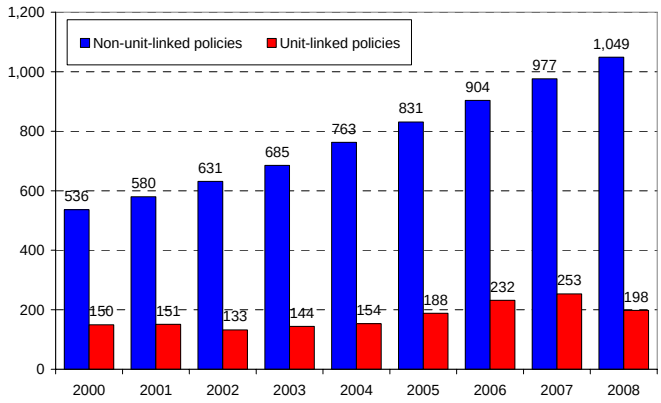
Figure 6: Annual investment flows into euro-denominated and unit-linked life insurance at the end of December 2008 (*) *(EUR billion)*



Source: Banque de France, FFSA, and Thomson Financial
(*) The figures for December 2008 are estimates

The drop in unit-linked insurance outstandings at the end of December 2008 (figure 7) reflects both declining subscriptions from households and flagging stock valuations. In contrast, outstandings for euro-denominated (i.e. non-unit-linked) contracts broke through the level of EUR one trillion at the end of December 2008, reflecting the growing predilection of households for safe investments in an environment of growing uncertainty.

Figure 7: Outstandings of euro-denominated and unit-linked life insurance between December 2000 and December 2008 (*) *(EUR billion)*



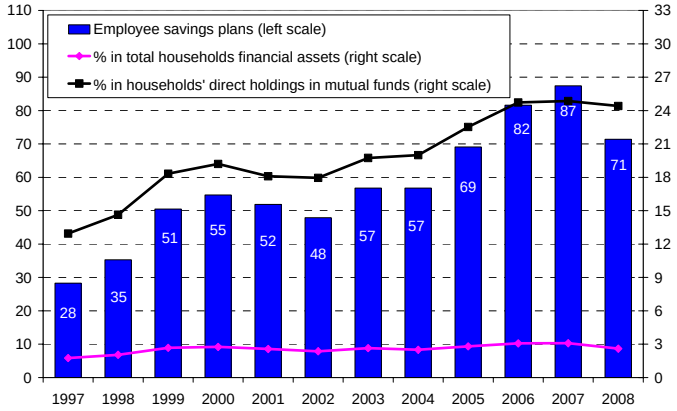
Source: Banque de France and FFSA
(*) The figures for December 2008 are estimates

In terms of outstandings, employee savings plans recorded a substantial decline and remain a marginal element in households' financial wealth.

After a particularly fruitful 2007, the aggregate amount held by households in employee savings plans fell sharply in 2008, standing at EUR 71.4 billion at the end of the year, compared with EUR 87.4 billion at the end of the preceding year (figure 8). The steps taken to facilitate early withdrawals from savings plans that were not specifically designed for retirement may have contributed to this trend. More generally, this type of instrument has struggled to gain a significant share of the financial assets of French households: during the period 1997-2008 it averaged less than 3% of their total financial assets. On the other hand, the share that employee savings plans represent in households' direct holdings in collective investment schemes (i.e. excluding unit-linked life insurance) has nearly doubled in ten years, increasing from 13% in 1997 to 24% at the end of December 2008.

Figure 8: Aggregate savings in employee saving plans (FCPEs) and their share of total financial assets and of total fund shares/units held directly

(Outstandings in EUR billion and shares in %)

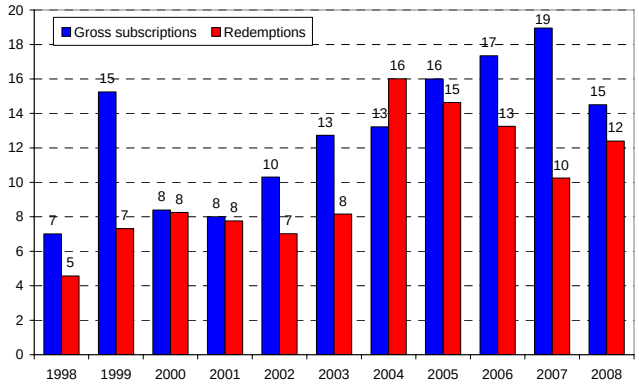


Source: AMF and Banque de France

In terms of flows (figure 9), estimates for the end of September 2008 indicate a decline in gross contributions, to EUR 15.0 billion from EUR 19 billion in 2007, and an increase in redemptions to EUR 12.4 billion, compared with EUR 10.2 billion in 2007. The largest portion of gross contributions went into the so-called special profit-sharing reserve fund (49.3% of the total), while voluntary contributions, bonuses and incentive compensation accounted for 37.7% of the total, the rest coming from employer matching contributions (13%).

Figure 9: Gross payments into and redemptions from employee savings plans

(EUR billion)



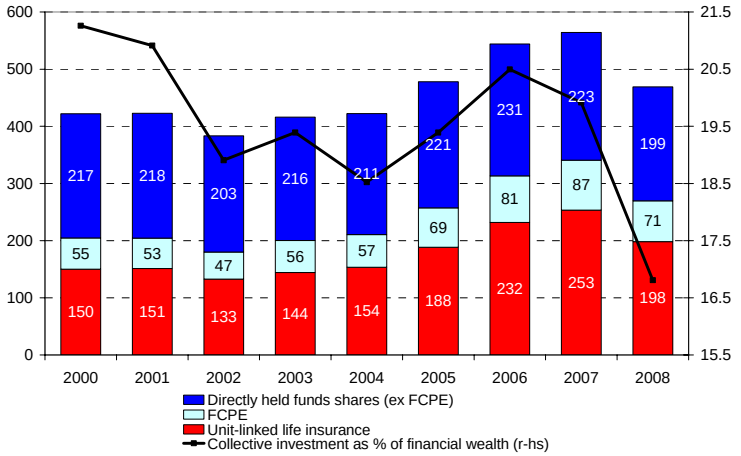
Source: AMF and AFG

The share of direct and indirect holdings of collective investment shares declined in 2008 as a consequence of portfolio devaluation

After peaking at more than 20% of households' financial assets in 2006 and 2007, direct holdings in collective investments schemes declined significantly as a share of total assets in 2008 (figure 10), mainly as a result of the financial crisis and the poor performance of financial markets. The combined share of unit-linked life insurance, employee savings plans, and shares/units in collective investment schemes held directly by households stood at 16.8% at the end of December 2008, compared with 19.9% in December 2007, thus falling even lower than in the previous stock market crisis at the beginning of the 2000s.

Figure 10: Assets under management in collective investment schemes and their share of households' financial assets

(Outstandings in EUR billion and shares in %)

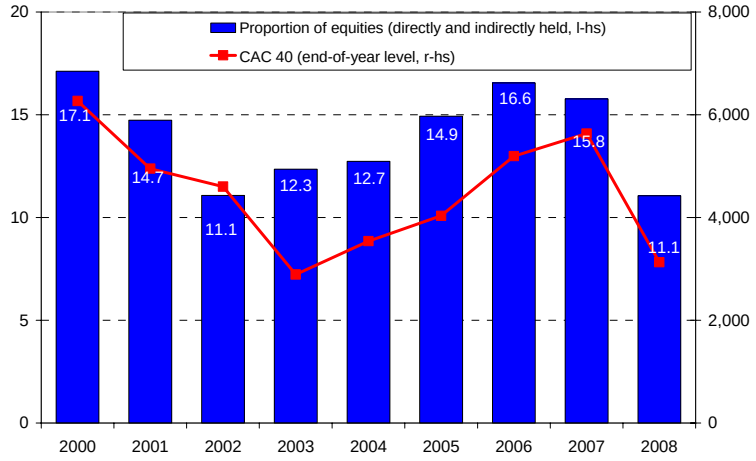


Sources: AMF, Banque de France, FFSA, and AFG – calculations: AMF

3. Households' overall holdings of equities were at a relative standstill in 2007-2008, after four years of growth

Looking at all equity investment media together (collective investment schemes, employee savings plans, unit-linked life insurance policies, and directly- held listed equities), it becomes clear that the equity portfolios of households shrank significantly in 2007-2008 (figure 11). The total amount of equities held directly or indirectly by households at the end of December 2008 is estimated at 11.1% of their total financial assets, down from 15.8% at the end of December 2007 and from 16.6% in 2006. This decline is due mainly to the drop in stock prices, which simultaneously discouraged investments in listed equities and instruments with a high equity content, and eroded the valuation of existing assets in households' portfolios.

Figure 11: Directly and indirectly held equities as a share of French households' financial assets
(Shares in %, CAC index in points)

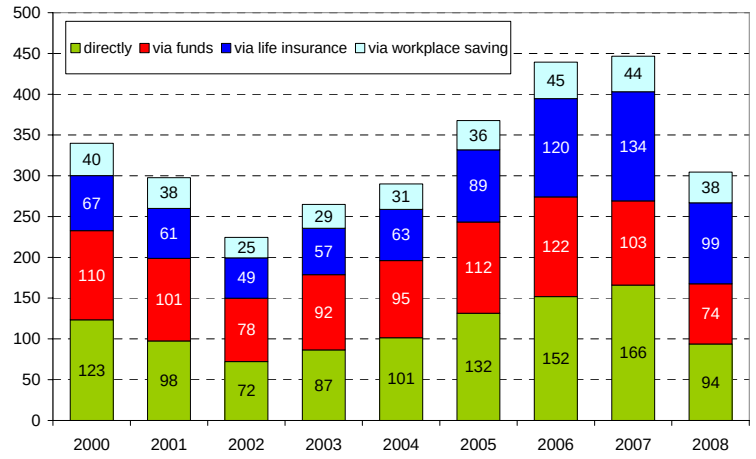


Sources: AMF, Banque de France, FFSA and AFG – calculations: AMF

The aggregate amount of listed equities held by households via all types of investment vehicle (figure 12) stood at EUR 304.6 billion at the end of December 2008, compared with EUR 446.6 billion in December 2007. That total can be broken down as follows:

- EUR 99.1 billion held through unit-linked life insurance policies;
- EUR 74 billion in directly held shares/units in collective investment schemes;
- EUR 37.8 billion held in employee savings plans;
- EUR 93.7 billion in direct holdings of listed equities.

Figure 12: Equities held through different investment vehicles
(EUR billions)



Sources: AFG, AMF, and Banque de France – calculations: AMF

The relative shares of the total equity holdings of households represented by each investment vehicle have shifted significantly over the medium term. The share represented by equities held through unit-linked life insurance policies increased significantly, rising from 19.8% in 2000 to 32.5% in 2008. The share represented by equities held through employee savings plans also increased, although more modestly, from 11.7 in 2000 to 12.4% in 2008. In contrast, the share represented by equities held through collective investment schemes declined (from 32.2% in 2000 to 24.3% in 2008), and so did the share of directly-held equities (from 36.3% in 2000 to 30.7% in 2008).

4. Already limited, the capital risk exposure of households diminished further in 2008

Breaking down the entire chain of intermediation through which households hold financial assets (eg a life insurance policy invested in shares of a collective investment scheme), it is possible to estimate the degree of risk to which the financial assets of households are exposed and to establish a ranking of those assets in terms of risk levels. Table 1 defines four risk classes and shows the share of total household financial assets represented by each.

Since 2000 French households have had very little exposure to capital (principal) risk, and this pattern has been reinforced over the course of this period.

Table 1: Definition of risk classes and their share of households' financial assets
(Shares in % and changes in percentage points)

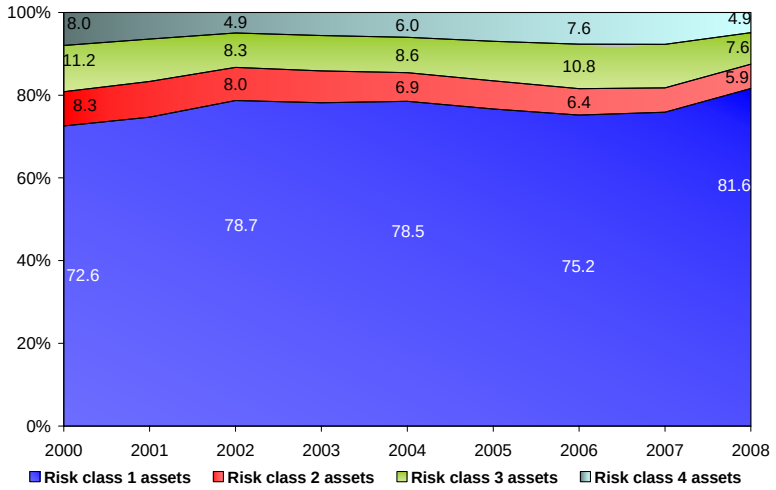
Degree of risk	Composition	2000	2004	2008	Change 2008–2000
Class 1	Deposits and cash, money market funds (*), direct holdings of debt securities, non-unit-linked life insurance	72.6	78.5	81.6	+9.1
Class 2	Direct holdings of bonds, bond funds (*), guaranteed and structured funds (*)	8.3	6.9	5.9	-2.4
Class 3	Equity funds, balanced and hedge funds (*)	11.2	8.6	7.6	-3.6
Class 4	Listed equities (**)	8.0	6.0	4.9	-3.1

(*) through all distribution channels
(**) including those held directly through employee savings plans
Sources: AFG, AMF, and Banque de France – calculations: AMF

At year-end 2008 nearly 82% of French households' financial assets were invested in assets that had no exposure to capital risk (figure 13). Since 2000 this percentage has never fallen below 70%, and the fluctuations have been caused mainly by financial market conditions. The share of riskless assets has risen during periods of market turbulence, such as 2002-2003 and 2007-2008, with households favouring bank deposits and unit-linked life insurance. Overall, these assets classes' share of total household financial assets rose by 9.1 percentage points between 2000 and 2008.

The share represented by other asset classes fell during the period under review. In particular, the proportion of financial instruments in class 3 risk fell by nearly 3.6 percentage points, falling from 11.2% of households' financial assets in 2000 to 7.6% in 2008.

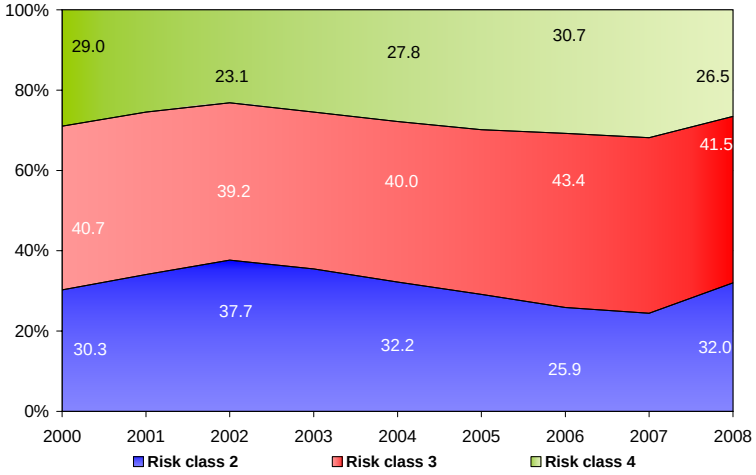
Figure 13: Change in the shares of risk classes since 2000
(In % of total financial assets held by households)



Sources: AFG, AMF, Banque de France, and FFSA – calculations: AMF

When the analysis is confined to risky assets (classes 2, 3, and 4 – figure 14), French households have, since 2000, preferred the assets in risk class 3, and this tendency has strengthened in recent years. The share of households' total financial assets in class 3 has risen from 40.7% in 2000 to 41.5% in 2008. This increase is due mainly to the strong growth in unit-linked life insurance policies, particularly between 2003 and 2007, with most of these investments being placed in bond funds and balanced and hedge funds. In contrast, the share of assets in class 4 fell sharply, from 29.0% in 2008 to 26.5% in 2008, while the share of class 2 assets fluctuated over the same period.

Figure 14: Change in the shares of risky asset classes since 2000
(In % of total risky assets held by households)



Sources: AFG, AMF, Banque de France, and FFSA – calculations: AMF

5. Summary of savings behaviour of households in 2008 and sources of risk

The financial crisis and the consequent deterioration in economic activity have had major repercussions on the investment behaviour of French households. The decline in equity markets, the drop in interest rates in the bond market, and the worsening economic outlook have led households to abandon long-term assets and turn to the most liquid short-term financial instruments. These shifts may have been reinforced by the banks, concerned about maintaining the levels of deposits on their balance sheets. Thus bank deposits captured 49.3% of flows of financial investments by households over the whole of 2008. In contrast, the demand for assets with high equity content (equity funds, balanced funds, and unit-linked life insurance) fell to a low. And despite the often-highlighted lack of uniformity in investment structures, similar shifts were observed in other European countries.

Because of the relatively small share that equity investments represent in French households' total financial assets, the sharp drop in stock prices had only a modest impact on the value of their overall portfolios. At the end of 2008, with the end of the decline in equity markets and taking outflows into account, the share of households' financial assets represented by listed equities (direct holdings and equities held indirectly through some form of collective investment) stood at 11.1%, 5.5 percentage points less than at the outbreak of the financial crisis.

The recent investment behaviour of European and French households raises a number of questions and poses two main risks.

The first risk is that households make poor decisions in allocating their investment portfolios in a medium-term perspective. Allocation decisions that may be cautious in the short term, motivated by the flight to safety and by the poor performance of long-term assets, could perpetuate themselves and lead households to shun equity markets for an excessive period of time, as has occurred in previous stock market corrections. Such behaviour would prevent households from benefiting from the rebound of stock prices in the medium term once the recovery from the financial crisis is triggered; it would also inhibit the formation of long-term savings necessary for pension financing.

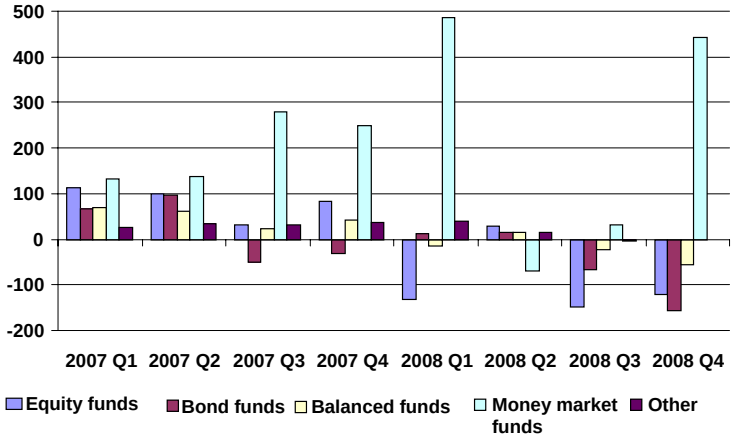
The second risk involves the marketing of financial products. The crisis has resulted in rapid changes in the supply and demand for financial products, with the development in some countries of time deposits and structured banking products with fixed-income characteristics. Policies on financial product marketing and the formulation of investment advice to individuals may have been influenced by the liquidity crisis that struck banks and by their desire to retain households' savings on their balance sheets. This raises the risk of inappropriate marketing practices, stemming either from insufficient mastery of a newly restructured line of financial products or from conflicts of interest between investors and distributors.

II – Collective investment

1. The financial crisis has resulted in large outflows from mutual funds worldwide

The financial crisis has weighed heavily on the global collective investment industry. Statistics published by the Investment Company Institute indicate that assets under management in collective investment schemes contracted by 27.5% in 2008, ending the year around USD 19 trillion. This decline was due both to a negative performance effect and to outflows from long-term investment vehicles. Equity funds were hurt by a sharp drop in stock markets after the financial crisis spread to the real economy. The effects of this portfolio depreciation were compounded by redemptions totalling USD 371 billion. Mistrust of equity funds was particularly pronounced in the third quarter, a period of severe stress in all markets. Bond funds, made less attractive by the sharp drop in yields on sovereign debt and by the relatively unfavourable outlook for credit quality in the corporate sector, also experienced redemptions over the entire year, although in smaller volumes (USD 197 billion, see figure 15).

Figure 15: Net purchases of mutual fund shares worldwide
(USD billion)



Source: ICI

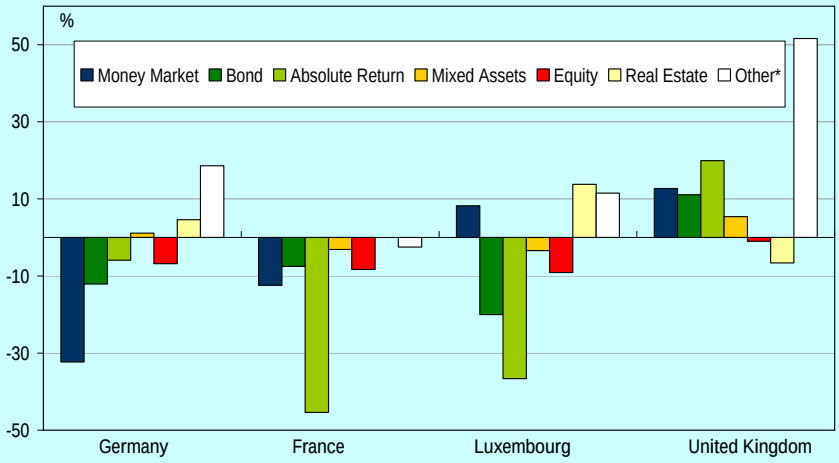
Combined with the economic recession, the deterioration in the markets for long-term assets boosted demand for liquid assets from individual and institutional investors alike. This shift automatically benefited money market funds, which attracted huge inflows, estimated at USD 891 billion. Portfolio reallocations in favour of these funds were particularly large at the beginning of 2008, when money market interest rates had just begun to fall and bond interest rates had already fallen significantly. In some countries, however, money market funds suffered from the effects of the credit crisis and the disruptions in money markets. In the United States, money market funds saw isolated but nevertheless very large outflows when one major fund recorded losses from the failure of Lehman Brothers in September 2008.

Box: Analysis of the determinants of net inflows to collective investment schemes in a crisis

A statistical analysis of monthly inflows to collective investment schemes domiciled in France, Germany, Luxembourg and the United Kingdom from September 2007 to June 2008 prompted a re-examination of the widely held assumption that inflows are linked to the schemes' past performance. Although a number of professionals have observed such a correlation in both the United States and Europe, for equity funds and in some cases for other types of funds, the issue calls for further study.

The AMF review of theory and empirical work indicated the role of past performance of collective investment schemes in determining investment behaviour ("procyclicality") and led to an examination of the direction of causality between inflows and the funds' past performance. An econometric analysis of panel data confirmed the procyclicality of investment flows at an aggregated level and revealed the role of relative performance rankings, within a given fund class, in the month preceding the inflows or outflows. The econometric analysis also showed, however, that the behaviour varies significantly across funds and classes of funds, making it hard to draw general conclusions. Furthermore, the degree of procyclicality varies significantly from one country to the next. For example, only three of the four countries studied experience cumulative net flows over the observation period (see figure below); the exception was the United Kingdom.

Net cumulative inflows into collective investment schemes from September 2007 to June 2008 for different fund classes
(in % of outstandings in September 2007)



Source: Lipper – calculations AMF.
** The categories chosen are illustrative, and the percentages do not reflect the the relative size of the classes. In particular, the percentage outflows for "Absolute Return" funds apply to relatively small volumes.*

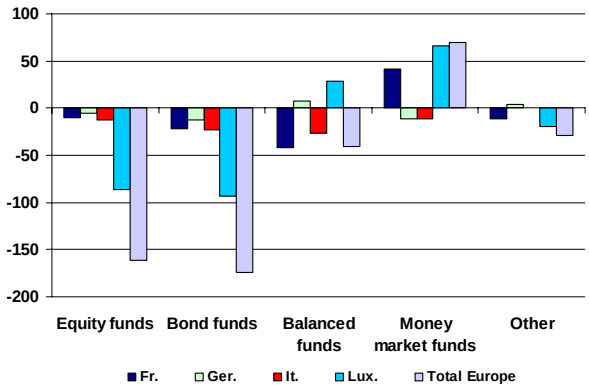
This analysis has implications for financial stability and investor protection. Concerning financial stability, the analysis suggests that despite the dangers of amplified asset price volatility, particularly in illiquid markets, it is difficult to formulate general rules for limiting the procyclicality of investment flows. Concerning investor protection, the analysis raises questions about the equal treatment of investors during periods of market decline and illiquidity. The first investors to sell their holdings (thus exhausting the fund's liquidity and amplifying the drop in asset prices) may gain an advantage over those who remain in the fund. More generally, over longer time horizons (exceeding the horizon of the study), this behaviour tends to reduce the returns realised by investors – who run the risk of buying at the top of the cycle and selling at the bottom – and also to influence the risk/return trade-off of the products offered by shortening the investment horizon of fund managers.

On the regulatory front, the analysis provides after-the-fact justification for the adoption of rules such as those introduced by the AMF on redemption gates and side pockets, which limit the unequal treatment of investors in exceptional cases. Although the analysis does not necessarily justify the adoption of more general rules for limiting the procyclicality of investment flows into collective investment schemes, it highlights the need to educate investors. It also shows up a need for greater transparency and accountability in fund marketing networks in order to adapt products to investors' needs and avoid unwarranted crises of confidence.

Source: Grillet-Aubert L and Sow R. (2009): "Are Net Fund Inflows more Procyclical in a Crisis?" AMF Working Papers No. 7, February 2009.

The outflows observed worldwide and the shift towards short-term money market funds were mirrored elsewhere in Europe (figure 16). Assets under management in Europe fell by 25% over the year, in part due to outflows of EUR 335 billion. In France, the outflows were concentrated mainly in bond funds and balanced funds, which have traditionally occupied a privileged position in the portfolios of investors, particularly individuals. The outflows from these two classes of funds also reflect very large redemptions of absolute return funds on the part of institutional investors and corporate treasurers, who were badly hurt by the credit crisis and the problems in the securitisation sector, in which some of these funds had invested heavily.

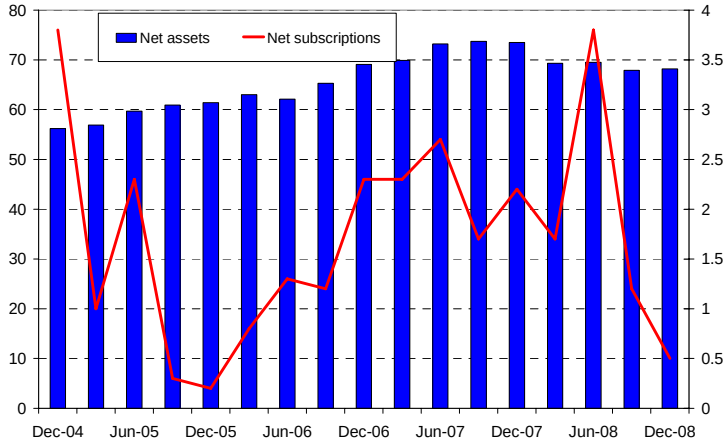
Figure 16: The market for UCITS in Europe: net purchases in 2008
(EUR billion)



Source: Efama

In this overall picture, the relatively good performance of French structured funds stands out. They succeeded in maintaining positive inflows, totalling EUR 7.2 billion, throughout 2008. The guarantees offered by a large number of these funds, in a general climate of great uncertainty, was undoubtedly a decisive factor for investors whose risk aversion reached very high levels. Given that much of the demand for structured funds in 2008 came from insurance companies, it seems likely that these new holdings were in the form of unit-linked insurance.

Figure 17: Inflows and assets of structured funds in France
(EUR billion)



Source: Banque de France

2. Hedge funds experienced massive redemptions

The performance of hedge funds, which had remained broadly positive during the first phase of the crisis (the subprime crisis that ran from the summer of 2007 to the spring of 2008), deteriorated substantially thereafter, leading to heavy redemption requests. The failures of financial institutions, particularly those of Bear Stearns in March 2008 and Lehman Brothers in September 2008, had a significant effect because of their impact on prime brokerage and on debt and equity markets. Investor confidence and the volume of redemptions were even more strongly influenced at the end of the year with the increase in correlations between different strategies (including market neutral strategies, see table 2)[60] and with the Madoff affair, which highlighted the possibility that hedge fund risk – in this case, the risk of fraud – could be spread by multi-management. Hedge funds became conduits of contagion for a widespread crisis of confidence in the asset management industry as massive withdrawals by investors during this period had a procyclical effect on some segments of the market, amplifying the drop in prices and aggravating the liquidity crisis afflicting certain funds.

These developments, which climaxed towards the end of 2008, resulted in various forms of regulatory intervention. The liquidity crisis highlighted shortcomings in the funds' capacity to honour redemption requests. The risk of unequal treatment of different investors and the unsuitability of the information that was provided to them had procyclical effects: the first investors to exit a fund were likely to force the liquidation of the best assets, leaving only depreciated assets for the remaining investors. In France, these developments led to the adoption of the Order of October 23 2008 establishing redemption gates (upper limits on redemptions of units in ARIA collective investment schemes) and side pockets (a method used in exceptional market conditions to ring-fence assets in a separate fund – hence the term "side pocket"– created by splitting the original fund.[61]

Table 2: Change in volume of assets managed by different of hedge fund strategies between 2007 and 2008

Percentage change between year-end 2007 and year-end 2008	Change in assets	Of which	
		Performance effect	Net investments (redemptions/fund closures)
CTAs	0%	14%	-14%
Global Macro	-18%	-1%	-18%
Equity Market Neutral	-58%	-1%	-57%
Merger Arbitrage	-29%	-3%	-26%
Equity Long/Short	-40%	-12%	-29%
Event Driven	-25%	-17%	-8%
Fixed Income	-56%	-25%	-30%
Convertible Arbitrage	-63%	-28%	-35%
Equity Long Bias	-45%	-29%	-16%
Distressed Securities	-37%	-32%	-5%
Emerging Markets	-60%	-40%	-20%

Sources: Barclay Hedge, Natixis

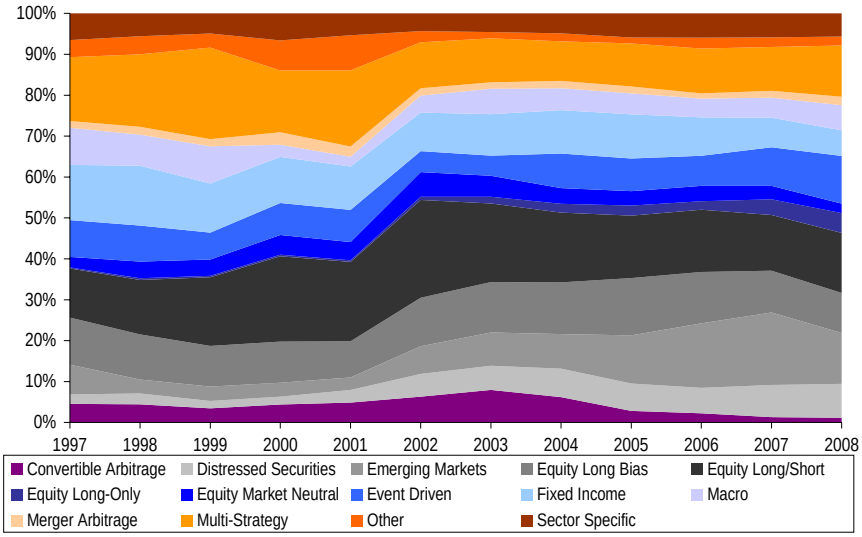
[60] The strategies of Commodity Trading Advisors (CTA) – strategies specialising in commodities markets and dealing in limited volumes, which are often considered on the margin of alternative management strategies – represent an exception in this regard.

[61] More generally, the recognition of these systemic risks has prompted international discussions by market authorities. The legislative proposals of the European Commission cover all non-harmonised (non-UCITS) collective investment funds. In a context where little information is available on leverage and aggregate exposures to the underlying financial instruments in different segments of the market, France has expressed its desire for strict direct regulation of hedge funds (both the funds and their managers), including requirements relating to the mitigation of systemic risk (provisioning of prime brokers, registration with regulators, and transparency of positions), operations (organisation, risk monitoring and management), and due diligence concerning investments), and investor protection (transparency, particularly concerning consistency with objectives, governance, and marketing rules).

Economic risks have now probably almost fully materialised, but structural changes are still under way

The future of the hedge fund industry is difficult to predict. In the short term, outflows continued into 2009, as a delayed result of the Madoff affair (many lock-up periods are quarterly) and due to the persistent liquidity needs of banks and institutional investors. The statistics for the first part of 2009 indicate weak performance, which is unlikely to attract large inflows. Further out the sector will probably benefit from its ability to adapt, particularly in terms of investment strategies. Figure 18 reveals, for example, a decline in Fixed Income, Convertible Arbitrage, and Emerging Markets strategies in favour of Distressed, Event-Driven, and Global Macro strategies.

Figure 18: Breakdown of hedge fund assets by principal strategy



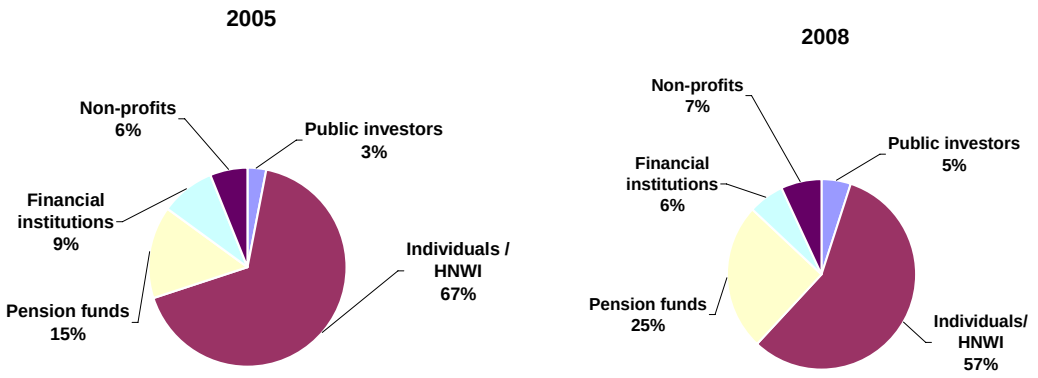
Sources: Barclay Hedge, Natixis, and AMF

Recent outflows mainly involved high net worth individuals, thereby increasing the share of the hedge fund customer base represented by institutional investors, which was already growing structurally[62] (figure 19). This will have consequences, to the extent that institutional investors have specific requirements, for example in terms of transparency and due diligence, but also potentially in terms of strategy and investment horizon. It will probably result in an increase in the cost of risk management and reporting, independent of the effects of regulatory requirements that are currently being developed. This cost increase, combined with a likely decline in management fees resulting from poor performance and diminished investor confidence, is likely to increase competitive pressures and promote maturation (rationalisation and standardisation of processes) and consolidation in the hedge fund industry, in a context of diminishing tax incentives for offshoring[63]. Finally, the future of the hedge fund industry will also depend on the relationships between funds and investment banks which, in the past, were often simultaneously service providers (prime brokers, structurers, and market access providers), customers (acting on their own account or on behalf of third parties), and even competitors (in-house management).

[62] A study by the Bank of New York Mellon in April 2009 showed that wealthy Europeans were disproportionately represented in recent outflows.

[63] This issue is discussed in the January 2009 report "La localisation des hedge funds en Europe et son impact sur les politiques réglementaires" prepared for the AMF by researchers at the EconomiX research centre at the University of Paris-West-Nanterre-La Défense. A section of this report discusses taxation as a factor in the location of hedge fund managers, and another section analyses the growth and organisation of the hedge fund industry based on work on financial innovation and new industries.

Figure 19: Global hedge fund assets by type of investor

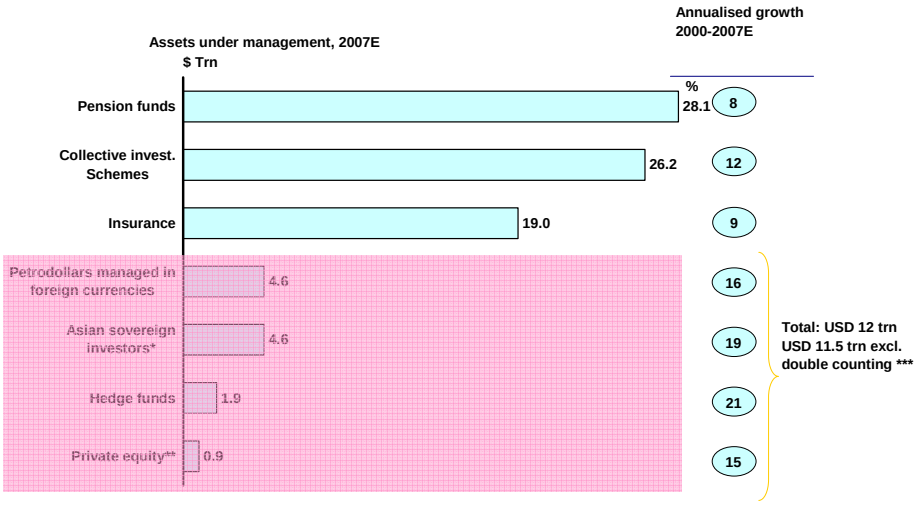


Source: Hedge Fund Research, the Bank of New York Mellon, and Casey Quirk Analysis 2009

3. Private equity: the financial crisis has weighed heavily on LBOs

The private equity industry grew rapidly in the years preceding the financial crisis, driven largely by leveraged buyouts (LBOs), which funded a vast majority of investments in an environment of abundant credit. The amounts managed by private equity funds grew steadily, averaging 15% annually since the beginning of the 2000 to reach some USD 900 billion worldwide by the end of 2007, according to some estimates (figure 20). The statistics reported by the EVCA also show strong growth in private equity investments in Europe during this period, and until recently there was an emerging trend of increasing Asian investment.

Figure 20 – Private equity account for 1.5% of institutional asset management worldwide

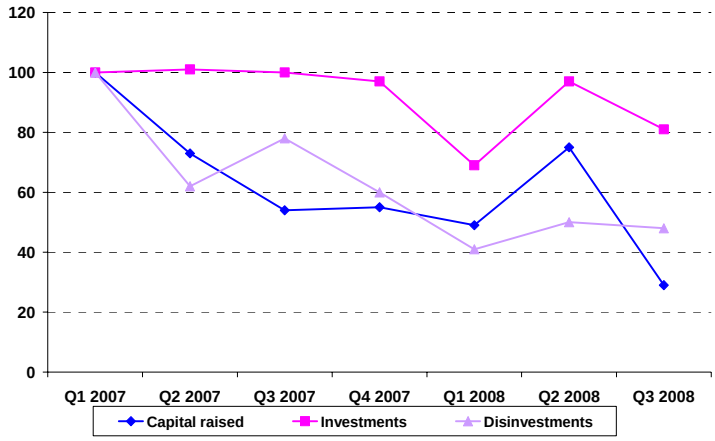


* Incl. Asian central banks (USD 3.9 trn) and sovereign wealth funds (USD 670bn).
** Excl. LBOs
*** Excl. investment by oil producers and Asian countries in private equity and hedge funds.

Source: International Financial Services, London; Hedge Fund Research, Investment Company Institute; Preqin; and McKinsey Global Institute analysis

The private equity industry has been impacted globally by the financial crisis, as evidenced by the drop in most traditional indicators (figure 21). Aggregate statistics for Europe indicate a steady decline in funding in recent years, with the amount raised in the third quarter of 2008 representing only 29% of that raised in the same period in 2007. The industry also encountered difficulties in executing exit strategies, due to deteriorating markets – especially equity markets. The amounts invested seem to have remained relatively large, but this is probably due in part to significant changes in the strategies of some large firms, and in particular to shifts to strategies of opportunistic debt purchases, which represent a departure from the traditional business of private equity.

Figure 21 - Private equity indicators in Europe (Q1 2007=100)



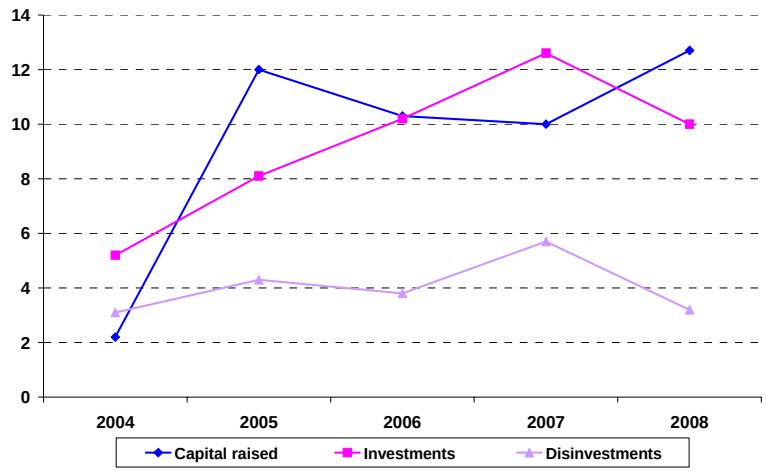
Source: EVCA

Business was sustained by the venture capital and growth capital segments

The financial crisis has had highly contrasting effects on different segments of the market. Logically, the buyout segment was the hardest hit. The financing sources for large LBO transactions dried up, especially "covenant-lite" loans, but also short-term bridge loans and mezzanine financing. The LBO segment accounted for 85% of the decline in the total dollar volume of private equity deals in the United States between the first and second halves of 2007, dropping from USD 339 billion to USD 77 billion. A similar trend was observed in Europe, where deals have been rare since mid-2007.

However, the refocusing of capital on the more embryonic phases of companies' growth, observable in the amounts invested and the number of mid-market deals, provided opportunities to some segments of private equity, in a context where banks were inclined to limit their commitments because of balance sheet deterioration. This scenario appears to have materialised in France, where the venture capital and growth capital segments were structurally fully developed, and where the total funds raised by private equity funds increased significantly from 2007 (figure 22). The amounts invested fell by only 20.3% in 2008, to EUR 10 billion, returning to their 2006 level. The 28% decline in the amounts invested in the buyout segment was thus partly offset by sustained activity in other segments. Indeed growth capital, by definition less dependent on credit conditions, grew at an annual rate of 26% in 2008.

Figure 22 - Indicators of private equity business in France
(EUR billion)



Source: AFIC

Erosion in the performance of LBO funds

The financial crisis affected all the links in the value chain of the private equity industry. In the LBO segment, performance was affected simultaneously by deleveraging, by the declining value of portfolio investments, and by the increased exposure to default risk of the target companies, which were often heavily indebted. The growing frequency with which covenants in financing contracts were activated or debt restructuring plans carried out attested to the significant deterioration in the funds' performance[64]. Exits through stock sales were rendered relatively unattractive by difficult market conditions and very low valuations. To satisfy the liquidity needs of investors, funds could have to liquidate assets in the context of a deteriorating market. This risk grew as the transaction pipeline built up and the crisis dragged on, making refinancing difficult for some investors. Note that due to the liquidity needs of institutional investors[65] large discounts were often accepted. The upsurge in requests for transfers of shareholdings provided a stark reminder that the liquidity of the secondary market for shares in private equity funds is structurally limited, with discounts frequently reaching 50% of the investment value.

The effect of the financial crisis on the value of portfolios and the performance of private equity funds is illustrated by the particularly large drop over the whole of 2008 in the LPX50 index, a global index of the performance of private equity firms (figure 23). Looking forward, the proposal made at the end of 2008 by Permira[66], one of the largest firms in the European private equity industry, to return EUR 1.5 billion of the funds raised in 2006 by its mega-fund Permira IV to its limited partners (out of a total of EUR 11 billion invested) attests to the high risks inherent in investments at present.

[64] See the analyses conducted by Standard & Poor's: "Default, Transition, and Recovery-Global Credit Comment: Private Equity Swirling In The Eye Of The Storm (Premium)", November 21, 2008; and "Leveraged Buyouts Are Fuelling Surging Defaults In Western Europe", April 14, 2008.
[65] Exits often permit investors to honour other funding obligations to which they were contractually committed, and there has been a resurgence in "payment defaults" over the past several quarters. The major issue at stake in these defaults is the resulting penalties, which can easily reach 50% of the amounts due. According to Morgan Stanley ("Hedge Funds: Where next?", February 26, 2009), outflows from hedge funds in the United States are partly attributable to the need to honour this type of commitment.
[66] See Financial Times article of December 8, 2008 entitled "Private equity pull-out brings more victims".

Figure 23 - LPX50 global index of private equity

Sources: LPX, Bloomberg

Some private equity funds are modifying their investment strategies

The difficulty in carrying out strategies based on debt and leverage has prompted some firms to modify their investment policies[67]. These strategic reorientations are varied and seem to reveal a tendency to specialise in new "niche" sectors. In the United States, there has been a resurgence in Private Investment in Public Equity (PIPE) deals, in which a listed company issues securities, usually privately and at a preferential price, that provide access to capital (common or preferred shares, convertible bonds, or warrants) to a targeted group of investors. More generally, private equity funds are refocusing on investments in distressed debt[68]. These strategies have shorter time horizons and are thus closer to the arbitrage strategies used by hedge funds and therefore have an impact on the risk-return profiles offered to investors.

These changes in investment strategies entail risks. At the macroeconomic level, because they can be harder to understand, they could make it more difficult to assess the systemic risk to financial stability posed by private equity. At this stage, this type of risk is probably limited by the relative small amounts managed by private equity funds and by the fact that some market participants – in particular, venture capital and capital growth funds – are apparently not heavily involved in strategic refocusing.

At the microeconomic level, these changes can increase the complexity of products and make them more difficult for investors to interpret and understand. This implies an increased need for transparency in funds' strategies, in the context of stronger demands from institutional investors for due diligence. Accordingly, the proliferation of transactions between investment funds (outside the market)[69], the potentially problematic nature of asset valuation[70], the increased importance of transaction fees, particularly when investment horizons become shorter, and the impact of changes in the financing structure of companies in the context of deleveraging all highlight the litigation risks and potential conflicts of interest for fund promoters.

[67] See Private Equity News: "Patiently bridging the gap"; Financial News, 3rd annual survey of financial sponsors, February 2008; and Kaufmann & Hamm (2008): "Private Equity: Changing Markets, Changing Deal", The Metropolitan Corporate Counsel, Feb 2008.

[68] For example, major firms such as Goldman Sachs, Blackstone, and Carlyle raised funds in 2008 to invest in, the secondary market for distressed debt, a market in which they compete with established vulture funds such as Oaktree, Apollo, and Cerberus.

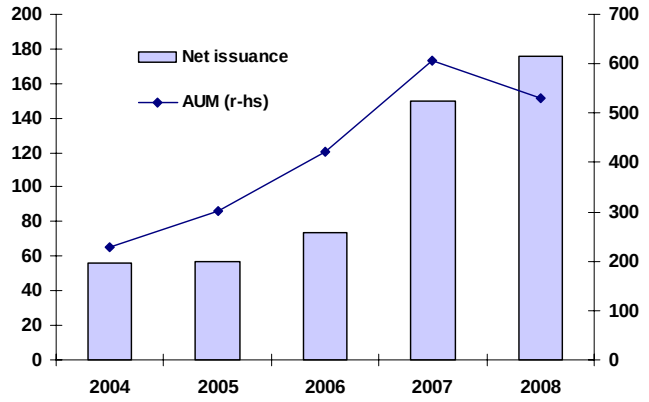
[69] According to McKinsey, 37% of the assets managed by private equity in 2005 were held by private equity funds-of-funds.

[70] The issue of valuation of privately held companies in the absence of a market price is by definition complex. A variety of valuation methods are used in practice: discounted cash flow, multiples-based methods, peer group comparisons, reference to market transactions, etc. This diversity can reduce the transparency of funds and make it more difficult for investors to compare the portfolios and the performance of different firms in the market.

4. Supply-side trends: the crisis benefits exchange-traded funds and stimulates a renewal of product lines that favours complex funds

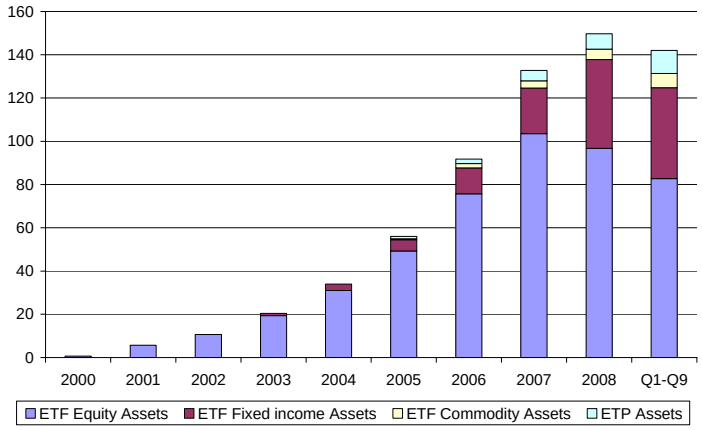
For several years, the supply of collective investment funds has had a twin focus, reflecting the adoption by some institutional investors of "core-satellite" portfolio management, in which one set of passively managed investments is intended to cover liability constraints (the institutional investor's commitments), while another set of riskier, dynamically managed investments is intended to boost the portfolio's returns. To satisfy this demand, companies have developed passively managed funds, the leading examples of which are so-called trackers, i.e. exchange-traded funds that replicate the performance of blue chip indices. Their management is largely automated and they are designed to attract large volumes of new money to achieve economies of scale, generally resulting in very low management fees. In a crisis, trackers benefit from a reputation for simplicity and transparency, which has increased their popularity with investors. The large inflows recorded by exchange-traded funds in 2008 have largely made up for negative valuation effects (see figures 24 and 25), with the result that assets under management have been relatively stable, making this one of the few fund classes to benefit from the current economic outlook.

Figure 24: AUM and issuance of ETFs in the United States
(USD billion)



Source: Federal Reserve

Figure 25: AUM of ETFs in Europe
(USD billion)



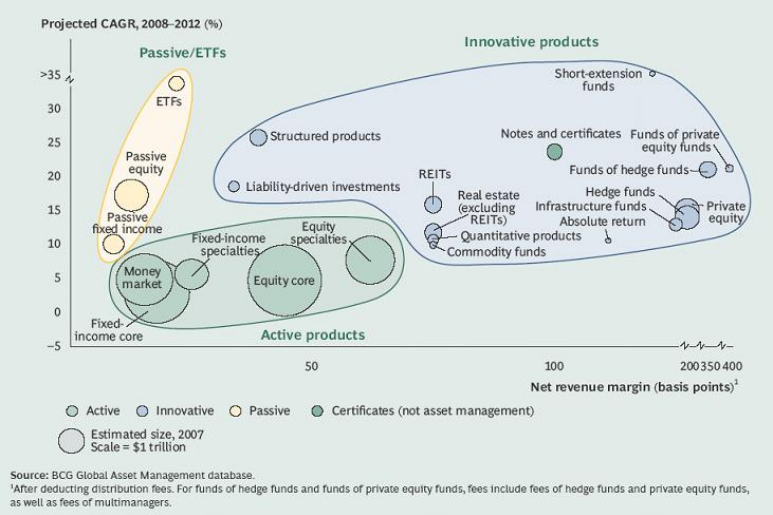
Sources: ETF Research and Implementation Strategy Team, Barclays Global Investors, and Bloomberg

Firms also promote "value added" investment management, a complementary method that is more costly because it uses various forms of risk structuring to depart from conventional benchmark-based management and give investors the benefit of synthetic exposures to precisely defined risks. The structuring takes, and may combine, three essential forms: investing in illiquid asset classes (real estate, commodities, hedge funds, private equity, etc.); establishing time-period return profiles (provision of guarantees, option-based structures, etc.); and adopting alternative strategies, i.e. using appropriate management methods to arbitrage market inefficiencies in order to obtain returns that are uncorrelated with market returns[71].

Because of their complexity and their impact on fees, these various strategies and management techniques complicate the task of informing investors. This has made these funds highly crisis-sensitive, with significant outflows from:

- funds that invested – even in small proportions – in structured debt, such as those marketed as enhanced cash funds. The drop in the price of structured debt securities in the second half of 2007 sparked a chain reaction, with the downtrend being fuelled by investors selling their shares and units;
- funds whose returns were perceived as insufficiently uncorrelated with the performance of the market, such as absolute return funds, and more generally certain hedge funds, which experienced huge outflows (see box on page 75);
- funds of hedge funds and other master-feeder structures likely to have been affected by the Madoff affair.

Figure 26: Supply trends for collective investment vehicles



Source: Boston Consulting Group.

More generally, the crisis showed that some risks were insufficiently appreciated by some complex funds and poorly understood by investors; in particular:

- liquidity risk stemming from the discrepancy between the liquidity of the assets in which the funds had invested and the liquidity of their liabilities;
- counterparty risk stemming from structures based on derivatives traded over-the-counter by investment banks;

[71] The spread of these types of vehicles in the portfolios of classic institutional investors since the beginning of the 2000s is discussed in a February 2007 report of the Bank for International Settlements: "Institutional investors, global savings and asset allocation", CGFS Paper No. 27.

- operational risks and the risk of fraud stemming from fund-of-funds structures involving complex management processes and investments in geographical regions where investors' rights are poorly protected.

In this context, restoring the orderly operation of the collective investment market and the confidence of investors would require greater transparency on products, fees, and risk management systems. Such an effort will not only facilitate due diligence by institutional investors; it will also improve the allocation of a substantial portion of individual investors' long-term savings.

The need for greater transparency in collective investment products

The marketing methods for collective investment products will play an important role in this regard. In a context where fund classification at the international level continues to be left to private initiative[72], the crisis in asset management highlights the risks created by the lack of precision in the designations of some collective investment products. This risk is particularly acute with the promotion of fund types whose purpose is essentially commercial but whose actual usefulness in wealth management is misunderstood or not grasped at all by investors. This leads to a suboptimal allocation of assets, characterised in crisis periods by an intense but ill-defined search for safety and by excessively short-term investment behaviour. The promotion of enhanced cash funds has in some cases led to confusion between money market funds and funds exposed to market risk (particularly securitised loans)[73], which resulted in massive redemptions and reinvestments in money market funds in the second half of 2007 and the first half of 2008. At many levels, the same types of risks are appearing in different types of complex or innovative funds, whose operation may be poorly understood because the information provided to investors is not always relevant or exhaustive.

Exchange-traded funds can also pose problems of transparency and investor understanding. The development of complex or proprietary indices that are not designed to replicate the overall performance of equity markets has made it more and more difficult to ascertain[74] whether the criteria for determining a fund's eligibility for listing – its capacity to replicate the performance of an index that is diversified, representative of a market benchmark and transparent (publicly disclosed).[75] Indeed, nearly all the ETFs launched in the past two years were not designed to replicate the performances of broad indices, but rather to provide exposures to specific risks. The exposures sought concerned either specific segments of the equity markets (sectors, emerging countries, styles, etc.), new asset classes (real estate, private equity, commodities, etc), or "themes" (sustainable development durable, shariah-compliant, etc.). Certain exposures can be even more complex: the underlying index could, for example, offer a return that is complemented by a guarantee of principal, or negatively correlated with the performance of equity indices ("short funds"), or enhanced by leverage, or structured to replicate alternative strategies or dynamic management (eg constant proportion portfolio insurance).

In the area of fees, two questions can be raised concerning investors' understanding of fund pricing. The first concerns the sources of indirect fees. Despite the existence in Europe of a harmonised composite indicator of management fees – the Total Expense Ratio, which is expressed in France by the *Total des Frais sur Encours* – the information available to investors remains incomplete. On the one hand, this indicator is designed to include recurring fees only and to exclude one-off fees such as front-end loads and exit fees, as it should not

[72] Data providers are the principal sources of harmonised fund nomenclatures at the international level. The AMF's definitions of fund classes – which apply only within its domestic jurisdiction – represent an exception among financial regulators.

[73] See the AMF Ombudsman's Report 2008 and also the proposals made by the AMF in the public consultation paper published on February 24, 2009: "L'Autorité des marchés financiers consulte sur la régulation des OPCVM monétaires". The regulation of money market funds in the United States was the subject of a study by a working group of the Investment Company Institute, formed in November 2008, which published a report (Report of the Money Market Working Group, http://www.ici.org/pdf/ppr_09_mmwg.pdf) last March.

[74] The specific case of hedge funds has been analysed by F-S. Lhabitant in "Hedge Fund Indices for Retail Investors: UCITS Eligible or not Eligible?", AMF Working Papers No. 2, September 2006.

[75] "CESR's guidelines concerning eligible assets for investment by UCITS", published in March 2007, details the regulatory conditions for the qualification of an index.

depend on the length of time the fund is held. On the other hand, it only partially captures transaction costs associated with the purchase and sale of securities involved in managing the portfolio[76]. These costs are sometimes significant and can increase sharply in periods of crisis due to increased volatility and heavy selling by investors, further eating into the returns they earn. Finally, these indicators do not capture commissions for performance or outperformance, which more and more asset managers are charging[77]. Questions have also been raised on the subject of listed funds, concerning sources of indirect remuneration of intermediaries. The secondary market for equities is run by market makers, who have the capacity to make strategic adjustments in their inventories and thus to influence the bid-ask spread. It remains to be determined to what extent they run the secondary market of ETF shares as a source of additional profit.

The second question concerns the revenue split between fund distributors and fund promoters. What is at stake is the alignment between the interests of the distributor and those of the investor. Sales recommendations may be biased by the remuneration that sellers derive from the sales, either directly through front-end loads, or indirectly when the managers of the distribution networks pass along a portion of their fees[78]. This conflict of interest for the fund distributor has long been recognised. But it persists in a context where the distribution networks often belong to integrated banking groups and where "open architectures" that foster competition among fund managers are still relatively undeveloped in many countries, including France.

The financial crisis and investor distrust will probably lead to an overhaul and rationalisation of product lines, in response to the decline in profitability, particularly in international groups that can exploit the opportunities offered by the implementation of the forthcoming UCITS IV Directive (see below). These developments will also affect fund marketing and the asset allocation of investors. It is therefore important to ensure that new generations of collective investment schemes are more understandable and that they permit investors to benefit from a reduction in fees resulting from the sharing of economies of scale. More specifically, these developments are likely to result in an upsurge in fund mergers and takeovers, whose effects on investors will need to be analysed.

Forthcoming regulatory changes to investor disclosure rules should improve the transparency of collective investment products and thus the ease with which investors can select and compare funds. In particular, the revision of the disclosure format and European-level harmonisation of the simplified prospectus, currently under discussion, will make it easier for investors to identify the essential characteristics of collective investment schemes, both their risk-return profile and the fees they charge[79]. But desirable though they may be, these changes should not conceal the fact that many investors – institutions as well as individuals – tend to show only rationality, which is evidenced in often-suboptimal asset allocations.

Closed-end funds as a response to problems of liquidity

New legal forms and functions have appeared that could help remedy some of the inherent shortcomings in collective investment schemes highlighted by the crisis, particularly in the area of liquidity. The reform in France of the regulatory status of the *SICAF* – a closed-end investment fund organised as a company – should favour the emergence of vehicles in which the potential liquidity problems experienced by open-end funds are confined to the maturity date by virtue of the *SICAF*'s design. This structure will relieve fund managers of the obligation

[76] In particular, the transaction fees associated with the purchase and sale of products traded over-the-counter (in particular, debt products), which – in contrast with exchange-traded products – do not have explicit trading commissions, are visible only through their impact on the fund balance of the collective investment scheme: i.e. on the performance of the fund.

[77] The issue of fee transparency is particularly acute in the private equity sector. L. Phalippou ("Beware of Venturing into Private Equity", Journal of Economic Perspectives, Vol. 22, No. 4, Fall 2008) highlights the existence of "hidden" fees associated with the management of participations held in fund portfolios ("portfolio company fees").

[78] According to the European Commission, these rebates average more than half of total management fees.

[79] See the work of the European Commission mentioned under the heading "investor information" on the website of the Internal Market Division, and the work of the CESR, particularly the "Consultation paper on technical issues relating to Key Information Document (KID) Disclosures for UCITS" published on March 16, 2009.

to ensure the liquidity of shares, i.e. to be in a position to satisfy redemption requests at all times. This obligation placed some funds in a difficult position during the recent crisis, because some markets in which these funds had invested were not liquid.

The implications of this reform[80] should be felt mainly by qualified investors, but it could also raise issues if it resulted in significant growth in listed closed-end funds marketed to the general public, as is the case in the United States[81]. The liquidity of the secondary market for shares in this type of closed-end fund is generally provided by a stock exchange listing. However, in those countries where these products have become popular, notably the United Kingdom and the United States, substantial differences are sometimes observed between the market value of a fund's shares and the net asset value of its portfolio. These differences, which as a general rule are "discounts", remain largely unexplained and raise questions about the rationality of shareholders' investment behaviour[82]. In general, as these valuation anomalies illustrate, the absence of liquidity constraints on the promoters of closed-end funds should be offset by more stringent requirements for the transparency of the underlying portfolios and the governance of the funds.

Outlook

At a time when market participants are redefining their strategies in response to the crisis, it is difficult to identify new trends in the supply of collective investment funds or in the demand for innovative or complex funds. However, some factors point to rapid growth in segments of the market that promise returns higher than the historically low yields currently being earned in the bond and money markets. Some institutional investors continue to express a preference for management styles that offer specific risk-return profiles and opportunities for diversification. This will probably be the case for defined-benefit pension plans: the long-term nature of their commitments and the inflation risk they assume will prompt them to invest in listed equity markets or in relative illiquid markets in unlisted equities or real estate. In the short term, however, their risk-taking will be limited by the widespread adoption of fair value accounting standards, the tightening of prudential regulations, and population aging, which implies the payment of regular income. As for individual investors, they will need to pay greater attention to the market risk which their investments expose them to, and give greater importance to the complexities of funds' structures. The inflows to such guaranteed/formula based funds, against the background of the current very low valuations in the equity markets, raise questions concerning the appropriateness of such investment allocation in the long term.

5. Strategic refocusing

The crisis has had a major impact on the profitability of market participants. In the first quarter of 2009, the major asset management companies experienced further sharp declines in profitability, despite heavy cost-cutting, and some even recorded losses. This was particularly the case for the hedge fund industry, which saw additional outflows in the first quarter of 2009. The historically cyclical character of collective investment seems to have been reinforced by massive reallocations into bank deposits and shares in lower-yielding money market funds, and by the growing adoption of variable management fee structures (performance fees). In the United Kingdom, these trends have been reinforced, for some listed asset management companies, by the collapse in financing conditions and stock prices.

[80] See the public consultation of December 2008 of the Direction General for the Treasury and Political Economy of the French Finance on the overhaul of Order 45-2710 of 2 November 1945 relating to investment companies, and the Order of January 30, 2009 relating to *sociétés d'investissement à capital fixe*, foreign closed-end funds, and certain financial instruments, whose application will be detailed in a forthcoming decree.
[81] At the end of 2008, the total amount in closed-end funds stood at USD 207 billion.
[82] See P. Russel and D. Malhotra (2008); "Unravelling the closed-end funds pricing puzzle: some new evidence".

Table 3: Profitability of major French asset management companies (1st quarter 2009)

(EUR million)	BNP Paribas	Crédit Agricole	Natixis	Société Générale
Net banking income	548*	370	299	137
Change in costs over one year	-5%	-13.3%	-6%	-16%
Gross operating profit	130*	154	74	-41
Change in gross operating profit over one year	-19%	-28%	-4%	80%
Outstandings (EUR billion)	235	455,8	447,7	264,2
Net inflows (EUR billion)	8.8	2.1	5.2	-2.2%

* including private asset management
Source: L'AGEFI, Monday, May 18, 2009

This cyclical pressure on profitability has speeded up the pace of industry consolidation. Mergers not only cushion the effects of cyclicality by diversifying revenue sources, they also reduce unit fixed costs by generating economies of scale. The leading example is the planned merger of Société Générale Asset Management (SGAM) with Crédit Agricole Asset Management (CAAM). Looking beyond the current crisis, consolidation seems likely to continue as a result of revisions in the European regulatory framework: specifically, the adoption of the UCITS IV Directive. In creating a "single passport" for asset management companies and various mechanisms for cross-border consolidation (i.e. merger) of funds, the Directive has the express goal of encouraging economies of scale in the European collective investment industry. These economies will help limit the costs to investors resulting from the current fragmentation of the market.

The geographical and sector reorganisation of the industry by UCITS IV may thus benefit investors, but it also carries a number of risks to competition and investor protection.

Against this background, the growing concentration on a dwindling number of participants could reduce access to the market for new entrants in an industry characterised by compartmentalised architectures for fund distribution. To achieve the Directive's goal of strengthening competition, these architectures need to be opened up; this is particularly necessary because the recent wave of consolidation in the asset management industry has concerned mainly integrated banking groups, which own their own distribution networks. The current strategic orientation of market participants in this regard is particularly important, because it dictates the choice of "liability management", which shapes the operation of marketing networks. The financial crisis may have slowed the already hesitant trend towards the opening-up of distribution architectures. A number of factors – fund outflows and the resulting decline in assets under collective management, the need to control reputational risk in a crisis, and investors' poor understanding of certain types of funds – all argue in favour of marketing "in-house" funds, which are both more profitable for the group as a whole and easier to manage.

The price formation mechanisms currently observed in the collective investment market do not appear to indicate strong price competition, outside a few segments. A cross-sectional analysis of the relationship between the size of collective investment schemes domiciled in major European countries and the fees they charge indicates that, at best, a small portion of economies of scale are passed on to investors in domestic markets[83].

[83] See AMF Risk and Trend Mapping N°7.

French and Luxembourg funds - Mean (%) and standard deviation (%) of TER retail funds by size (EUR million)

Figure 27: Equity funds"

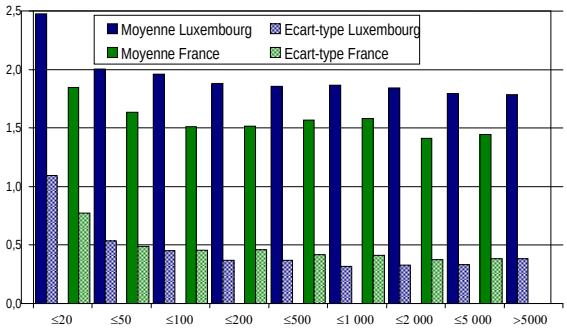
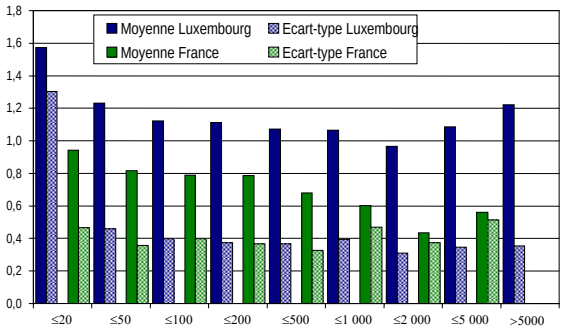


Figure 28: Bond funds"



Source: AMF

The fragmentation of the value chain and the lengthening of the intermediation chain resulting from current and future industrial reorganisations could undermine investor protection in the collective investment market, particularly if these developments reduce regulatory harmonisation in Europe. In this regard, two trends are likely to increase the need to extend current risk management requirements:

- specialisation, due particularly to the growing sophistication and automation of management techniques, and its corollary, outsourcing to external service providers;
- the increasing complexity of fund structures, and particular the use of nested structures[84].

However, there is the risk that stricter requirements for improving risk management systems and procedures could weigh more heavily on small and medium-sized specialised firms.

6. Summary of recent trends and risks in the market for collective investment

The volume of assets managed in traditional collective investment vehicles declined significantly throughout 2008, due to withdrawals and above all to very poor performance, particularly in some segments of the market. The alternative investment industry suffered from the massive drop in equity markets and the severe tightening of conditions for financing their strategies. This resulted in a severe deterioration in performance and in redemption requests. In this context, the outbreak of the Madoff affair presented an additional difficulty. The wave of redemptions highlighted the liquidity risk to which some vehicles, particularly funds of hedge funds, were exposed. Private equity funds, in particular those specialising in owner buyouts, found it impossible to conduct leverage buyouts, and some turned to forms of investment far from their original remit, such as purchasing distressed corporate debt. In this difficult environment for collective investment players, markets that experienced growth were rare. One exception was the market for exchange-traded funds, which continued to attract savings both in Europe and the United States. This market has benefited from the large number of investors who have engaged in a "flight to simplicity".

[84] The risk management of a unit-linked life insurance contract invested in funds-of-funds, which are themselves invested in master-feeder funds, which are in turn invested in structured products, extended to a cross-border framework.

While the financial crisis has weighed heavily on all asset managers, it has particularly tested small managers, particularly those specialising in market segments or strategies that have been particularly affected by the drying-up of liquidity in financial markets. The largest players generally have been able to soften the impact of outflows by virtue of the diversity of the management services that they offer. The pursuit of financial strength to cope with newly perceived risks (particularly liquidity and counterparty risk) and the willingness to achieve economies of scale have been manifested in mergers and acquisitions, some of them substantial, such as the joint venture between CAAM and SGAM. In addition, the financial crisis and the decline in assets under management have temporarily transformed marketing strategies, particularly concerning distribution and product lines.

An analysis of trends in domestic and foreign collective investment markets leads to the formation of a certain number of risks.

The first risk stems from innovation in the collective investment industry, and concerns the transparency of funds and the ease of understanding them. Collective investment product lines have expanded considerably in recent years, in the direction of increasing complexity for investors. On the one hand, collective investment funds are making greater use of sophisticated management techniques and proposing diverse ways to structure risk and gain access to new, frequently illiquid asset classes. On the other hand, the secondary market in listed funds, organised by intermediaries charged with making a market in them, is replacing the traditional method used by investors to redeem their share of units, which is managed over the counter by the fund promoter. These sources of complexity are not mutually exclusive. Indeed, promoters have an interest in listing products that are complex and difficult to value, given their limited liquidity. This explains the success of certain lines of complex ETFs, and could presage the success of certain closed-end funds.

Access to a broadened spectrum of asset classes, and the spread of management techniques that permit financial innovation, can deliver substantial benefits to retail investors. But such an orientation in fund supply is not without risk. Some funds are so complex that investors may have trouble understanding how they operate or fail to identify the risks they entail. These risks can stem from the fund's structure (counterparty risk and the risk of illiquidity in the underlying assets), from the use of complex indices which are insufficiently representative, or from performances that are not observable by all investors. There is also the risk that investors will not be able to assess the often "hidden" costs of the structuring of products and of the intermediation involved in the operation of the secondary market.

The second risk stems from the current and future reorganisations in the asset management industry, and concerns investor protection and the level of fees. Reorganisations in the European collective investment industry ahead of the entry into force of the UCITS IV Directive are resulting in growing complexity in the value chain and outsourcing of some asset management and custody functions. These developments can benefit market participants – generating economies of scale and reducing fees – to the extent that they help to diversify the supply of funds, rationalise production processes, and make market participants more specialised. They can, however, carry risks for investors if the national legal regimes in which they occur are insufficiently harmonised, since this can result in unequal protection for investors, as the Madoff affair illustrated. And the reductions in fees made possible by the greater scale of production could be only partially achieved if the forces of competition are held back by closed distribution architectures.

“Risk and Trend Mapping” is produced by the AMF's Regulation Policy and International Affairs Division

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