

# The Importance of Wholesale Financial Services to the EU Economy 2009



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## **Foreword**

**Stuart Fraser**

**Chairman, Policy and Resources Committee**

**City of London**

At a time of severe global recession, following on from a major international financial crisis, it would be tempting perhaps to emphasise the costs and underplay the benefits to the EU from being a global source of international financial services. However, this fourth edition of *'The Importance of Wholesale Financial Services to the EU Economy'*, prepared for us by London Economics, rightly shows that wholesale financial markets offer substantial economic services that directly benefit EU companies and indirectly benefit EU consumers. This sector allows firms to manage the finance of their international business cost-effectively and to hedge their exposures to the key market and credit risks. The report takes a comprehensive look at the sector, highlighting the scale and the range of activities undertaken by wholesale financial institutions. It examines the recent challenges faced within the sector, and makes a realistic assessment of its medium term prospects.

The significance of wholesale financial services to the EU economy is evident from the fact that the sector's output was worth an estimated €219bn in 2008, while it employs almost 1.4 million people. Although output in the sector is expected to decline by just over 6% in 2009, it is forecast to recover broadly in line with trends in the world economy. Exports of wholesale financial services by EU countries account for a significant proportion of world trade in services.

The EU remains home to some of the largest and most active financial markets in the world, and the recent turmoil seen in some of these markets will not alter this. Whilst the sector has gone through some difficult times in the last two years following the onset of the global credit crunch, there are now some grounds for optimism as activity starts to recover in key business areas such as equity markets, bond financing and asset management. Job losses in the sector of course attracted the headlines shortly after credit crunch began, but the position is beginning to stabilise, with a more robust recovery expected from next year.

There are signs that the credit crunch has caused the process of integration in European financial markets to falter, particularly with the downturn taking place in cross-border merger activity. This development is likely to prove to be a temporary setback, however, particularly with the beneficial effects of MiFID still coming through and firms responding to increased competitive pressures.

The industry acknowledges the need for change, and to improve financial stability. More regulation is inevitable. The precise nature of this additional regulation is becoming progressively clearer, with legislation already in the pipeline on some aspects of the new regulatory architecture, and consultations taking place over other aspects of proposed changes. It will be important for proposals to be properly thought through and evaluated to ensure they achieve the right regulatory outcomes.

Regulatory controls properly applied should protect against systemic risks while not discouraging the competitive benefits from useful innovations. This is an important balance for government to get right. If well managed it will facilitate investment and transfers of know-how; if not, it will encourage unwelcome protectionist sentiment.

The report emphasises the important role that appropriately regulated financial services will play in the European and global recovery and the need to maintain deep pools both of capital and expertise within the EU, whether in London or across the range of other financial centres.

*Stuart Fraser*

*London*

*September 2009*

## Executive Summary

*The Importance of Wholesale Financial Services to the European Union Economy 2009* is a report examining the contribution of the wholesale financial services sector to the EU economy. It is the fourth annual report on this topic published by the City of London.

**The EU remains home to some of the largest banking and financial markets in the world.** The EU has the world's most active foreign exchange, bond trading and derivatives markets. It also has the world's largest insurance market – larger than either the USA or Japan. The EU is also home to the second largest fund management industry in the world, accounting for approximately 35% of assets under management worldwide.

**This review suggests a cautious optimism for the wholesale financial services sector in Europe over the medium term.** The sector is already coming out of a serious downturn, reflecting the resilience of the business to adapt to adverse developments.

**The output of the EU wholesale financial sector is estimated to be worth €219 billion in 2008, and throughout most of the previous decade has expanded much faster than total output.** The EU and the USA each account for approximately one-third of worldwide wholesale financial services output. Within the EU, five Member States (United Kingdom, Germany, France, Netherlands and Spain) accounted for almost 80% of total EU output of wholesale financial services.

**Total employment in the EU wholesale financial services sector is estimated at 1.36 million in 2008,** with almost one-half of this number accounted for by the United Kingdom, Germany and France.

**The wholesale financial services sector is an important contributor to the EU's external trade balance.** The sector provides almost 45% of the total current account surplus in services.

**The impact of the financial crisis on the industry since 2007 has been pronounced.** Output in the sector is estimated to have declined by 3.0% in 2008, marking the end of the sector's rapid expansion since 2000. Although the financial crisis has cost several thousand job losses in the sector, many of these in the United Kingdom, the position is now beginning to stabilise.

**Most areas of wholesale financial services have experienced a decline in business, and we have seen the demise of some key names in the sector.** On the other hand, certain areas of activity, and particularly bond and securities issuance by both the corporate sector and the public sector, have been relatively strong.

**A number of firms operating in the sector have received capital injections from governments, while a series of proposals have been put forward to address regulatory failings.** Significant changes can be expected in the



regulatory and supervisory framework, with the sector facing the prospect of tighter capital and liquidity rules and increased demands for transparency.

**There are indications that the downturn may also have reversed temporarily the process of financial market integration in the EU.** The dispersion in EU equity returns across countries and sectors has recently been increasing, while the level of completed cross-border M&A deals has fallen sharply. Looking further ahead, however, a combination of regulatory changes and increased competitive pressures will cause the process of financial integration to reassert itself.

**New equity trading platforms have appeared, and these have been taking business away from the leading traditional exchanges.** This follows the implementation of MiFID (the Markets in Financial Instruments Directive), which has brought increased competition in trading activity.

**The scenario presented for the future prospects of the sector indicates further downsizing and restructuring before the recovery starts.** In this scenario, output in wholesale financial services is expected to decline by 6.2% in the course of 2009, followed by a further modest dip in 2010, before starting to expand again from 2011 onwards. Although the sector is not expected to return to the strong growth rates seen in the period 2000 to 2007, recent job losses are expected to be made good over the medium term to 2013.

**The outlook varies quite significantly from country-to-country, with the United Kingdom expected to see the sharpest decline in activity.** Those countries that are less reliant on the sector will not be as badly affected as those that are.

# 1 Introduction

The present report, the fourth in a series of annual reports, focuses on recent developments in the wholesale financial services in the EU and the contribution of this sector to the EU economy.

Unfortunately, the official industry statistics published by international and national statistical agencies, do not distinguish wholesale financial services from other financial intermediation activities such as retail banking.

In the present report we adopt the following definition of wholesale financial services: *“the provision of services by financial institutions to corporate clients, investors, institutions and public sector bodies, as well as to other financial institutions.”* Wholesale financial services contrasts with retail financial services, which involve the provision of financial services to individuals.

In terms of financial sub-sectors, this report examines recent developments in:

- banking, especially investment banking;
- correspondent banking and trade finance;
- equity markets;
- debt markets;
- foreign exchange markets;
- derivatives markets;
- asset management;
- insurance;
- private equity;
- hedge funds; and
- commodities markets.

For the main sub-sectors listed above, the report provides an overview of the current state of the sub-sector, and discusses the regulatory and market challenges that they face at the present time and over the coming years.

The report is structured as follows:

- Chapter 2 describes the economic and financial environment in which the wholesale financial services sector operated in 2008 and into early 2009;
- Chapter 3 provides information on the wholesale financial services sector in 2008 in the EU;
- Chapter 4 focuses on investment banking;
- Chapter 5 reviews briefly developments in correspondent banking and trade finance;

- Chapter 6 discusses developments in inter-bank funding and commercial paper, foreign exchange and derivatives;
- Chapter 7 presents developments in asset management;
- Chapter 8 reports on developments in the insurance sub-sector;
- Chapter 9 discusses developments in commodities cash markets and derivatives; and,
- Finally, Chapter 10 sets out a number of conclusions.

## **2 The Economic and Financial Environment in 2008 and Early 2009**

### **2.1 Introduction**

The financial crisis, which erupted in 2007, turned into a fully-fledged economic and financial collapse by autumn 2008. After a strong first half in 2008, during which inflation rose to the forefront of the economic policy agenda in many countries, substantial decreases in industrial production and international trade in the fourth quarter of 2008 dispelled the notion that the real economy would remain unaffected by the financial crisis. Indeed, since summer 2008, forecasters have steadily revised downwards their outlook of economic growth and inflation in 2009 and 2010 for all countries globally.

Overall, 2008 proved to be a very challenging year for the European wholesale financial services sector since it had to deal with the fall-out from the financial crisis and the rapidly weakening economy. In addition, it had to continue to adjust to the market and systemic changes arising from the implementation of a number of major regulatory changes, such as the Markets in Financial Instruments Directive (MiFID).

This chapter provides firstly a brief overview of the developments in the financial sector. Next, it discusses the policy responses to the financial crisis in the United States, the Eurozone and the United Kingdom. Finally, it reviews a number of key economic developments in 2008 and early 2009.

### **2.2 The financial sector crisis**

It is now possible to distinguish several phases of the crisis although at the onset of the crisis nobody had any clear indications of its depth and the various stages it would go through<sup>1</sup>.

#### **The collapse of the sub-prime market in the USA**

The booming US housing market halted abruptly in the fall of 2005, with a median house price fall of 3.3% from the fourth quarter of 2005 to the first quarter of 2006. Through 2006 and into 2007, the survival of a number of lenders that had specialised in the sub-prime market became increasingly doubtful.

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<sup>1</sup> Detailed and constantly updated timelines of the financial crisis are provided, among others, by the following two web reports: Guillén, M.F., *The Global Economic & Financial Crisis: A Timeline*, The Lauder Institute, Wharton, University of Pennsylvania and the Federal Reserve of St. Louis, *The Financial Crisis: A Timeline of Events and Policy Actions*

The first major failure was that of Merit Financial Inc, based in Kirkland, Washington, which filed for bankruptcy in April 2006. Subsequently, Ownit Mortgage Solutions Inc. filed for Chapter 11 in January 2007. Mortgage Lenders Network USA Inc., the country's 15th largest sub-prime lender with \$3.3 billion in loans funded in third quarter 2006, filed for Chapter 11 in February 2007 and New Century Financial - the largest US sub-prime lender - filed for Chapter 11 bankruptcy in April 2007.

However, throughout this period, the problem was generally viewed as limited to the US sub-prime sector. While most of the sub-prime mortgages had been securitised, the general view at that time was that the securitisation process had in fact distributed the risk to large number of investors and that, as a result, the fall out of the sub-prime crisis would be limited.

### **The propagation of the sub-prime crisis**

By August 2007, it became increasingly apparent that the ramifications of the US sub-prime crisis were much more serious than originally thought. The first revelations in relation to the size of the problem world-wide (BNP halting redemptions) and the first major intervention of a central bank occurred.

Continued revelations about losses in banks' portfolios occurred in the autumn of 2007 and general mistrust among financial institutions set in. Reflecting this growing mistrust, the spread between the 3-month LIBOR rate and the overnight index swaps increased significantly by about 20 to 30 basis points by the third quarter of 2007 (see Figure 1 overleaf). Moreover, financial investors became increasingly concerned and anxious. The volatility index computed by the Chicago Board of Trade (an indicator of investors' fears) increased by about 50% (see Figure 2).

However, up to the end of 2007, the rest of financial sector and the wider economy appeared relatively immune outside the construction/housing sector.

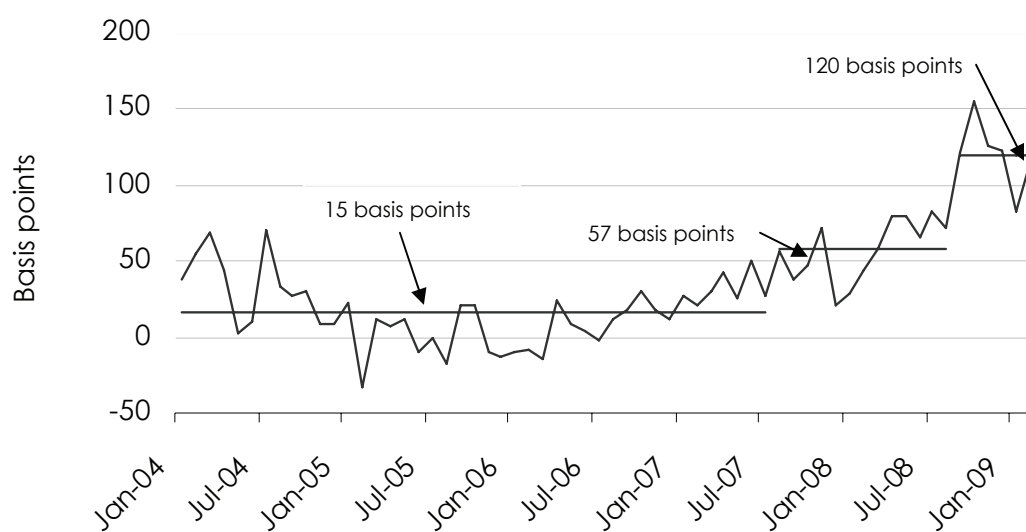
### **2008 the year of the contagion to financial market and real economy**

The first half of 2008 was relatively quiet compared to second half. One of the major events was the sale of Bear Stearns to JP Morgan Chase, leading some observers to think that perhaps the worst was over. In reality, however, losses in the financial sector continued to mount and fears about the survival of major name institutions started spread through financial markets.

The months of September and October 2008 marked the apex of the crisis with Lehman Brothers being allowed to fail, Merrill Lynch being sold and AIG requiring a major bailout from the US government. Financial markets completely froze following these seismic shocks and governments throughout the world embarked on major banking rescue packages. In a number of cases, repeated assistance was required as losses had not yet fully crystallised by the fall of 2008.

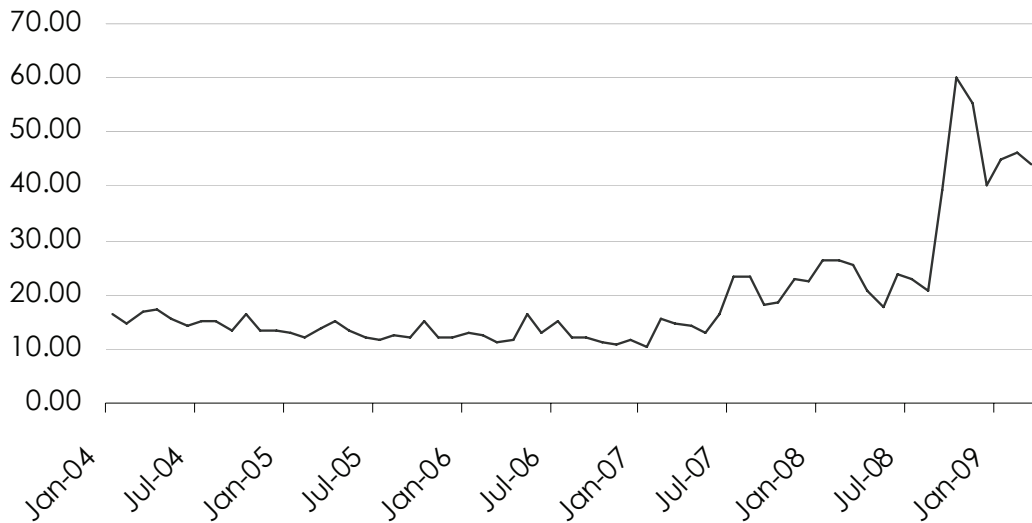
Moreover, throughout the second half of 2008, the signals that the real economy would be hard hit were building up rapidly and, by late 2008, it became clear that even emerging economies, which previously had been assumed to be decoupled from developments in the advanced economies, would also be slowing down very significantly.

**Figure 1: 3-month Libor spread to Overnight Index Swaps**



Note: The basis points differential is equal to the absolute difference in yield \*100  
Source: London Economics' calculations based on data from Bloomberg Professional

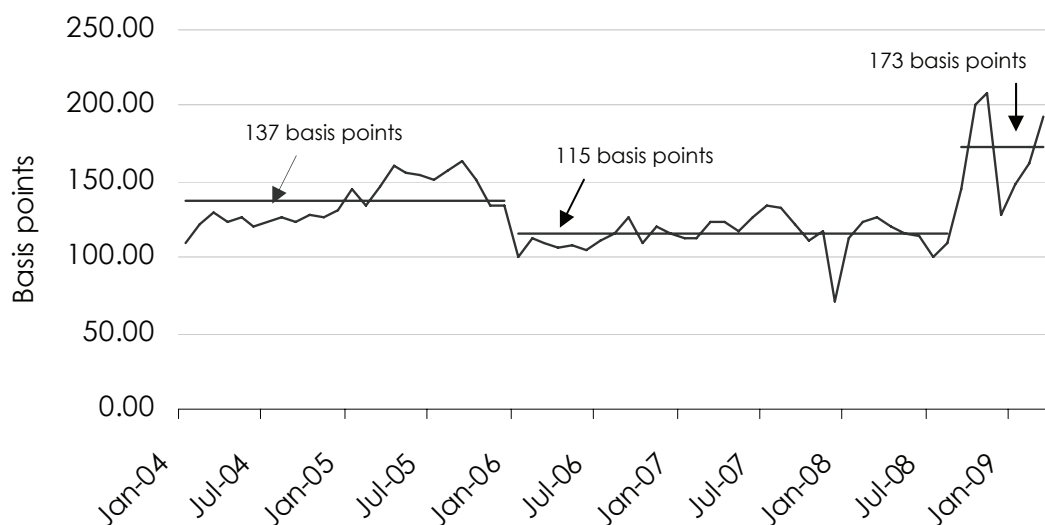
**Figure 2: Volatility Index (VIX)**



Note: The VIX is computed by the Chicago Board Options Exchange (CBOE) and measures the implied volatility of S&P 500 index options. A high value corresponds to a more volatile market and therefore more costly options, which can be used to defray risk from volatility. This index is one measure of the market's expectation of volatility over the next 30 day period.

Source: Bloomberg Professional and CBOE

**Figure 3: Spread (in basis points) between yield on corporate Eurobonds of more than 5 years and German Government bonds of 9 to 10 years**



Note: The basis points differential is equal to the absolute difference in yield \*100

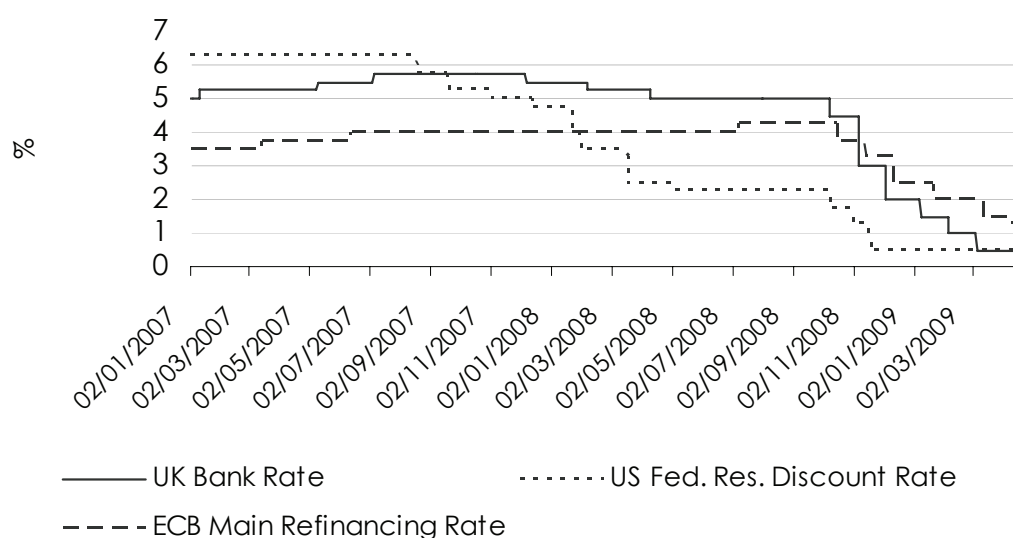
Source: London Economics' calculations based on data from Bloomberg Professional

## 2.3 Policy actions taken in response to the unfolding financial crisis

The policy actions taken during the financial crisis so far have included a mix of conventional (interest rate cuts, provision of liquidity) and non-conventional policy actions (direct provision of capital by governments to financial institutions, considerable expansion of the range of acceptable collateral and massive growth in central bank balance sheets).

The first line of defence against the incipient financial crisis consisted of cuts in central bank interest rates and massive liquidity injections by the major central banks in industrialised countries. While the US Federal Reserve started to reduce its interest rate in the summer of 2007, the ECB and Bank of England did so later (see Figure 4).

**Figure 4: Monetary policy interest rate in the Eurozone, the United States and the United Kingdom**



Source: Bank of England, European Central Bank, Federal Reserve Board

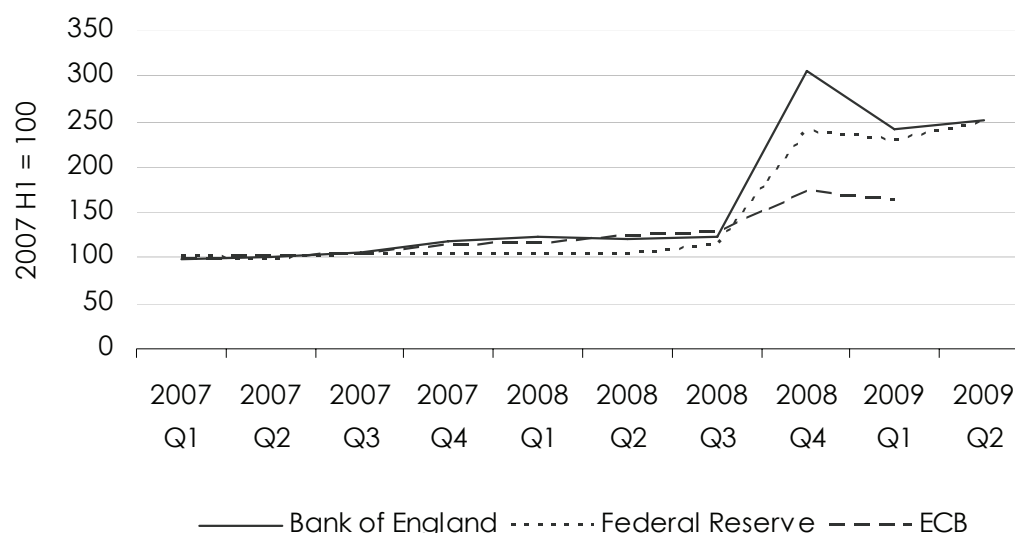
All of the major central banks in the world, however, injected large amounts of liquidity into the financial system in an effort to forestall the widening and deepening of the financial crisis. At the same time, these central banks increased the range of instruments they would accept as collateral from banks for the provision liquidity and put in place new lending facilities.

As a result of these interventions, the balance sheets of some of the major central banks more than doubled between the end of the second quarter of 2008 and the end of the first quarter of 2009 (see Figure 5). The more recent



quantitative easing by central banks is one additional policy tool to increase liquidity in financial markets and expand central bank balance sheets when interest rates are very low.

**Figure 5: Size of balance sheets of Bank of England, European Central Bank and US Federal Reserve**



Note: The data for 2009 Q2 are for April 2009 only

Source: London Economics calculations based on data from Bank of England, European Central Bank, US Federal Reserve Board

In addition to the direct capital injections by governments into financial institutions, which resulted in a sharp increase in gross public debt, many countries adopted stimulative fiscal packages to limit the impact on the financial crisis on the real economy. These packages further increased budget deficits and public debt over and above the increase which would have resulted automatically in the downturn.

## 2.4 Regulatory responses

Following events through 2008, a flurry of initiatives were launched by various bodies and organisations such as the G-20, the European Union, the BIS, the FSA, etc, to identify the root causes of the financial crisis and put forward proposals to address the identified problems and prevent their recurrence.

A broad consensus has emerged that a number of issues need to be addressed. A brief overview of the key findings of the various exercises is presented below<sup>2</sup>:

1. The development of a shadow financial sector outside the scope of most or all regulation rendered the overall financial system much more opaque. As a result, regulators, policy-makers and financial market participants lacked a good understanding of where risks actually fell, especially outside the regulated part of the financial sector.
2. Leveraging had increased massively in the financial sector using mostly short-term debt instruments with not enough attention being paid by regulators, policy-makers and financial market participants to liquidity and refinancing risks.
3. Basic incentives were misaligned in a number of cases. There is a perception that the remuneration of traders, investment bankers and other financial market operators was biased towards rewarding excessive risk-taking with insufficient attention being paid to long-term performance. Similarly, credit rating agencies are viewed as having significant conflicts of interest, involved in both designing various structured finance products whilst at the same time also actually providing the credit rating.
4. While many innovations occurred in the financial sector in the current decade, the risks they posed were often not well understood.
5. Risk assessments relied excessively on complex mathematical models which were also poorly understood, especially by senior management, and poorly calibrated because of the lack of long data runs for many of the financial products. Moreover, in general, these models did not allow for very low probability but very high impact events such as a general freeze in interbank lending.
6. Very low interest rates led many financial market participants to chase yield by investing in increasingly complex financial products whose risk were not all or only very imperfectly understood.
7. Many of these developments listed above accentuated the inherent pro-cyclical nature of the financial system which boosted the financial sector in the good times but also made the subsequent downturn much worse.

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<sup>2</sup> See, for example, European Commission, *The High-Level Group on Financial Supervision in the EU Chaired by Jacques de Larosière*, Brussels, 25 February 2009, FSA, *The Turner Review A Regulatory Response to the Global Banking Crisis*, March 2009, Carvajla A. et al. *The Perimeter of Financial Regulation*, IMS Staff Position Note, March 26, 2009, Issing O. et al. *New Financial Order recommendations by the Issing Committee*, Center for Financial Studies White Paper No. II, February 2009

Following the initial phase of stock-taking and assessment, financial sector policy-making is now focusing on addressing many of the problems identified so far. While some of the policies are already at an advanced stage, many others are still very much work in progress and their precise scope and nature is uncertain.

Below, some of the major international and EU initiatives are presented. Overall, these initiatives aim to achieve one or several of the following key reform objectives:

- Greater transparency and better understanding of risk;
- Better alignment of incentives;
- Reduction in pro-cyclical characteristic of financial sector;
- Bringing the shadow financial sector within the scope of regulation; and
- Better international regulation on global and/or pan-European financial institutions.

### **G-20 and other international initiatives**

The G-20 announced at its London summit in early April 2009<sup>3</sup> that in order to strengthen international financial regulation and supervision, a new Financial Stability Board (FSB) would be established as successor to the Financial Stability Forum (FSF) with a stronger mandate to provide early warning of macroeconomic and financial risks and to specify the actions required to address them.

In addition the G20's Declaration on Strengthening the Financial System took stock of the various actions agreed at the previous meeting and aimed to;

- Reshape the regulatory systems so that authorities are able to identify and take account of macro-prudential risks;
- Extend regulation and oversight to all systemically important financial institutions, instruments and markets, including systematically important hedge funds;
- Endorse and extend the FSF's newly adopted principles on pay and compensation;

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<sup>3</sup> G20 London Summit, *Global Plan for Recovery and Reform*, 2 April 2009

- Once the recovery is under way, improve the quality, quantity and international consistency of capital in the banking system, prevent excessive leverage and build up buffers of resources during good times;
- Extend regulatory oversight and registration of credit rating agencies to ensure that they meet the international code of good practice, particularly to prevent unacceptable conflicts of interest;
- Take actions against non-cooperative jurisdictions, including tax havens; and
- Call on accounting standard setters to work urgently with supervisors and regulators to improve standards on valuation and provisioning and achieve a global set of high quality accounting standards.

In support of these policy objectives, in March 2009<sup>4</sup> the Basel Committee on Banking Supervision reported that it would be considering a combination of measures to encourage the accumulation of capital buffers during good times, improve the risk coverage of the capital framework and the quality of bank capital, and introduce a non-risk-based supplementary measure. In addition the Committee announced that minimum level of regulatory capital would be reviewed in 2010 with the aim of raising the total capital required and its quality above current levels.

Another important international regulatory development is the very active push by regulators, especially in the US, to move derivative trading from the over-the-counter market place to clearing through regulated central counterparties (CCP)<sup>5</sup>.

## **EU initiatives**

At the EU level, the European Commission has put forward a number of initiatives which aim to address some of the issues identified by the various analyses of the sources of the current financial crisis and meet the G20 undertakings.

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<sup>4</sup> Basel Committee on Banking Supervision, *Initiatives on Capital Announced by the Basel Committee*, 12 March 2009

<sup>5</sup> US Treasury, *Regulatory Reform Over-the-Counter (OTC) Derivatives*, Press communiqué, 13 May 2009

## **Supervision**

- In May 2009, the European Commission adopted the Communication on Financial Supervision in Europe<sup>6</sup>. The Communication proposes to reform the current European financial regulatory and supervision architecture by creating a new European Systemic Risk Council (ESRC) and a European System Financial Supervisors (ESFS). The task of the former body will be to monitor and assess risks to the stability of the financial system as a whole. The task of the latter will be to coordinate the work of national supervisors, working in tandem with new European Supervisory Authorities which will be created through the transformation of the existing committees for banking (CEBS), securities (CESR) and insurance and occupational pensions (CEIOPS).
- The operational framework of the three committees had already been clarified and strengthened in January 2009<sup>7</sup>.
- As part of proposed revisions to bank capital requirements set out in October 2008<sup>8</sup>, the European Commission proposed that, in the case of banking groups operating in multiple EU countries, colleges of supervisors be established. Among others things, such colleges were to review the liquidity risk management of such banking groups.

## **Regulation**

- In late April 2009, the European Commission proposed a Directive on Alternative Fund Managers (AIFM) requiring all AIFMs within scope to be authorised and subject to regulatory standards, and provide greater transparency of the activities they undertake<sup>9</sup>.
- At the same time, the European Commission also adopted a recommendation on remuneration in the financial sector proposing that Member States should ensure that the remuneration structure and policies should be consistent and promote sound and effective risk-taking<sup>10</sup>.

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<sup>6</sup> European Commission, Financial Services, Commission proposes stronger financial supervision in Europe, Press communiqué, IP/09/836, 27 May 2009,

<sup>7</sup> European Commission, *Financial Markets: Commission adopts measures to strengthen supervisory committees and standard-setting bodies for accounting and auditing*, Press communiqué, IP/09/125, 26 January 2009

<sup>8</sup> European Commission, Commission proposes revision of bank capital requirements rules to reinforce financial stability, Press communiqué, IP/08/1433, 1<sup>st</sup> October 2008

<sup>9</sup> European Commission, *Financial Services: Commission proposes EU framework for managers of alternative investment funds*, Press communiqué, IP/09/669, 29 April 2009

<sup>10</sup> European Commission, *Financial services sector pay: Commission sets out principles on remuneration of risk-taking staff in financial institutions*, Press communiqué, IP/09/674, 29 April

- Also in late April, an EC regulation on credit rating agencies was approved by the European Parliament and the Council<sup>11</sup>. Under the regulation, credit rating agencies wishing to have their credit ratings used in the EU will need to seek registration. The application will need to be made with CESR and will be decided upon by the relevant securities regulators grouped in a college. The same college will also be involved in the day-to-day supervision of the credit rating agencies. The regulation requires credit rating agencies to i) ensure that ratings are not affected by conflicts of interest, ii) remain vigilant on the quality of the rating methodology and the ratings and iii) act in a transparent manner.

### **Capital adequacy**

- The European Commission launched, in October 2008, a review of the EU rules on capital requirements<sup>12</sup>, proposing to cap lending to a single party, to refine the definition of “hybrid” capital that can be counted as part of the regulatory capital, tighten rules on securitised products by requiring originating banks to retain some of the risk exposure, and require firms acquiring securities assets to do so only after extensive due diligence.
- More recently, the Commission consulted on a number of specific proposals aimed at strengthening capital requirements in the trading book, raising capital charges for certain securitised exposures and upgrading risk management and disclosure standards<sup>13</sup>.

It is clear that many initiatives and processes are under way to address some of the issues generally viewed as being causes of the financial crisis or having contributed to amplify the initial shock. What is less clear, however, is whether in the haste to address very serious problems, a number of unintended consequences will crystallise later on. *A priori*, it is not always obvious whether the proposed regulatory reforms are based on clear regulatory principles and proportionate to the problems and issues being addressed.

A recent City of London report<sup>14</sup> noted that “*Capital markets have a fundamental impact on the cost of doing business across the whole economy. Capital markets that work well are the engine room of strong and*

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<sup>11</sup> European Commission, *Approval of new Regulation will raise standards for the issuance of credit ratings used in the Community*, Press communiqué, IP/09/629, 23 April 2009

<sup>12</sup> See European Commission, IP/08/1433

<sup>13</sup> European Commission, *Possible Changes to the CRD*, Commission Services Staff Working Document, 2009

<sup>14</sup> City of London, *Assessing the Effectiveness of Enforcement and Regulation*, April 2009

*sustainable economic growth. Regulatory authorities have a critical role in ensuring the soundness and proper functioning of these markets". The report also noted that "regulatory effectiveness as measured by market outcomes varies considerably between developing and developed countries"*

While this City of London study focused on regulation in securities markets, there is no doubt that its broad conclusion applies to financial markets more generally and that it is essential to guard against poor regulation or regulation with serious unintended consequences which could dampen economic growth and weaken the EU's wholesale financial services industry relative to its competitors.

## **2.5 The economy**

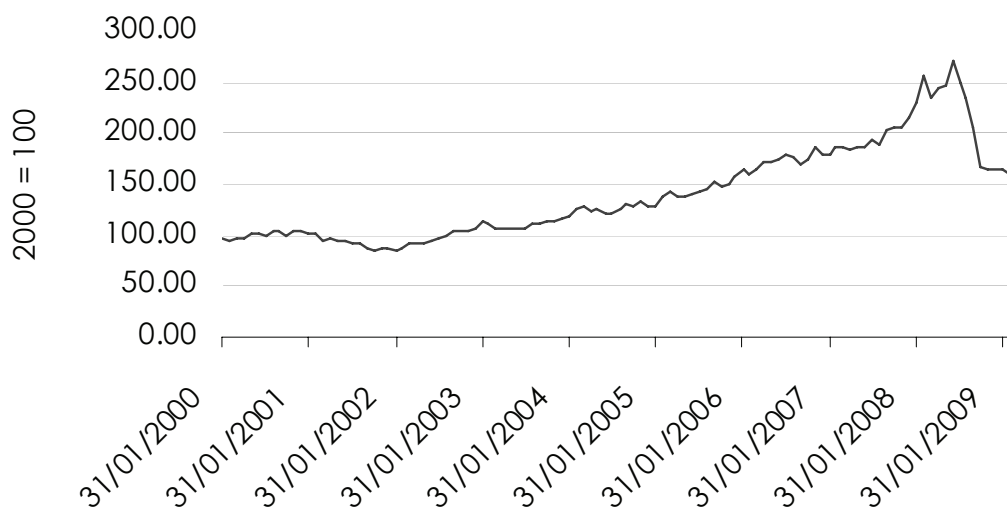
Globally, the real economy appeared largely unaffected during the first half of 2008 by the unfolding financial crisis. While many policy-makers were seriously concerned about a possible feedback effect from the financial sector to the real economy, only the housing and construction sectors showed signs of serious weakening during that period.

In fact, through the first half of 2008, a new major policy concern was inflation, with commodity prices growing at astonishing pace to unparallel peaks by mid-year, with inflation on the rise in practically all countries (see Figure 6).

In Europe, the unprecedented rise in commodity prices was partially offset by a mild depreciation of the US\$ through the first half of 2008 (see Figure 7).

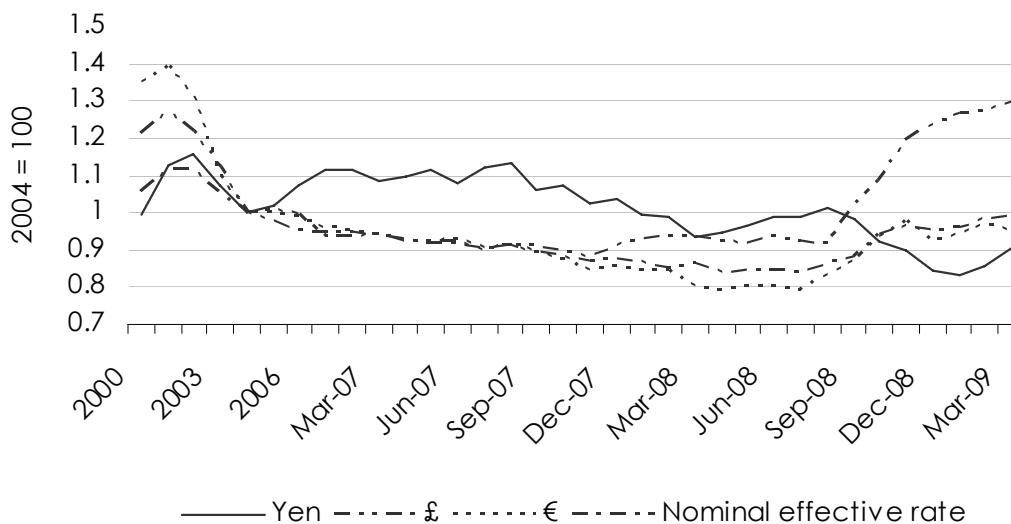
However, this general picture of a limited fall-out from the financial crisis to the real economy was turned on its head in the second half of 2008. Commodity prices were the first to signal that the credit crunch was starting to bite by falling by mid-year to their early 2006 level in the span of just a few months (see Figure 6).

**Figure 6: Commodity price index in US\$**



Note: Commodity price index = Reuters - CRB index (CCI), indexed to 2000 = 100  
Source: London Economics calculations based on data from Bloomberg Professional

**Figure 7: Exchange rates of US\$ vis-à-vis major currencies**



Note: Nominal effective rate is the broad trade-weighted exchange rate of the US\$ area- vis-à-vis a group main trading partners. In the figure above, an upward movement represents an appreciation of the US\$ vis-à-vis the foreign currency

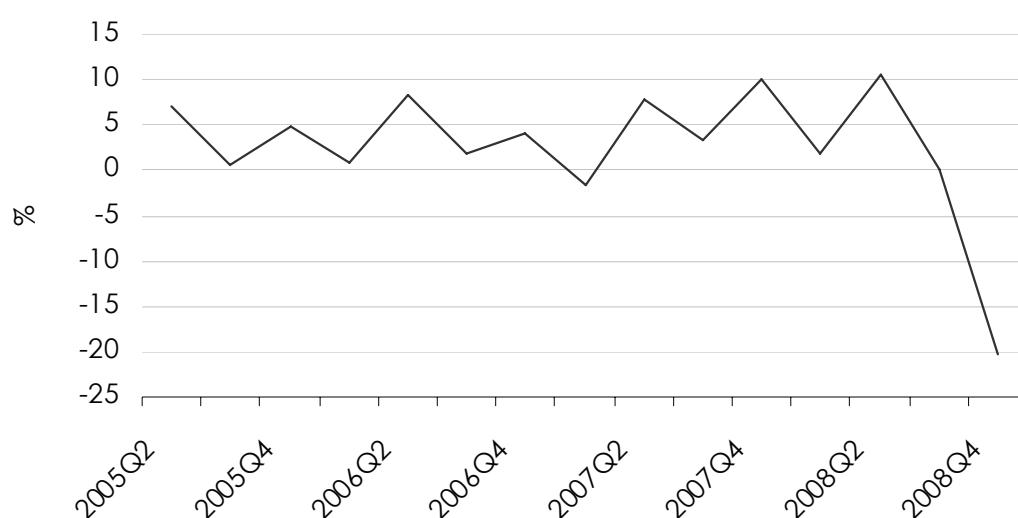
Source: London Economics calculations based on data from the US Federal Reserve Board



The clearest manifestation of the sharp slowdown in economic activity in the second half of 2008 is the collapse in world trade in the fourth quarter of 2008 (see Figure 8).

This development in late 2008 clearly showed that the financial crisis would hit not only those economies whose financial sectors were experiencing serious difficulties but also emerging economies which had been assumed by many to be uncoupled from events in the industrialised countries.

**Figure 8: Quarterly rate of change of value of world trade (in US\$)**



Source: London Economics calculations based on data from World Trade Organisation

As the financial crisis deepened through 2008 and early 2009, forecasters were forced to revise progressively downward their economic growth forecasts for 2008 and particularly 2009.

An illustration of the steadily deteriorating outlook is provided in Table 1 which shows the successive GDP and inflation forecast made by the IMF since April 2008. For the year 2009, forecast output growth was steadily revised downwards from 3.8% in the April 2008 forecast to -1.4% in the July 2009 update of the April 2009 forecast, while the inflation projection for advanced economies was revised downwards from 2.3% in July 2008 to 0.1% in July 2009.

Economic data available so far in 2009 confirm the sharp deterioration in the real economy although the most recent economic data suggest that the pace of decline is slowing and that the bottom of the cycle may be close.

While economic conditions are currently still very difficult, a consensus among economists is emerging that, as a result of the policy actions taken by governments, the current downturn will be a deep and prolonged recession but not as severe as the depression experienced in the 1930's.

**Table 1: Latest GDP growth forecast by IMF**

	<b>GDP growth forecast/estimate for 2008</b>			<b>GDP growth forecast for 2009</b>		
	World	Adv. Ec.	Em. Ec.	World	Adv. Ec.	Em. Ec.
WEO Apr. 09	3.2	0.9	6.1	-1.3	-3.8	1.6
Update Jan. 09	3.4	1.0	6.3	0.5	-2.0	3.3
Update Nov. 08	3.7	1.4	6.6	2.2	-0.3	5.1
WEO Oct. 08	3.8	1.5	6.9	3.0	0.5	6.1
Update Jul. 08	4.1	1.7	6.9	3.9	1.4	6.7
WEO Apr. 08	3.7	1.3	6.7	3.8	1.3	6.6

	<b>CPI inflation forecast/estimate for 2008</b>		<b>CPI inflation forecast for 2009</b>	
	Adv. Ec.	Em. Ec.	Adv. Ec.	Em. Ec.
WEO Apr. 09	3.4	9.3	-0.2	5.7
Update Jan. 09	3.5	9.2	0.3	5.8
Update Nov. 08	3.6	9.2	1.4	7.1
WEO Oct. 08	3.6	9.4	2.0	7.8
Update Jul. 08	3.4	9.1	2.3	7.4
WEO Apr. 08	2.6	7.4	2.0	5.7

Note: Adv. Ec. = advanced economies, Em. Ec. = Emerging and developing economies

Source: IMF, various issues of *World Economic Outlook* and *World Economic Outlook Updates*

### **3 The EU Wholesale Financial Services Sector in 2008 and Future Prospects**

This chapter firstly compares the evolution of the wholesale financial services sector in the EU27 to that of other countries and regions globally. Next, it discusses in greater detail changes in output and employment within the EU27 wholesale financial services sector. Finally, the near to medium term prospects of the sector are reviewed.

A key challenge for any analysis of the wholesale financial services sector in the EU27 and in other countries is the lack of distinct data on the wholesale sector. In the absence of data from statistical agencies, it is necessary to estimate wholesale financial sector output and employment. The next section provides detailed information on the methodology used to generate estimates of wholesale financial services output and employment.

#### **3.1 Methodology**

In order to estimate the gross value added (GVA) of the wholesale financial services sector, the following benchmark approach was used. It is identical to the one used to generate estimates of output and employment of the wholesale financial services sector for the 2008 report<sup>15</sup>.

- First, we obtained data on the contribution of total financial intermediation to economy-wide GVA<sup>16</sup> in all 27 EU countries, the United States, Japan and China. Key sources of information were Eurostat and national statistical agencies.
- Second, we estimated the share of retail finance relative to all finance activity in each country by using a benchmarking system against twenty European countries that are not highly dependent on the financial sector. This benchmarking system is based on the share of financial intermediation (i.e. retail and wholesale financial services) in total domestic gross value added and the level of financial intermediation on a per capita basis.

The use of the second indicator takes account of the fact that a) the level of retail banking in an economy depends not only on the

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<sup>15</sup> Due to data revisions, the figures presented in this report do differ slightly from the figures shown in the 2008 report.

<sup>16</sup> Economy-wide GVA is an estimate of economy-wide Gross Domestic Product (GDP) based on estimates of production in all industries.

economy's GDP level but also on the size of its population and b) population size and GDP level are not perfectly correlated.

For each indicator, we identified the set of 20 EU Member States with a) the lowest ratio of financial intermediation GVA to total GVA and b) the lowest level of financial intermediation on a per-capita basis. We computed a benchmark retail finance share as the mean of the average of the two indicators across these 20 EU Member States.

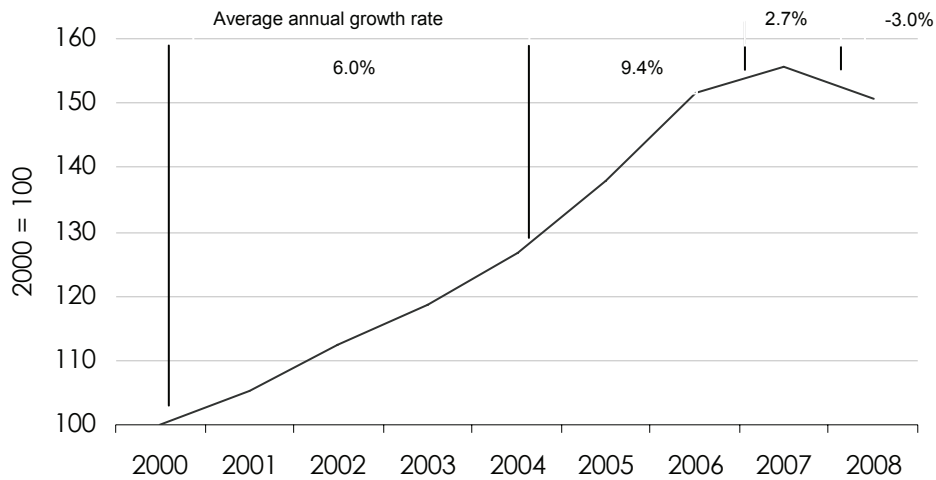
- Third, we deducted the share of retail finance from all financial intermediation to arrive at an estimate of the contribution of wholesale finance to GDP in each country. In the cases where the technical application of this methodology resulted in a wholesale financial sector share of zero we adjusted this latter estimate to allow for a very small level of wholesale financial sector activity.
- Finally, we estimated the size of wholesale finance in all other countries using financial variables in these countries, such as finance exports and the size of the stock market in the EU, United States, Japan, and China.

### **3.2 The world wholesale financial services sector in 2008**

The financial crisis brought to an abrupt halt the rapid expansion that had characterised the global wholesale financial services sector since 2000.

Indeed, after accelerating to 9.4% in 2005 and 2006, growth in wholesale financial services slowed sharply to 2.7% per annum in 2007 and turned negative in 2008 (see Figure 9). Overall, the latest available data and estimates suggest that output in worldwide wholesale financial services declined by 3.0% in 2008, to a level slightly below the one reached in 2006.

**Figure 9: GVA of wholesale financial services worldwide – 2000 = 100**

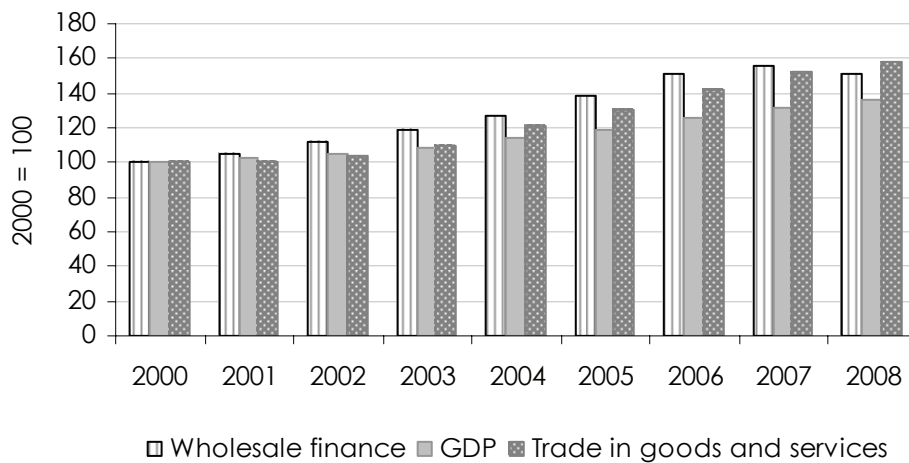


Sources: London Economics' analysis based on data from Eurostat; US Bureau of Economic Analysis; Japan Statistics Bureau, Japan Statistical Yearbook 2007; National Bureau of Statistics of China, China Statistical Yearbook 2007; Groningen Growth and Economic Development Centre

Despite the weaker output growth performance of the world wholesale financial services sector in 2007 and 2008, since the beginning of the decade, the sector has expanded considerably faster than has world output and, until 2008, faster than international trade (see Figure 10).

The changes in the relative strength of growth in wholesale financial services output and international trade in goods and services are largely due to the fact that the sharp weakening in wholesale financial services started in the middle of 2008 whereas international trade declined dramatically only later in the year.

**Figure 10: Cumulative growth in world wholesale financial services GVA, world GDP and world trade since 2000**



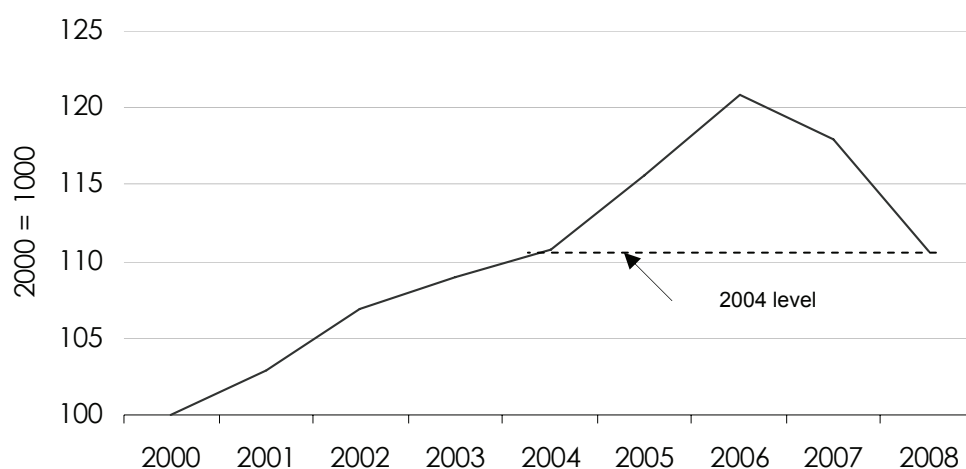
Note: World wholesale financial services GDP, world GDP and world trade are measured by exports at constant prices  
 Sources: London Economics' analysis based on world GDP and world trade data from IMF *World Economic Outlook* April 2009 and world wholesale finance GVA data from Table 2

As a result of the worldwide slowdown in growth in wholesale financial services worldwide in 2007 and the decline of the sector in 2008, the importance of the sector in world GDP declined in 2008 to levels approximately equivalent to those experienced in 2004 (see Figure 11).

Despite the decrease in the level of activity in their respective wholesale financial service sectors, the EU27 and the United States continue to account together for slightly more than two-thirds of the worldwide wholesale financial services GVA (see Figure 12).

Moreover, the four regions/countries with the largest wholesale financial service sectors (EU27, United States, Japan and China) accounted for almost 85% of total world wholesale financial services output in 2008.

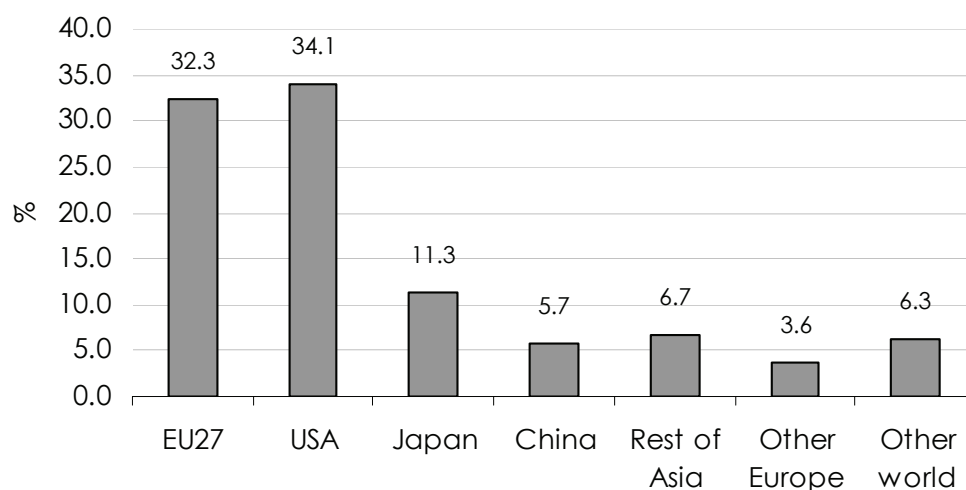
**Figure 11: Ratio of world wholesale financial services GVA to world GDP, 2000 = 100**



Note: World wholesale financial services GVA and world GDP are measured at constant prices

Sources: London Economics' analysis based on world GDP data from IMF World Economic Outlook April 2009 and world wholesale finance GDP data from Table 2

**Figure 12: Estimates of 2008 shares of world wholesale financial services GVA (at 2008 prices)**



Sources: London Economics' analysis based on data from Eurostat; US Bureau of Economic Analysis; Japan Statistics Bureau, Japan Statistical Yearbook 2007; National Bureau of Statistics of China, China Statistical Yearbook 2007; Groningen Growth and Economic Development Centre

While the level of wholesale financial services GVA declined in the EU27, for the United States and Japan in 2008, the drop was much more substantial for the United States due to the earlier onset and greater severity of the financial crisis (see Table 2).

In contrast, China, with the fourth largest wholesale financial sector in the world, continued to show solid growth in the size of the sector reflecting the continued expansion of its economy and the latter's growing requirements for wholesale financial services.

**Table 2: Estimates of wholesale financial services GVA (at 2008 constant prices)**

Country/group of countries	2007 (€ billions)	2008 (€ billions)	Change in wholesale financial services GVA	
			billions of €	%
EU27	220	219	-1	-0.4%
USA	253	231	-22	-9.4%
Japan	81	76	-4	-5.8%
China	32	38	6	15.6%
Rest of Asia	45	46	1	1.4%
Other Europe	25	24	0	-0.3%
Other world	44	43	-1	-3.2%
Total world <sup>1</sup>	699	677	-22	-3.2%

Note: 1. Due to rounding, the sum of the figures reported in the table does not add up precisely to the total reported in the table

Sources: London Economics' analysis based on data from Eurostat; US Bureau of Economic Analysis; Japan Statistics Bureau, Japan Statistical Yearbook 2006; National Bureau of Statistics of China, China Statistical Yearbook 2006; Groningen Growth and Economic Development Centre

As a result of the varying evolution of wholesale financial services GVA in 2008, a number of countries and regions gained market share at the expense of the United States and Japan. In particular, the EU27 saw its market share of worldwide financial services GVA increase by almost a full percentage point while the United States experienced a drop of 2 percentage points in market share (see Table 3).



**Table 3: Shares of worldwide wholesale financial services GVA**

Country/group of countries	2007 %	2008 %	Change in (percentage points)
EU27	31.4%	32.3%	0.9
USA	36.1%	34.1%	-2.0
Japan	11.5%	11.3%	-0.3
China	4.6%	5.7%	1.0
Rest of Asia	6.4%	6.7%	0.3
Other Europe	3.5%	3.6%	0.1
Other world	6.3%	6.3%	0.0
Total world	100.0%	100.0%	--

Note: World wholesale financial services GVA is measured at constant 2008 prices

Sources: London Economics' analysis based on data from Eurostat; US Bureau of Economic Analysis; Japan Statistics Bureau, Japan Statistical Yearbook 2007; National Bureau of Statistics of China, China Statistical Yearbook 2007; Groningen Growth and Economic Development Centre

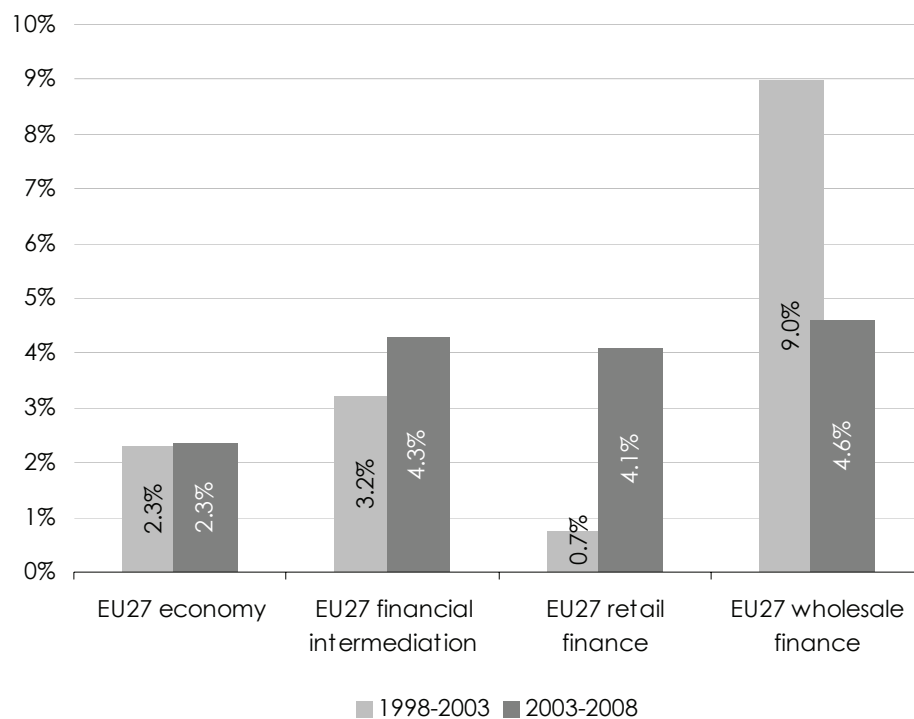
### 3.3 The EU27 wholesale financial services sector

#### 3.3.1 Production of wholesale financial services

Over the past 10 years, the EU27 wholesale financial services sector has grown consistently faster than the EU27 retail financial services sector and EU27 aggregate GDP (see Figure 13).

Even over the past 5 years, and despite the drop in 2008, the GVA (at constant prices) of the EU27 wholesale financial services increased on average by 4.6% per annum compared to an EU27-wide GDP increase of only 2.3% per annum and an increase in the GVA of retail financial services by 4.1% per annum (see Figure 13).

**Figure 13: Average annual real growth in EU27 economy and financial sectors 1998-2008**

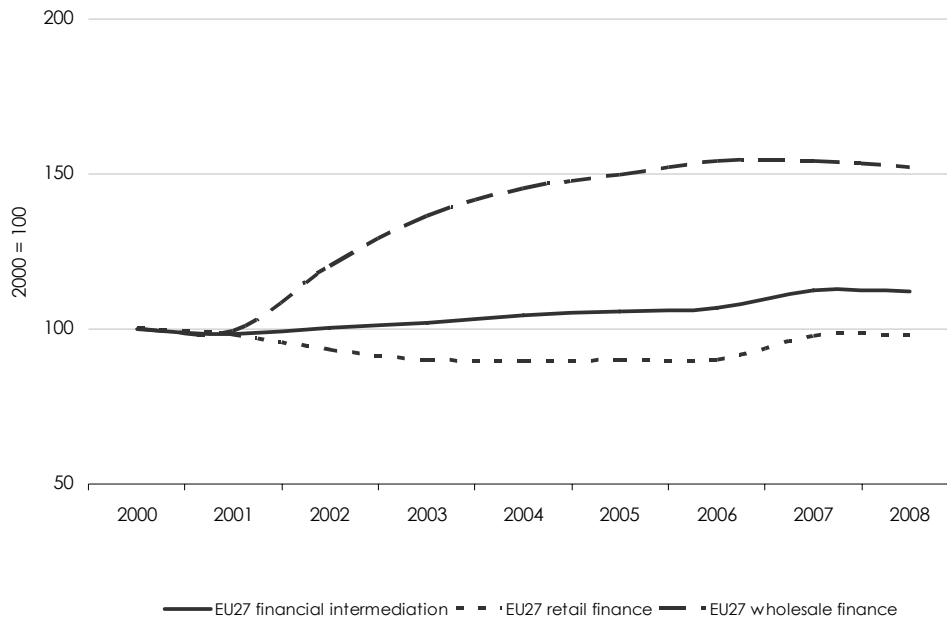


Note: Economy-wide GDP and the GVAs of the wholesale and retail financial sectors are at constant prices

Source: London Economics' analysis based on Eurostat data

However, 2008 showed a markedly different pattern. It is the first year in the current decade in which EU27 wholesale financial services will have grown less rapidly than the economy as a whole (see Figure 14). In fact, as already noted during in the previous section, the EU27 wholesale financial services GVA (at constant prices) declined in 2008 while EU27 GDP continued to grow.

**Figure 14: Financial intermediation as a share of EU-27 GDP**



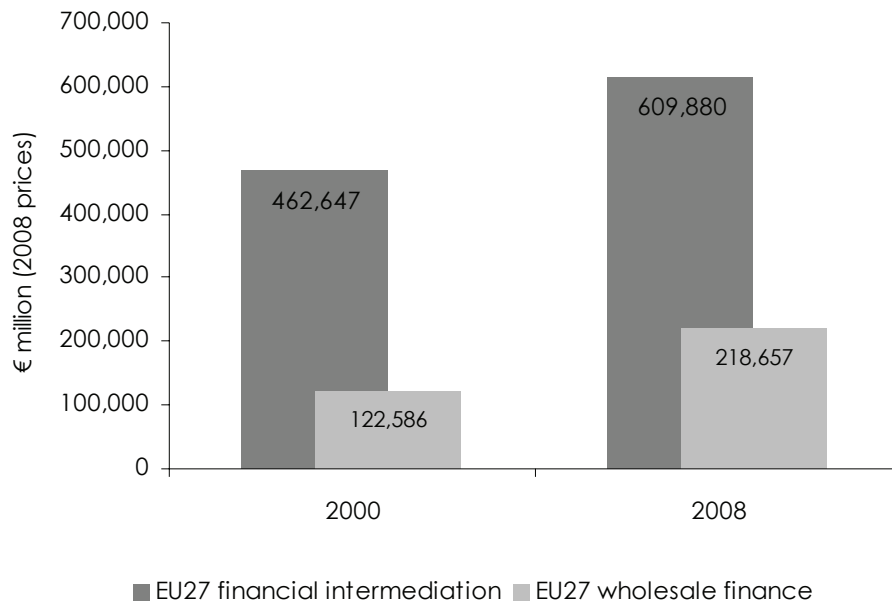
London Economics' analysis based on Eurostat data

In 2008, the GVA of EU27 wholesale financial services stood at €219 billion, up by more than 55% from the level of €123 billion reached in 2000 (see Figure 15).

As a result of the more rapid growth in wholesale financial services GVA relative to economy-wide GVA during the present decade, the contribution of the wholesale financial services to economy-wide GVA grew from 1.3% of economy-wide GVA in 2000 to 2.0% by 2008.

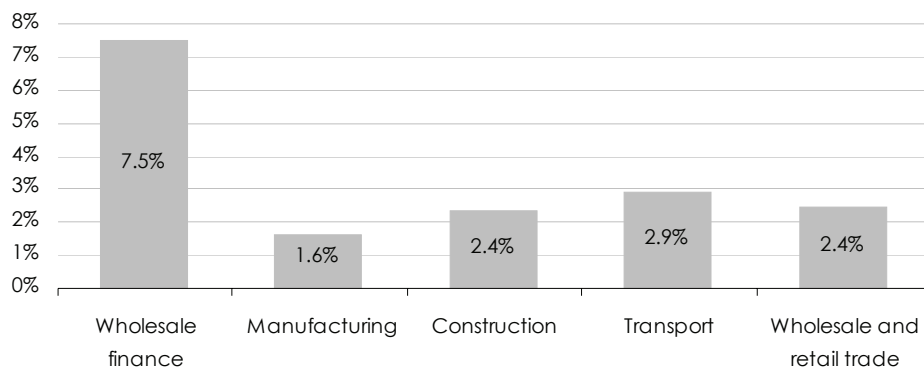
The wholesale financial services sector also grew much more rapidly in the present decade compared to any other key sector such as manufacturing, construction, transport and retail and wholesale trade (see Figure 16).

**Figure 15: Financial intermediation in EU-27**



Source: London Economics' analysis based on Eurostat data

**Figure 16: Average annual growth in GVA (at constant prices) of selected sectors from 2000 to 2008**



Source: London Economics' analysis based on Eurostat data

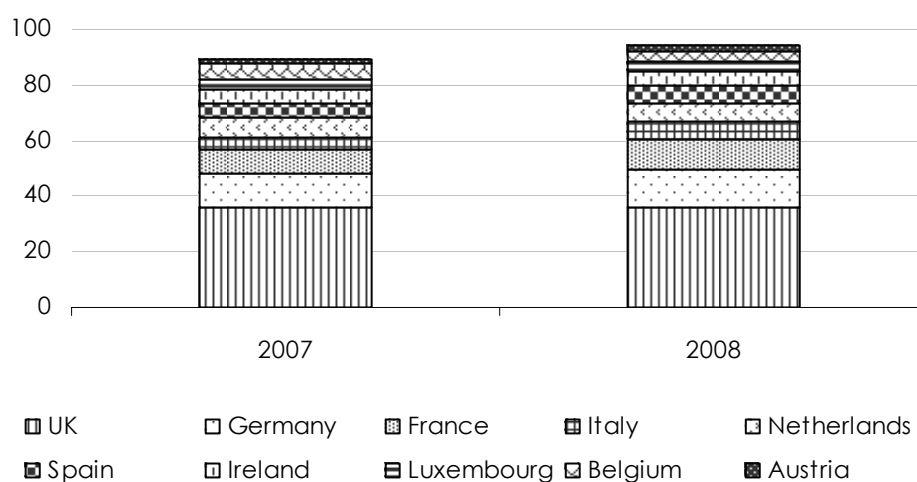
The provision of wholesale financial services is highly concentrated within the European Union. As in previous years, the UK wholesale financial services sector was the largest in the EU27, both in absolute terms and as a proportion of GDP (see Tables 4 and 5).

The EU Member States with the next largest wholesale financial services sectors are Germany, France, Italy and the Netherlands. Together, these five countries accounted for almost 74% of total wholesale financial services GVA generated in the EU27 in 2008.

In 2008, Spain, Ireland, Luxembourg, Belgium and Austria accounted for another 20% of EU27 financial services GVA. Together, these 10 Member States with the largest wholesale financial services sector in 2008 generated 94% of the EU27 wholesale financial services sector GVA, which is an increase of 4 percentage points from the levels achieved in 2007 (see Figure 17).

The ranking in terms of the relative size of the wholesale financial services sectors of these 10 Member States changed little in 2008.

**Figure 17: Share of EU27 wholesale financial services GVA of top 10 Member States - 2007 and 2008**



Source: London Economics' analysis based on Eurostat data

Among the 10 countries with the largest wholesale financial services sectors in the EU27, the UK, Spain and Ireland experienced more than 10% annual growth in their wholesale financial sector' over the period 2000 and 2008, while Italy and the Netherlands saw their wholesale financial sector grow annually by between 5% and 10%. The other five countries saw annual growth of 5% or less.

**Table 4: Estimates of wholesale finance contribution to GDP, 2008**

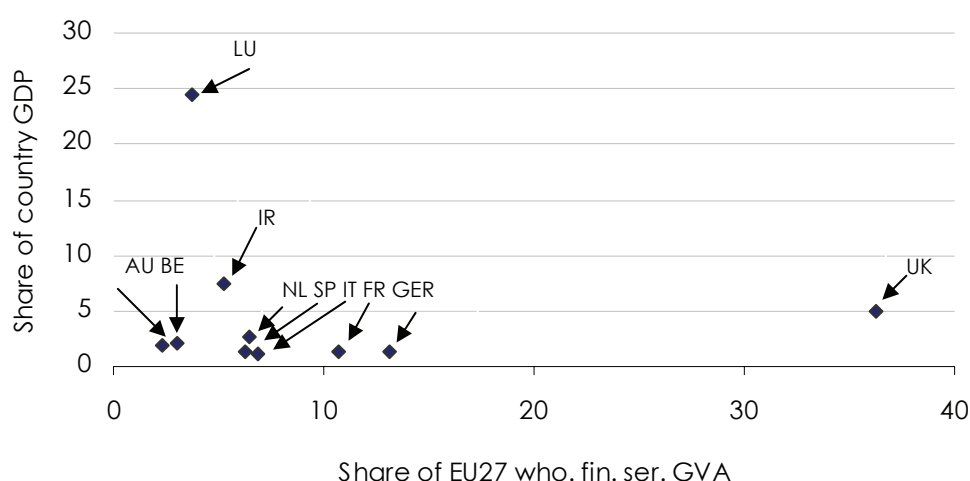
	Wholesale financial intermediation (€ billion), 2008	Wholesale financial real growth since 2007 (%)	Wholesale financial average annual real growth 2000-2008 (%)	Country share of EU27 wholesale finance, 2008	Wholesale finance as a share of country GDP, 2008
<b>Austria</b>	5.1	3.9%	5.0%	2.3%	2.0%
<b>Belgium</b>	6.5	2.6%	3.1%	3.0%	2.1%
<b>Bulgaria</b>	0.2	-3.2%	9.9%	0.1%	0.6%
<b>Cyprus</b>	0.5	3.7%	4.2%	0.2%	3.5%
<b>Czech Rep.</b>	0.2	-3.6%	-4.3%	0.1%	0.2%
<b>Denmark</b>	4.5	0.3%	11.1%	2.0%	2.3%
<b>Estonia</b>	0.0	-5.8%	8.4%	0.0%	0.2%
<b>Finland</b>	0.6	0.8%	-3.4%	0.3%	0.4%
<b>France</b>	23.5	2.0%	3.4%	10.7%	1.4%
<b>Germany</b>	28.6	1.4%	2.6%	13.1%	1.3%
<b>Greece</b>	0.7	3.6%	-1.3%	0.3%	0.3%
<b>Hungary</b>	0.2	-1.6%	-0.4%	0.1%	0.2%
<b>Ireland</b>	11.7	-4.1%	14.2%	5.3%	7.4%
<b>Italy</b>	15.1	-0.9%	8.5%	6.9%	1.1%
<b>Latvia</b>	0.2	-2.9%	9.9%	0.1%	1.2%
<b>Lithuania</b>	0.1	-4.4%	-5.3%	0.0%	0.2%
<b>Luxembourg</b>	8.1	-1.0%	4.9%	3.7%	24.5%
<b>Malta</b>	0.0	3.7%	-1.5%	0.0%	0.3%
<b>Netherlands</b>	14.2	2.3%	5.4%	6.5%	2.7%
<b>Poland</b>	0.7	-3.8%	-2.0%	0.3%	0.2%
<b>Portugal</b>	2.0	0.3%	5.0%	0.9%	1.4%
<b>Romania</b>	0.3	-0.1%	1.2%	0.2%	0.3%
<b>Slovakia</b>	0.1	-1.8%	-8.6%	0.1%	0.2%
<b>Slovenia</b>	0.1	3.2%	2.9%	0.0%	0.2%
<b>Spain</b>	13.8	1.3%	11.8%	6.3%	1.4%
<b>Sweden</b>	2.3	-2.3%	3.8%	1.1%	0.8%
<b>UK</b>	79.4	-2.4%	12.4%	36.3%	4.9%
<b>EU 27</b>	218.7	-0.3%	7.3%	100.0%	2.0%

Source: London Economics analysis based on Eurostat data

While these 10 Member States account for almost all of the wholesale financial services GVA generated in the EU27 in 2008, the importance of the wholesale financial services sector to their respective national economies varies markedly.

In 2008, the wholesale financial services sector accounted for 24% of GDP in Luxembourg, 7.4% of GDP in Ireland, 4.9% in the UK and between 1.1% and 2.7% in the other 7 countries (see Figure 18).

**Figure 18: Relative importance of wholesale financial services sector - 2008**



Source: London Economics' analysis based on Eurostat data

As already noted, EU-wide wholesale financial services GVA fell by 0.3% in 2008. Among the 10 Member States with the largest wholesale financial services sectors, only the United Kingdom, Ireland, Luxembourg and Italy are estimated to have seen their wholesale sector decline in 2008.

However, as the financial crisis continued into 2009 and much downsizing by wholesale financial services organisations was undertaken in late 2008, the other Member States are very likely to show a decline in wholesale financial services sector activity in 2009 relative to 2008.

### 3.3.2 Employment in wholesale financial services

The EU27 wholesale financial services sector is estimated to have employed almost 1.4 million people in 2008, or about 0.6% of total EU27 employment.

EU-wide employment in wholesale financial services in 2008 is down 4,000 from 2007 (see Table 5). However, employment patterns in the wholesale financial services vary markedly across Member States. While in 2008 employment in wholesale financial services fell in a few countries, it continued to grow in many other Member States.

It is important to note that the 2008 employment figures represent annual averages and, therefore, the downsizing and restructuring of the wholesale financial services sector, which occurred mainly in the fourth quarter of 2008 and into 2009, is not fully reflected in the figures.

Among the 10 Member States with the largest wholesale financial services sectors in the EU, the United Kingdom, is estimated to have experienced a drop of 8,800 jobs in wholesale financial services employment in 2008; Ireland a drop of 2,400; and Luxembourg a drop of 100.

Wholesale financial service employment in the other 7 countries is estimated to have continued to increase in 2008. However, the 2009 wholesale financial services employment figures are expected to show a reversal of this increase in all these countries.



**Table 5: Jobs in wholesale financial services in the EU, thousands**

	Jobs in wholesale finance, 2000	Jobs in wholesale finance, 2004	Jobs in wholesale finance, 2008	Change in number of wholesale finance jobs in 2008 relative to 2007	Annual job growth, 2000-2004	Annual job growth, 2004-2008
<b>Austria</b>	32	31	35	+1.3	-1.5%	3.3%
<b>Belgium</b>	68	71	65	+1.7	0.9%	-2.3%
<b>Bulgaria</b>	12	11	15	-0.5	-2.5%	8.1%
<b>Cyprus</b>	3	4	4	+0.1	2.8%	2.4%
<b>Czech Rep.</b>	9	9	8	-0.3	-0.3%	-2.5%
<b>Denmark</b>	54	55	56	+0.1	0.3%	0.6%
<b>Estonia</b>	4	5	5	-0.3	1.8%	1.5%
<b>Finland</b>	8	6	9	+0.1	-7.2%	13.0%
<b>France</b>	93	89	100	+1.9	-1.1%	2.9%
<b>Germany</b>	176	199	180	+2.5	3.1%	-2.5%
<b>Greece</b>	14	13	17	+0.6	-1.1%	7.1%
<b>Hungary</b>	24	22	22	-0.4	-1.8%	0.2%
<b>Ireland</b>	43	49	56	-2.4	3.0%	3.4%
<b>Italy</b>	48	44	48	-0.4	-2.1%	2.2%
<b>Latvia</b>	2	2	3	-0.1	2.5%	13.0%
<b>Lithuania</b>	5	6	7	-0.3	3.5%	3.6%
<b>Luxembourg</b>	13	14	14	-0.1	0.6%	0.7%
<b>Malta</b>	0.2	0.1	0.2	+0.0	-17.5%	23.4%
<b>Netherlands</b>	94	98	96	+2.1	1.2%	-0.6%
<b>Poland</b>	40	39	41	-1.6	-0.6%	1.1%
<b>Portugal</b>	42	39	45	+0.1	-1.6%	3.7%
<b>Romania</b>	33	33	43	-0.1	0.4%	6.6%
<b>Slovakia</b>	6	6	8	-0.1	2.2%	5.4%
<b>Slovenia</b>	10	10	13	+0.4	0.4%	5.1%
<b>Spain</b>	67	66	81	+1.0	-0.5%	5.6%
<b>Sweden</b>	25	31	26	-0.6	6.0%	-4.3%
<b>UK</b>	355	359	363	-8.8	0.3%	0.3%
<b>EU 27</b>	1280	1310	1359	-4.0	0.6%	0.9%

Source: London Economics' analysis based on Eurostat data

### 3.3.3 International trade in financial services

The EU wholesale financial services sector is an important contributor to the EU's current account balance.

In 2007, total exports of wholesale financial services by the EU to the rest of the world stood at €66.4 billion or 13% of total services exports. At the same time, the EU27 imported €28.7 billion of financial services. The latter accounted for 7% of total services imports.

As EU27 exports of financial services were significantly larger than EU27 imports of financial services, the EU27 ran a substantial current account balance surplus in financial services of €37.7 billion in 2007, or almost 45% of the total surplus in services (see Figure 19).

**Table 6: Trade in wholesale financial services by the EU27, 2007 € million**

Partner	Sector	Export	Import	Net export
<b>Extra EU</b>	Total services	498,523	414,399	84,124
	Financial services	66,407	28,738	37,669
<b>Canada</b>	Total services	11,695	9,648	2,047
	Financial services	1,546	523	1,023
<b>USA</b>	Total services	139,135	127,717	11,417
	Financial services	25,148	10,298	14,850
<b>Japan</b>	Total services	19,378	13,805	5,573
	Financial services	4,813	1,659	3,154
<b>Brazil</b>	Total services	6,417	4,791	1,626
	Financial services	301	177	124
<b>Russian Federation</b>	Total services	19,238	12,030	7,208
	Financial services	1,752	455	1,307
<b>India</b>	Total services	9,555	7,020	2,535
	Financial services	405	144	261
<b>China</b>	Total services	17,766	13,769	3,996
	Financial services	562	462	100
<b>Hong Kong</b>	Total services	8,234	8,135	99
	Financial services	1,349	1,275	74

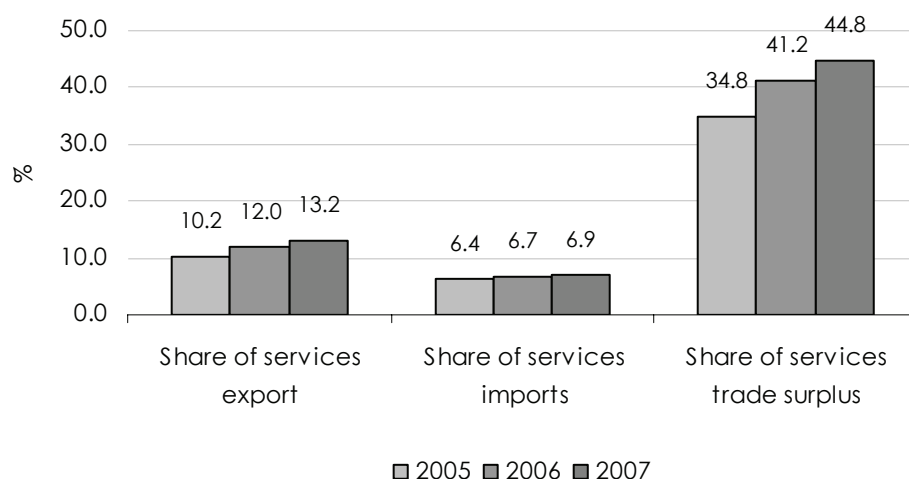
Note: Trade in wholesale financial services is defined as the trade in financial and insurance services in the trade statistics

Source: London Economics' analysis based on Eurostat data

The contribution of the EU wholesale financial services sector to international trade in services outside the EU has grown considerably in recent years with the share of the international trade balance in services accounted for by financial wholesale services rising from about 35% in

2005 to almost 45% by 2007 (see Figure 19). This growing contribution of wholesale financial services reflects the more rapid growth in exports of wholesale financial services than in exports overall.

**Figure 19: Contribution of wholesale financial services to extra-EU trade in services**



Note: Trade in wholesale financial services is defined as the trade in financial and insurance services in the trade statistics

Source: London Economics' analysis based on Eurostat data

### 3.4 Integration of European financial markets

Until the onset of the financial crisis, the consensus view was that European financial market integration had progressed well in wholesale financial markets in response to the various actions taken by the European Commission<sup>17</sup>. For example, the 2007 report by the European Commission on financial integration stated that *"integration is progressing across the board, although at a very different pace depending on the product, the end-user and the market"*<sup>18</sup>.

At issue is whether the recent financial market turmoil has had any impact on the progress achieved so far. While the 2009 European

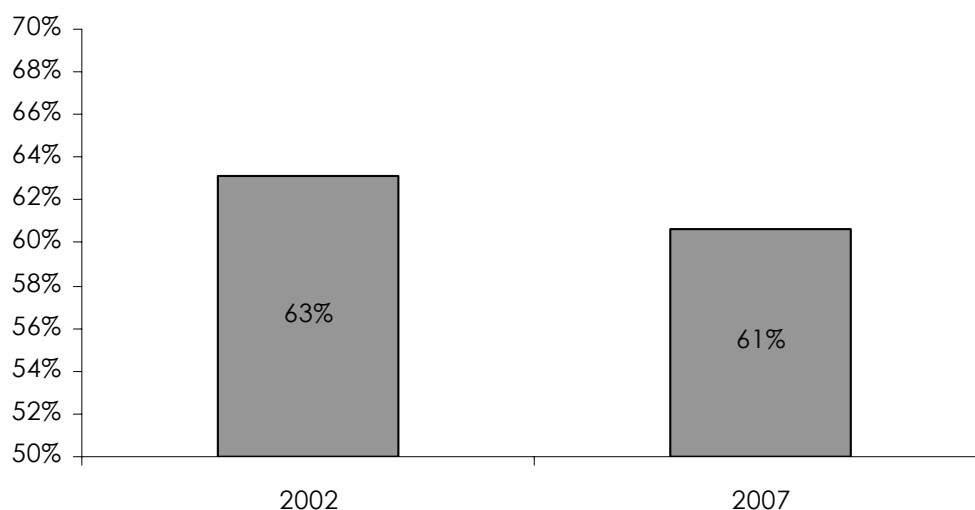
<sup>17</sup> These actions were taken as part of the *Financial Services Action Plan 1999-2005* adopted in 1999 and the European Commission's *2005 White Paper on Financial Services 2005-2010*.

<sup>18</sup> European Commission, *European Financial Integration Report 2007*, Commission Staff Working Document, SEC(2007), 1696, Brussels, 10 December 2007.

Commission report on financial market integration observes that “*at the time of writing, it is too early to draw definite conclusions on the economic effects of the crisis*”<sup>19</sup>, the recent ECB report on financial market integration concludes that “*although conclusions at this stage must necessarily be preliminary since the turmoil is still unfolding, early indications suggest signs of retrenchment within national borders*”<sup>20</sup>.

This section presents some of the evidence suggesting tentatively that progress in European financial market integration has slowed or even reversed marginally since the onset of the financial crisis.

**Figure 20: Share of EU27 portfolio investment assets in world-wide portfolio investment assets held by the EU 27, at year-end**



Source: London Economics' analysis based on results of Coordinated Portfolio Investment Survey published by the IMF

Investors in the EU27 reduced slightly the weight of EU27 assets in their overall investment portfolio in 2007 relative to 2006 as they rebalanced their portfolio during the crisis. According to the latest available data from the IMF, the share of EU27 assets held in investment portfolios by EU

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<sup>19</sup> European Commission, Commission Staff Working Document, *European Financial Integration Report 2008*, Brussels, 9.1.2009 SEC(2009) 19 final

<sup>20</sup> European Central Bank, *Financial Integration in Europe*, April 2009

investors fell to 61% by the end of 2007 from 63% at the end of 2006 (see Figure 20). However, despite the drop in 2007, the share of EU27 assets in EU27 investors' portfolios is still 4 percentage points higher than the level of 57% observed in 2000.

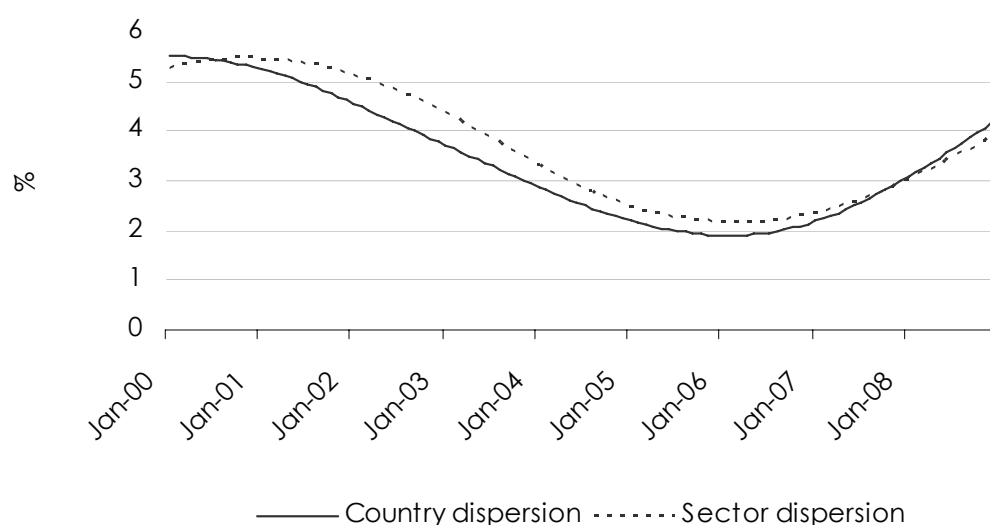
Another indication that financial market integration may have reversed somewhat in 2007 and 2008 is provided by the ECB estimates of country and sector dispersion in EU equity returns shown in Figure 21.

From January 2000 to March 2006, the indices of country and sector dispersion in equity return across the EU fell steadily, indicating that stock markets in the EU have shown a growing tendency to move in tandem. Over this period, the country dispersion index fell from 5.5% to 1.9%, a decline of 65%. This is a clear sign of integration, showing that country specific factors became increasingly less important during this period

However, since March 2006, this trend towards deeper integration has steadily reversed and the country dispersion index stood at 4.4% in February 2009, only 20% below the January 2000 level.

A similar picture is illustrated by the sector dispersion index. While it is clearly too early to judge whether this reversal is temporary or permanent, co-movement across the EU of stock markets has certainly reduced substantially, and as a result, financial market integration has fallen markedly in recent years in the equity trading sub-sector of EU27 wholesale financial services.

**Figure 21: Country and sector dispersion of equity market returns in the EU**

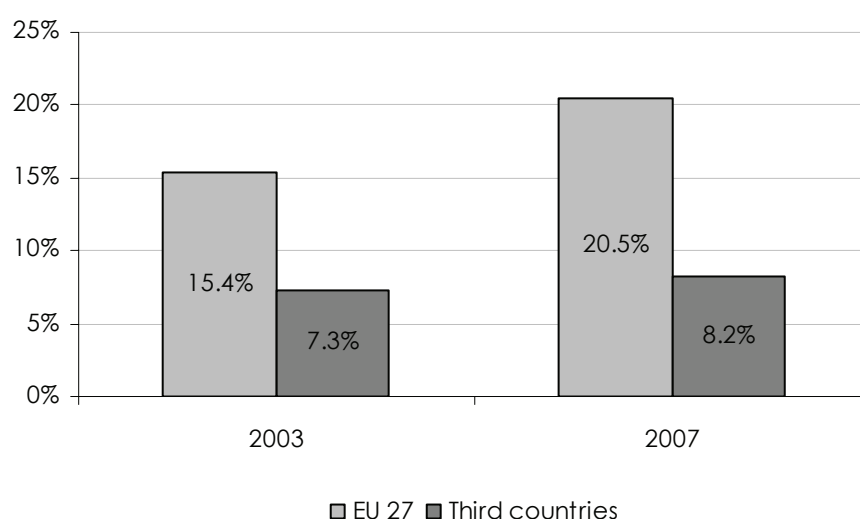


Source: European Central Bank, Indicators of financial integration databank

In contrast, the structure of the credit institutions sector in the EU shows further integration at least until the end of 2007, the latest data point available.

At the end of 2007, the share of the total assets of EU27 credit institutions accounted for by the assets of branches and subsidiaries of foreign credit institutions from other EU27 and third countries reached 28.7%, up from 22.7% the year before. This increase is almost entirely accounted for by a sharp increase of 5 percentage points in the share of credit assets held by branches and subsidiaries of credit institutions from other EU Member States.

**Figure 22: Share of assets of branches and subsidiaries of foreign credit institutions – from EU27 and third countries – in total assets of EU27 credit institutions**



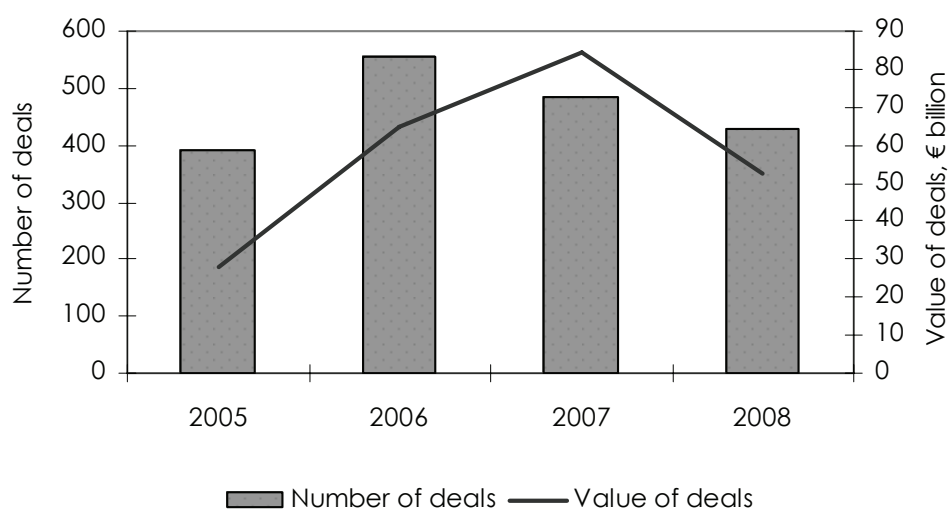
Source: European Central Bank, EU Banking Structures, October 2008

The increase in the share in total assets held by credit institutions of assets held by branches and subsidiaries of EU27 credit institutions in EU27 Member States other than their home country reflects in part the strong level of cross-border merger and acquisition (M&A) activity in the financial sector in 2006 and 2007.

However, according to M&A data published by Bureau Van Dijk, the number of deals and the value of completed cross-border M&A deals declined sharply in 2008, with the number of deals falling by 11% and the value of completed deals by 37.5%.

These latest developments in EU27 cross-border financial sector M&A suggest that the share in total assets held by credit institutions of assets held by branches and subsidiaries of EU27 credit institutions in EU27 Member States other than their home country is unlikely to have increased as markedly in 2008 as in 2007.

**Figure 23: Number and value of EU27 cross-border deals in financial services**



Note: Financial services include insurance services

Source: London Economics' calculations based on data from Zephyr published by Bureau van Dijk

### **3.5 The near to medium term outlook for the EU wholesale financial services sector**

The financial crisis and the resulting downsizing and restructuring of many financial institutions active in wholesale financial services will obviously reduce the size of the wholesale financial sector in coming years.

At this stage it is almost impossible to predict the timing of the end of the financial crisis and the scale of restructuring and downsizing. However, for illustrative purposes, in this sub-section we provide the results of a scenario that assesses the impact of a retrenchment in the size of wholesale financial services as a proportion of economy-wide GDP in 2009 back to the level prevailing in 2003/04.

The scenario results are reported for the EU27 as a whole and for the three countries with the largest wholesale financial sectors in absolute terms, namely the United Kingdom, Germany and France.

Under this scenario, the wholesale financial sector in all three countries and the EU27 as a whole is expected to decline significantly in 2009 with the drop in wholesale financial services GVA ranging from -5.6% in Germany to -9.6% in the UK. For the EU27 as whole, the wholesale financial sector GVA is expected to decline by 6.2% (see Table 7).

**Table 7: Annual growth rate of wholesale financial services (in 2008 prices), 2009 – 2013 (in per cent)**

	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>Cumulative growth 2008 to 2013</b>
France	-8.0	0.4	1.7	2.0	2.2	-2.1
Germany	-5.6	-1.0	1.5	1.8	2.0	-1.5
United Kingdom	-9.6	-0.4	2.1	2.9	2.8	-2.8
EU27	-6.2	-0.4	1.9	2.6	2.7	-2.1

Source: London Economics' analysis

The wholesale financial sector is expected to decline further in 2010 in most countries. However, the additional decline in 2010 is limited and the wholesale financial sector reaches the bottom of the cycle in 2010 before starting to expand again from 2011 onwards, albeit at a much more moderate pace than during the period 2000 to 2007 (see Table 7).

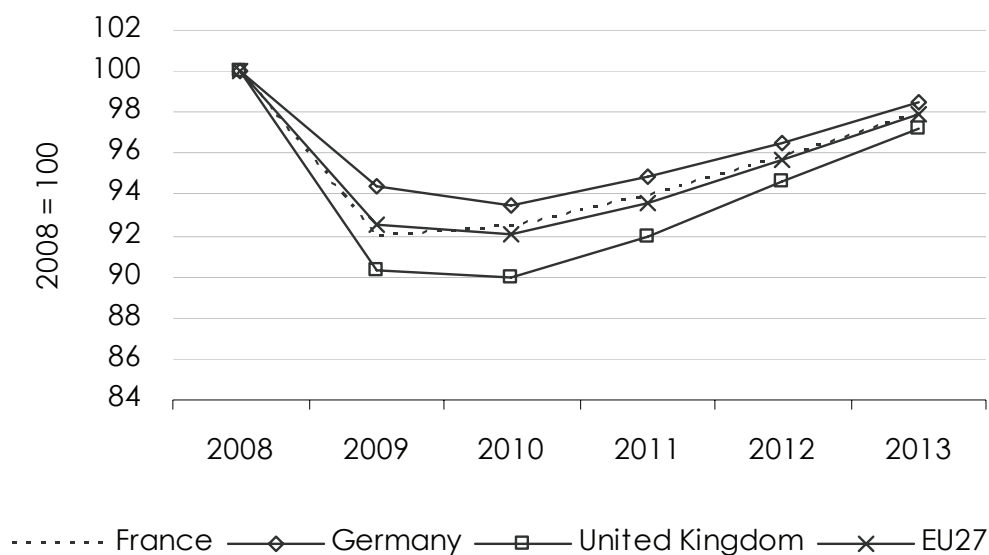
The moderate gains during the recovery phase are insufficient to reverse the GVA losses of the 2009-2010 period. In all three countries and in the EU27 as whole, the level of wholesale financial services GVA is expected to be between 1.5% (Germany) and 2.8% (United Kingdom) lower in 2013 than in 2008 (see Figure 24)

As a result of the decline in activity in the wholesale financial services sector in 2009 (and 2010 in some cases), employment in the sector is expected to fall as well. Overall, employment in the EU27 wholesale financial services sector is expected to decline by approximately 84,000 from the 2008 level of 1,359,000.

The recovery in wholesale financial sector activity from 2011 onwards reverses almost completely the employment losses of 2009 (and 2010 in the case of the three main EU wholesale financial services sectors) and, in the case of the EU27 as a whole, the job losses of 2009 and 2010 are more than fully compensated for by 2013 (see Table 8 and Figure 25).



**Figure 24: Wholesale financial sector GDP at 2008 prices, 2008 – 2013**  
2008 = 100



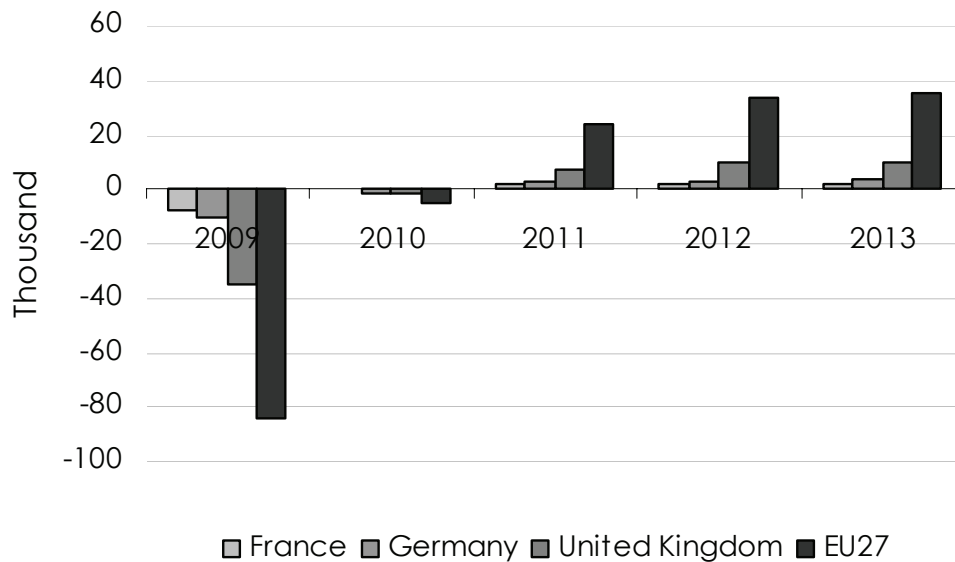
Source: London Economics' analysis

**Table 8: Annual change in level of employment in wholesale financial services**  
2009 - 2013 (thousands)

	2009	2010	2011	2012	2013	Cumulative change 2009 to 2013
France	-8	0	2	2	2	-2
Germany	-10	-2	2	3	3	-3
United Kingdom	-35	-1	7	10	10	-10
EU27	-84	-5	24	34	36	5

Source: London Economics' analysis

**Figure 25: Annual change in wholesale financial sector employment – 2009 - 2013**



Source: London Economics analysis

While the results of the scenario analysed above suggest a cautious degree of optimism for the wholesale financial services sector over the medium term, it is important to note that the outlook of the wholesale financial services is highly dependent over the coming years on the outlook of the economy as a whole. Any further deterioration in the broader economic outlook will further drag down the wholesale financial services sector. Conversely, any more rapid-than-expected recovery will result in a faster rebound in the wholesale financial services sector.

## 4 Investment Banking

This chapter reviews developments in:

- Primary capital markets (debt and equity);
- M&A and advisory services;
- Secondary trading markets (volume, competition in trading space, new infrastructures - MTFs, dark pools, etc);
- Structured finance and securitisation (ABS, CDOs etc); and,
- Derivatives (interest rate derivatives, CDS, etc.).

### 4.1 Primary capital markets – debt securities and equity

#### 4.1.1 New issues of bonds and other debt securities

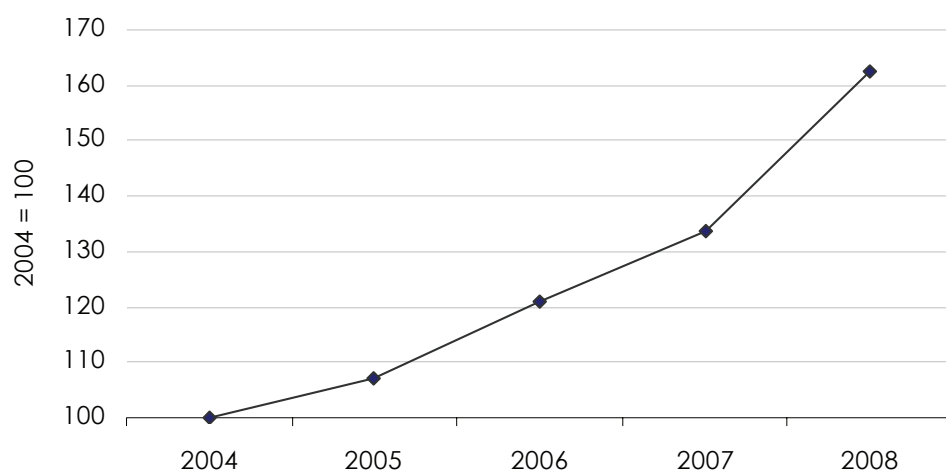
Despite the turmoil in financial markets in 2008, the pace of issues of debt securities accelerated sharply, especially during the second half of 2008. During this latter period, some governments issued large volumes of public sector debt to fund their rapidly expanding deficits.

Overall, gross issues of debt securities reached a record level of €1.9 trillion in 2008, up by more than 20% on the value of debt securities issued in 2007 and 60% higher than the value of debt securities issued in 2004 (see Figure 26).

By contrast, according to the latest Bank of International Settlements (BIS) data, the value of net issues of international bonds and notes by all issuers (governments, financial institutions and corporate issuers) dropped sharply worldwide from €2,031 billion in 2007 to €1,597 billion in 2008, equivalent to a decline of 43%. While the EU27, the United States and the Rest of the World experienced such a decline, it was much sharper in the United States (-17%) and the Rest of the World (-61%) than in the EU27 (-6%) (see Table 8). The large decline in international bond issues in Euros is in good part due to a fall in the US Dollar against the Euro (the data shows a decline in net issues of 19% in US Dollar terms while in Euro terms the decline is 43%).

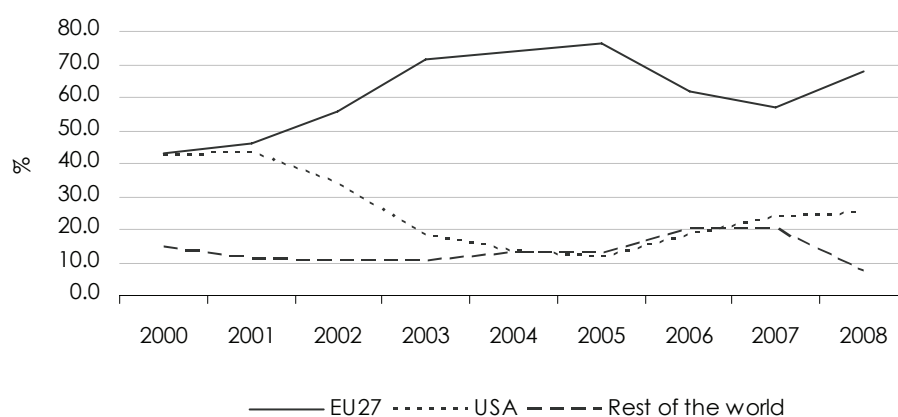
In 2008, EU27 based institutions were by far the largest net issuers of international bonds and notes, and the EU's share of total net issues rose from 57% to 68% in 2008 (see Figure 27 and Table 9).

**Figure 26: Value of funds raised through issues of debt securities - 2004 = 100**



Source: London Economics' estimates based on data from the Bank of England, the European Central Bank and the central banks of Denmark, the Czech Republic, Hungary, Poland, and Sweden.

**Figure 27: International bond and note issues by residence of borrowers – share of total issues worldwide**



Source: London Economics' calculations based on BIS data

Within the European Union, UK based institutions are by far the largest net issuers of such international bonds and notes. For example, in 2007 and 2008, the United Kingdom accounted for 44% of EU27 net issues of such instruments.

Ireland was recently the second largest issuer followed by France, Italy, the Netherlands, Spain, Germany and Belgium (see Table 9).

The eight EU Member States listed above accounted together for almost 93% of all net issues of international bonds and notes in 2008, a slightly higher share than in previous years (see Table 9).

However, in 2008 the EU27 and United States each account for a lower proportion of amounts outstanding than their share of net issuances would suggest. The EU27 countries accounted for 68.0% of world net issues in 2008 and for 58.7% of total amounts outstanding, while the United States accounted for 24.6% of net issues and 22.8% of total amounts outstanding (see Table 9).

**Table 9: Net issues and amounts outstanding of International bonds and notes, all issuers**

Country/region	Net issues				Amounts outstanding		
	2005 (€bn)	2006 (€bn)	2007 (€bn)	2008 (€bn)	Share of world total in 2008 (%)	2008 (€bn)	Share of world total in 2008 (%)
World	1444.0	2070.1	2031.5	1597.4	--	16333.9	--
EU27	1098.3	1282.3	1154.7	1087.0	68.0%	9588.6	58.7%
United States	163.2	375.4	474.3	393.5	24.6%	3727.4	22.8%
Rest of the World	182.5	412.4	402.5	116.9	7.3%	3017.9	18.5%
EU27 Member States	2005 (€bn)	2006 (€bn)	2007 (€bn)	2008 (€bn)	Share of EU27 total in 2008 (%)	2008 (€bn)	Share of EU27 total in 2008 (%)
Belgium	7.7	13.3	30.5	38.9	3.6%	169.6	1.8%
France	105.2	114.4	82.2	96.0	8.8%	1017.0	10.6%
Germany	128.9	68.9	60.5	46.8	4.3%	1454.6	15.2%
Ireland	103.6	199.1	181.3	118.5	10.9%	784.6	8.2%
Italy	71.5	95.3	65.7	89.3	8.2%	725.8	7.6%
Netherlands	74.2	139.8	121.8	68.4	6.3%	1132.3	11.8%
Spain	167.1	214.8	151.0	66.4	6.1%	883.8	9.2%
United Kingdom	269.3	279.6	333.5	482.8	44.4%	2247.5	23.4%
Total 8 countries	927.6	1125.2	1026.6	1007.1	92.7%	8415.2	87.8%
Share of 8 countries in EU27 total	84.5%	87.7%	88.9%	92.7%	--	87.8%	--

Source: London Economics' calculations based on BIS data

#### 4.1.2 New issues of equity - IPOs

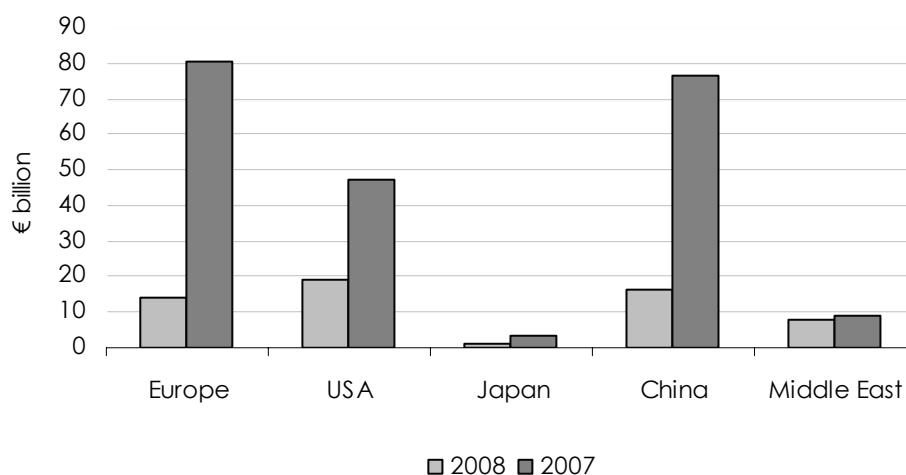
The IPO segment experienced a period of significant growth between 2003 and 2006. However, this stopped in 2007 and turned into a sharp decline in 2008 (see Figure 28).

Worldwide, the level of funds raised through IPOs declined sharply from €216 billion in 2007 to approximately €58 billion in 2008.

Europe experienced the largest drop (-83%) in funds raised through IPOs although the declines seen in Japan and China (-71% and -79%) are very similar to the developments in Europe. In contrast, the United States experienced a decline of 60% and the Middle East of 12% (see Figure 28 and Table 10).

As a result, Europe lost considerable market share (in terms of value of funds raised) in the IPO market in 2008. However, as the average size of the IPOs offerings was much smaller in Europe than in other parts of the world, Europe's market share in terms of the number of IPO offerings changed very little in 2008 (see Table 10).

**Figure 28: Funds raised through IPOs worldwide 2007 and 2008, € billion**



Source: PricewaterhouseCoopers LLP, IPO Watch, Review of the Year 2008

**Table 10: IPOs in major regions of the world**

Country / region	Share of total value of IPOs			Share of total number of IPOs		
	2008 share	2007 share	% change in share 2008 to 2007	2008 share	2007 share	% change in share 2008 to 2007
Europe	24.1	37.2	-35.2	53.9	54.2	-0.6
USA	33.0	21.9	50.5	9.1	19.6	-53.5
Japan	1.5	1.4	8.2	7.8	8.0	-2.2
China	27.7	35.3	-21.5	25.1	15.9	58.0
Middle East	13.7	4.2	227.9	4.0	2.3	77.6
Total of above	100	100	--	100	100	--

Source: PricewaterhouseCoopers LLP, IPO Watch, Review of the Year 2008

As already noted, the total value of funds raised through IPOs in Europe fell by 82.7% in 2008, from €80.5 billion in 2007 to €17.0 billion in 2008. This decline continued in the first quarter of 2009 with only €9 billion raised through IPOs (see Figure 29)<sup>21</sup>.

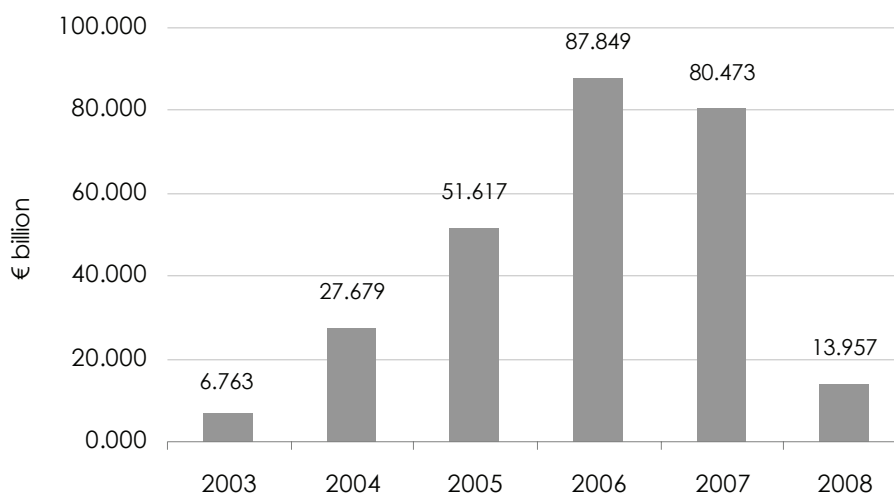
In Europe, the number of offering was down by 59% in 2008, from 819 IPOs in 2007 to 337 in 2008.

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<sup>21</sup> This table does not show the within-year variation observed in IPOs, as most IPOs are completed before the summer and towards the end of the year, resulting in a surge in activity in the second and fourth quarter of the year.



**Figure 29: Funds raised through IPOs in Europe, 2003-2008, € billion**



Source: PricewaterhouseCoopers LLP, IPO Watch, Review of the Year 2004-2008

Within Europe, the London Stock Exchange (LSE) continued to lead the European exchanges in terms of IPOs in 2008 (see Table 11).

In value terms, the LSE accounted for almost 64% of all funds raised in Europe through IPOs. The NYSE-Euronext and Warsaw exchanges were distant seconds, with each accounting for 17.9% of funds raised through IPOs in Europe in 2008. Each of the other stock exchanges accounted for less than 2.5% of funds raised in 2008 (see Table 11).

The large increase in the share of total funds raised through IPOs shown by the Warsaw Stock Exchange in 2008 is primarily due to its co-listing of the second largest IPO of the year, namely that of New World Resources (raising €1,390million in May 2008) and the listing of the Polish company Enea (raising €546million in the fourth quarter).

The small share of funds raised at other stock exchanges reflects the precipitous declines in the number and value of IPOs at these exchanges. Exchanges such as BME, Deutsche Börse, Borsa Italiana, OMX, SIX, Oslo Bors and ISE all experienced declines of more than 90% in the value of IPO offerings.

These results of 2008 stand in sharp contrast to those of 2007 during which the Deutsche Börse saw the bulk of European IPOs, accounting for 72% of funds raised through IPOs in 2007, followed by the London Stock Exchange (11%) and Euronext (4%).

**Table 11: IPOs by stock exchange in Europe**

Stock exchange	Number of IPOs			Offering values of IPOs		
	Number of IPOs	Growth from 2007 to 2008	Share of total Europe*	Offering values of IPOs (€ mil)	Growth from 2007 to 2008	Share of total Europe*
LSE	99	-69.4%	29.4%	8,884	-77.3%	63.7%
BME (Spanish exch's)	1	-91.7%	0.3%	292	-97.1%	2.1%
NYSE -Euronext	65	-48.8%	19.3%	2,501	-68.9%	17.9%
Deutsche Börse	12	-80.6%	3.6%	330	-95.3%	2.4%
Luxembourg	19	0.0%	5.6%	285	-79.7%	2.0%
Borsa Italiana	6	-79.3%	1.8%	129	-96.7%	0.9%
OMX	26	-69.4%	7.7%	208	-93.4%	1.5%
Warsaw SE	91	-12.5%	27.0%	2,502	23.8%	17.9%
SIX Swiss Exchange	6	-40.0%	1.8%	169	-91.4%	1.2%
Oslo Bors & Axess	14	-62.2%	4.2%	65	-96.7%	0.5%
ISE	1	-90.0%	0.3%	0	-100.0%	0.0%
Total	337	-58.9%	100.0%	13,957	-82.7%	100.0%

\*Note that these shares do not add up to 100% exactly as some companies listed their IPOs on more than one exchange.

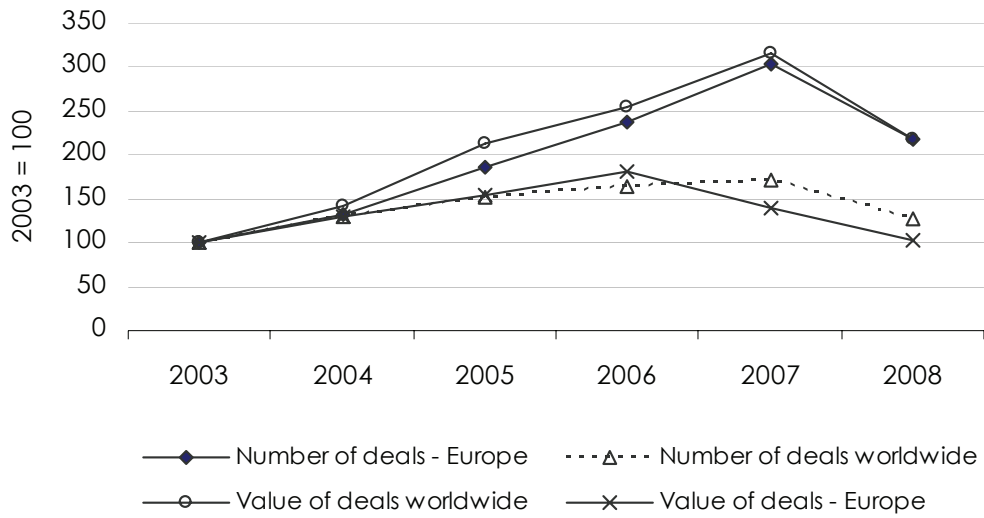
Source: London Economics' analysis based on data from the PricewaterhouseCoopers LLP IPO Europe Watch, Review of the Year 2008

## 4.2 The M&A and advisory market

After growing steadily since 2003, the value and number of M&A deals, both worldwide and in Europe, declined sharply in 2008 from the peaks reached in 2007 (see Figure 30).

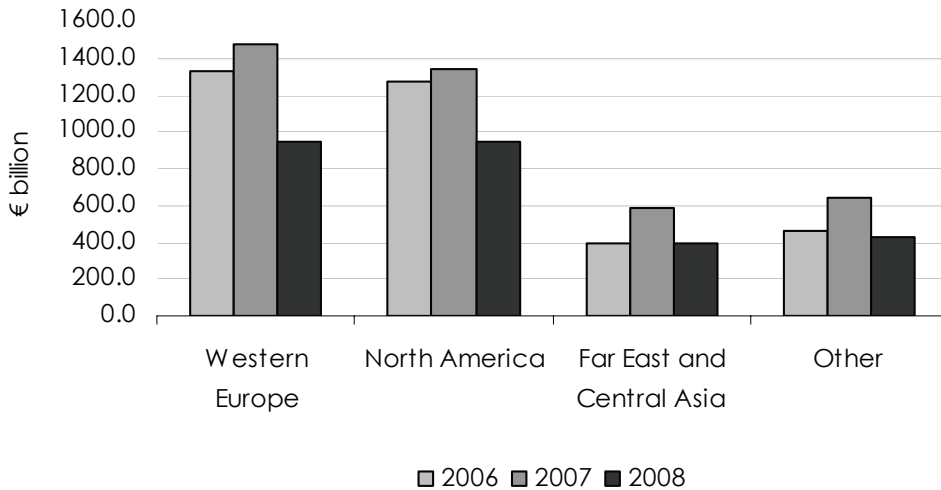
In Europe, the drop in the value of deals was 36% in 2008 from the peak reached in 2007. In the United States, deal value fell by 29%, while in the Far East and Central Asia and Rest of the World, deal value declined by 32% (see Figure 31).

**Figure 30: M&A deals worldwide and in Europe – value and number of deals, 2003 = 100**



Source: London Economics' analysis based on data from Zephyr published by Bureau van Dijk

**Figure 31: M&A deals worldwide and in Europe in millions of €**



Source: London Economics' analysis based on data from Zephyr published by Bureau van Dijk

The main financial advisors to the M&A deals of 2008 are listed in Table 12. The market for M&A financial advice is somewhat concentrated. In 2009, the top 5 institutions in terms of the value of the deals they advised

on accounted for about 45% of the total deal value and the top 10 institutions for almost 75%.

**Table 12: 2008 Global M&A Financial Advisors League Table**

<b>Name of advisor</b>	<b>Number of deals</b>	<b>Value of deals - € million</b>
Merrill Lynch	221	371,135
Citigroup Inc.	205	338,310
Goldman Sachs	126	326,132
UBS	253	310,449
JP Morgan	194	303,189
Morgan Stanley	220	295,541
Credit Suisse	223	189,564
Deutsche Bank	140	186,728
Lehman Brothers	99	175,660
Rothschild	234	159,367
Lazard	134	140,607
BNP Paribas SA	73	100,764
Banc of America Securities LLC	34	81,228
Perella Weinberg Partners LP	6	65,986
Royal Bank of Scotland Group plc	26	53,241
Centerview Partners LLC	6	45,634
JPMorgan Cazenove	46	42,301
Moelis & Company LLC	10	40,648
Dresdner Kleinwort	40	39,157
Fox-Pitt Kelton Cochran Caronia Waller	2	37,191
ABN Amro	63	34,204
JC Flowers & Company LLC	1	33,995
KPMG Corporate Finance	243	32,671
Deutsche Bank Securities Inc.	20	28,769
China International Capital Corporation	7	27,455
All others	4,336	176,838

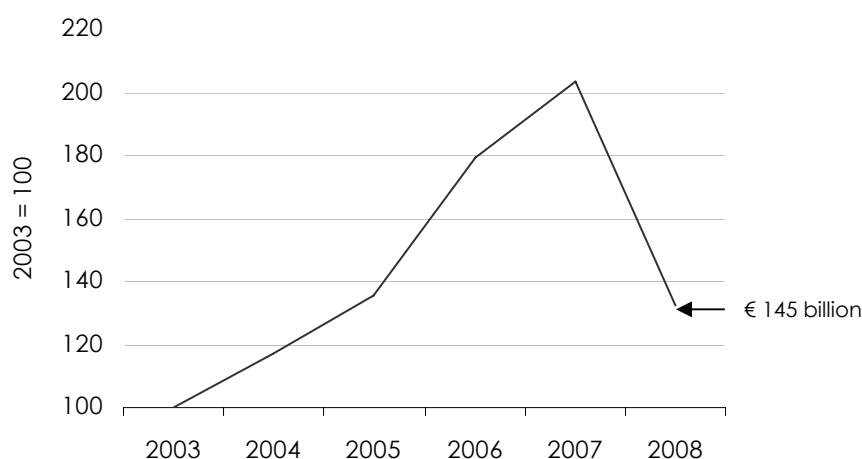
Source: London Economics' analysis based on data from Zephyr published by Bureau van Dijk

It is not possible on the basis of the data shown in Table 12 to undertake a regional allocation of M&A advisory services as all the institutions listed in Table 12 operate as global entities. Nevertheless, among the top 20 M&A advisers, institutions of European origin advised on deals accounting for about 35% of the world-wide deal value, while institutions of US origin advised on deals accounting for approximately 65% of the total.

### 4.3 Banking revenues earned by investment banks

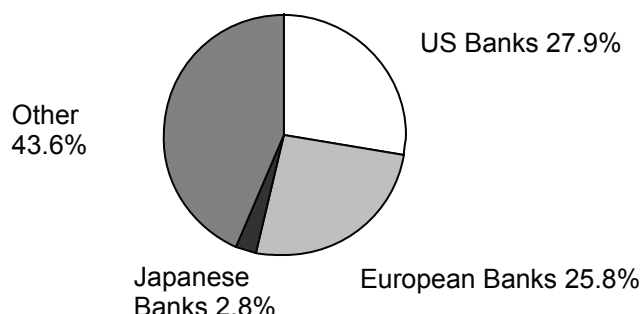
Reflecting the weakness across many of the revenue earning activities of investment banks, total investment banking revenues are estimated to have fallen sharply by 35% in 2008 to €145 billion, which is the same level as in 2005 (see Figure 32).

**Figure 32: Global investment banking net revenues – 2003 = 100**



Source: London Economics' calculations based on data from Barclays

**Figure 33: Breakdown of global investment banking revenues, April 2008 – May 2009**



Source: London Economics' calculations based on data from Financial News Investment Banking database produced by Dealogic

European investment banks account for about 26% of global investment banking revenues, only slightly less than US investment banks (see Figure 33).

#### **4.4 Prime broking services**

Prime brokers offer a range of services to hedge funds and other professional investors. Typically, these services include clearing, custody, asset servicing, securities lending, financing, fund administration services and various other technological and operational support services.

Up to 2008, the level of prime broking had expanded considerably in line with the rapid growth of the hedge fund industry. The industry was dominated by a limited number of players, including the investment banks which failed or were bought up in 2008.

The events through 2008 impacted in several major ways on the European prime broking industry.

Firstly, the sharp decline in hedge fund activity and in assets under hedge fund management reduced markedly the demand for prime broking services.

Secondly, the failure of Lehman Brothers, a major prime broker active in Europe, created numerous problems for the hedge fund industry. The main problem was that the hedge funds were, and still are, unable to access their securities which Lehman Brothers held as part of its prime broking activities.

This has led many hedge funds to address the risks they faced with regards to their prime broking relationship by entering into prime broking

relationships with several prime brokers instead of a single one. In turn, this opened up opportunities for prime brokers who were previously outside the top group of prime brokers.

Thirdly, the reduced credit capacity of major banks active in prime broking has impacted negatively on the prime brokers' lending appetite and hence on the scope for hedge funds to leverage their balance sheet.

Overall, the European prime broking sector experienced major structural changes in 2008. The latest data available show that, as of January 2009, the top five firms accounted for slightly less than 65% of the total sector's activity measures either in terms of the number of mandates or the value of assets under management by the funds for which they act as prime broker (see Table 13).

**Table 13: European hedge fund prime brokerage – January 2009**

<b>Prime Broker</b>	<b>Share of total number of mandates (%)</b>	<b>Share of total assets under management (%)</b>
Goldman Sachs	17.7	15.0
Morgan Stanley	16.6	14.4
UBS	11.3	10.9
Credit Suisse	10.8	14.5
Deutsche Bank	7.4	8.1
Merrill Lynch	4.8	3.0
Newedge	4.8	4.4
Citi	3.6	2.6
SEB	3.0	2.6
JPMorgan	2.4	3.3
Barclays Capital	1.9	3.3

Note: The number of mandates includes sole mandates and split mandates

Source: London Economics calculations based on data from HedgeFund Intelligence

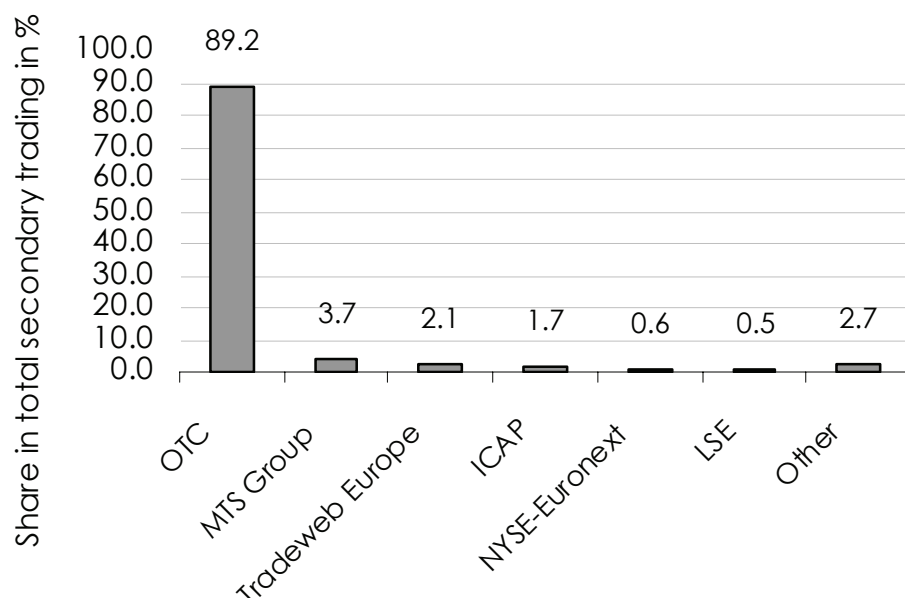
## 4.5 Secondary capital markets

### 4.5.1 Bonds

There is no publicly available data that provide a comprehensive overview of bond trading in secondary markets.

According to data on trading at the top 10 venues for execution of fixed income instruments compiled by Xtrakter, over-the counter (OTC) trades accounted for 89.2% of all trades, and the various platforms for bond trading accounted less than 3.7% each of total trading.

**Figure 34: Top 10 venues for execution of fixed income securities - 2008**



Source Xtrakter's website <http://www.xtrakter.com/>

Data reported in a recent consultation paper<sup>22</sup> by the Committee of European Securities Regulators (CESR) show that the volume of secondary trading of corporate bonds, as reported by Xtrakter, fell steadily from January 2007 to October 2008. Overall, trading volumes fell

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<sup>22</sup> Committee of European Securities Regulators, *Transparency of corporate bonds, structured finance product and credit derivative markets Consultation Paper*, ref: CESR/08-1014, 19 December 2008



from about €1,200 billion per month to slightly below €600 billion per month, a drop of more than 50%.

#### 4.5.2 Equities

After a rapid increase in 2007 in the value of stocks traded (turnover) on most stock exchanges globally, 2008 saw a sharp reversal of this trend. Equity trading turnover world-wide fell by 5.3% (see Table 14).

**Table 14: Trading value of equities (turnover) on stock exchanges in the world's main geographic areas**

Stock exchange	Level in 2008 (€ billion)	Growth from 2007 to 2008	Share of global in 2008
Europe	16,747.7	-28.4%	21.4%
Americas	50,285.9	14.6%	64.2%
Asia-Pacific	11,313.7	-26.9%	14.4%
<b>Total</b>	<b>78,347.3</b>	<b>-5.3%</b>	<b>100.0%</b>

Notes: Includes electronic order book and off electronic order book turnover from main and parallel markets

Source: London Economics' calculations based on FESE and WFE data.

However, not all regions of the world experienced such a decline. In contrast to the performance of Europe and the Asia-Pacific area, the Americas experienced further growth for the year as a whole, largely as a result of the increased trading values on the two main stock exchanges in the United States, the Nasdaq OMX and the NYSE Euronext.

Stock exchanges in Europe showed a much more uniform pattern (see Table 15). In 2008, all stock exchanges suffered a decrease in the trading value of equities, except the Deutsche Börse, which gained 2.1%.

**Table 15: Trading value of equities in European stock exchanges - 2008**

Stock exchange	Level in € billion	Growth from 2007 to 2008	Share of total EU
Athens Exchange	78.0	-36.2%	0.5%
BME Spanish Exchanges	1,654.6	-23.4%	9.9%
Borsa Italiana	1,029.1	-38.7%	6.1%
Bratislava SE	-(1)	-29.6%	0.0%
Bucharest SE	1.1	-47.2%	0.0%
Budapest SE	21.1	-39.1%	0.1%
Bulgarian SE	1.3	-71.5%	0.0%
Cyprus SE	1.4	-62.0%	0.0%
Deutsche Börse	3,211.2	2.1%	19.2%
Irish SE	56.2	-43.5%	0.3%
Ljubljana SE	1.6	-48.1%	0.0%
London SE	4,304.4	-42.7%	25.7%
Luxembourg SE	1.3	645.7%	0.0%
Malta SE	- (1)	-24.5%	0.0%
NASDAQ OMX Nordic Exch.	918.4	-30.5%	5.5%
NYSE Euronext (Europe)	3,027.6	-26.2%	18.1%
Oslo Børs	303.8	-23.8%	1.8%
Prague SE	34.2	-6.6%	0.2%
SIX Swiss Exchange	1,029.8	-24.8%	6.1%
SWX Europe	953.0	-23.3%	5.7%
Warsaw SE	47.7	-25.4%	0.3%
Wiener Börse	71.9	-24.0%	0.4%
<b>Europe total</b>	<b>16,747.7</b>	<b>-28.4%</b>	<b>100.0%</b>

Notes: Includes electronic order book and off electronic order book turnover from main and parallel markets. (1) - = less than €1 billion

Source: London Economics' calculations based on data from WSE and FESE

However, despite the varying performance of the main stock exchanges in Europe, the relative ranking of these stock exchanges in terms of trading turnover remains unchanged. The London Stock Exchange accounted for 25.7% of total trading turnover on stock exchanges in Europe in 2008, followed by Deutsche Börse (19.2%) and NYSE Euronext (Europe) (18.1%).

Together these 3 stock exchanges accounted for 63% of all on-exchange equity trading in value in Europe.

In terms of total turnover in 2008, the next group of stock exchanges includes BME Spanish Exchanges (9.9% of total on-exchange turnover in 2008), Borsa Italiana (6.1%), SIX Swiss Exchange (6.1%), SWX Europe (5.7%) and NASDAQ OMX Nordic Exchange (5.5%).

Altogether, these 8 stock exchanges accounted for almost 96% of all on-exchange trading (in value) in Europe in 2008.

Not only did the European stock exchanges have to deal with the decline in trading volumes in 2008, but they also had to adjust to the new landscape for securities trading brought about by the Markets in Financial Instruments Directive (MiFID) which came in force on 1<sup>st</sup> November 2007.

Among other changes, MiFID abolished the concentration rule under which, in many EU Member States, all trades in publicly listed stocks had to take place on a recognised stock exchange<sup>23</sup>. MiFID also allows large investment banks to undertake trades in publicly listed stocks themselves as systematic internalisers. As of early May 2009, eleven different investment banks<sup>24</sup> are recognised by the Committee of European Securities Regulators (CESR)<sup>25</sup>.

Through 2008, a number of new equity trading platforms (BATS, Chi-X, NASDAQ OMX Europe and Turquoise) have entered the equity trading space as multilateral trading facilities and typically offer order book trading in blue chip equities from the main European stock exchanges.

These new entrants have gained growing market share at the expense of the incumbents. In 2008, according to data compiled by the Federation of European Stock Exchanges (FESE), these four platforms accounted for 6.1% of total European electronic order book equity trading turnover<sup>26</sup>, rising to 15.9% in the first quarter of 2009.

In the first quarter of 2009, Chi-X accounted for the bulk of the market share gained by these multilateral trading facilities with a share of 60.5%. Turquoise was second with a share of 31.3%, followed by BATS with 7.6% and NASDAQ OMX Europe with 0.7%.

These multilateral trading facilities offer mainly trading in equities from the main stock exchange and, according to data compiled by Fidessa, have gained significant market share (15% to 26%) in the trading of equities included in the primary indices of the major stock exchanges in Europe (see Table 16).

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<sup>23</sup> For a detailed assessment of the impact of MiFID, see CESR, *Impact of MiFID on equity secondary markets functioning*, Report, CESR/09-355, 10 June 2009

<sup>24</sup> ABN Amro, BNP Paribas, Citigroup, Credit Suisse, Danske Bank, Deutsche Bank, Goldman Sachs, Knights International, Nordea Bank, Nomura, UBS

<sup>25</sup> Two units of both Citigroup and UBS are registered as systematic internalisers, raising the total number of systematic internalisers to thirteen.

<sup>26</sup> It is important to note that these new entrants started operations only part way through 2008.

**Table 16: Split of trading in equities in main stock market between home stock exchange, multilateral trading facilities and other stock exchanges – end of April 2009**

Stock market index	Home stock exchange	Multilateral trading facilities	Other stock exchanges
AEX – Amsterdam	74.00%	20.54%	5.12%
BEL 20 – Brussels	60.58%	11.05%	28.07%
CAC 40 – Paris	73.40%	20.05%	5.56%
DAX – Frankfurt	79.93%	19.02%	0.00%
FTSE 100 – London	73.83%	26.17%	0.00%
FTSE 250 – London	84.56%	15.44%	0.00%
IBEX 35 – Madrid	99.72%	0.19%	0.04%
MIB 30 – Milan	93.57%	6.34%	0.07%
NORDIC 40 –Stockholm	59.93%	8.53%	31.51%
PSI 20 – Lisbon	99.50%	0.49%	0.00%
SMI – SWX	92.56%	7.43%	0.00%

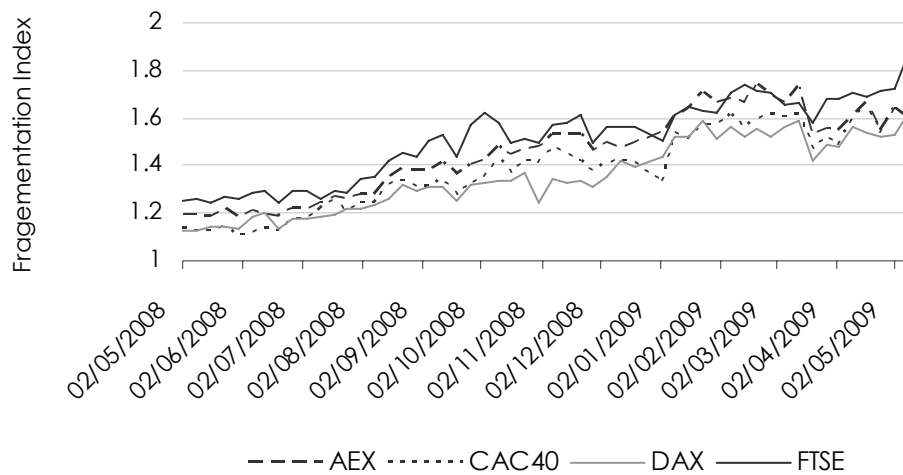
Source: London Economics' calculations based on data from Fidessa's website <http://fragmentation.fidessa.com>

These gains in market share have been growing further over time as reflected by the Fidessa Fragmentation Index, which is a measure of the fragmentation of a particular stock or share index that is traded on multiple order driven markets<sup>27</sup>. Increases in the Fidessa Fragmentation Index indicate a fragmentation of trading across multiple venues.

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<sup>27</sup> The fragmentation index is defined as the inverse of the sum of the squares of the market shares of each individual trading venue: i.e. the inverse of (the average market share, weighted by market share). As such, it can range from 1 to  $V_n$  moving from all trading residing on only one venue to an even amount of trading across  $V_n$  venues (where  $V_n$  is the number of venues trading the stock).

**Figure 35: Fragmentation of liquidity**



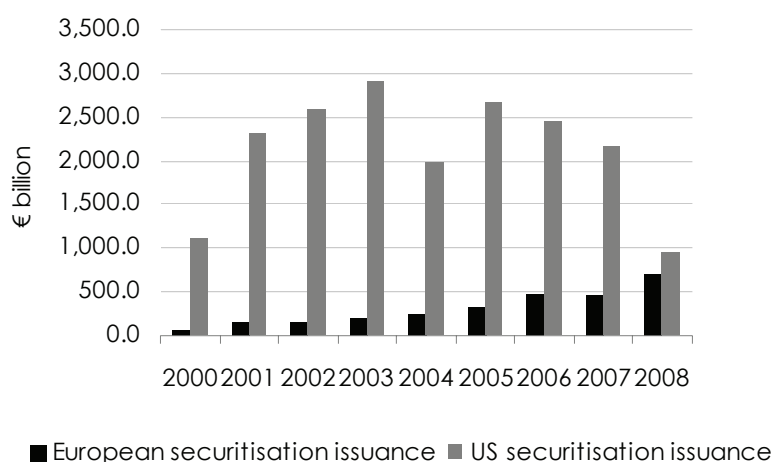
Notes: Figures are compiled from order book trades only. Totals only include stocks contained within the major indices.  
Source Fidessa

## 4.6 Structured finance and securitisation

The financial crisis had a major impact on the issuance of securitisation instruments in the United States, with total issuance falling from €2,147 billion in 2007 to €934 billion in 2008 (see Figure 36).

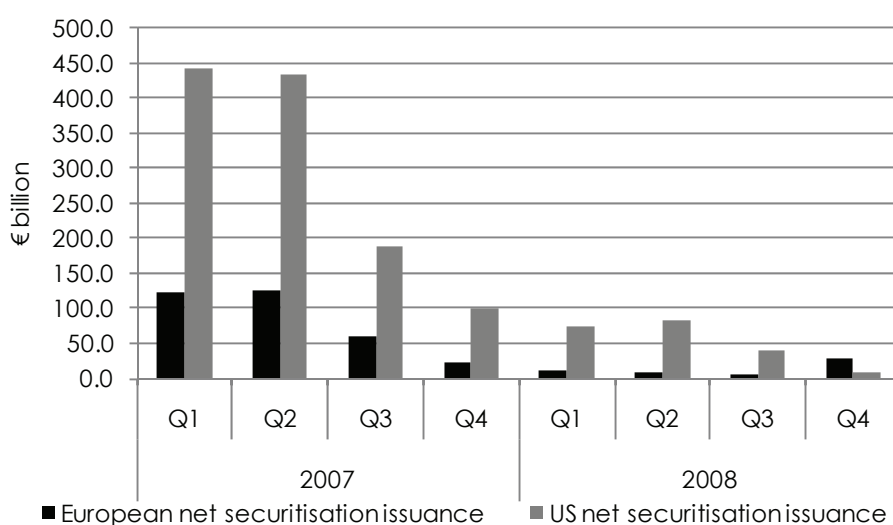
In contrast, issuance of securitised instruments increased sharply in Europe, from €454 billion in 2007 to €711 billion in 2008. However, much of this issuance was not placed on the open market but placed with central banks as part of their crisis liquidity provision programmes.

**Figure 36: Value of securitisation issues in Europe and the US, € billion**



Source: European Securitisation Forum (ESF)

**Figure 37: Value of global net securitisation issuance\* in Europe and the US, € billion**



\* Excluding securitisation issues retained by the issuing banks.

Source: Dealogic data, as reported in International Financial Services London (IFSL) *Securitisation 2009*.

The developments in 2008 accelerated the pace of existing trends that had become apparent for a number of years, with a trend decline in the United States since 2005 and a trend increase in Europe since 2003 (see Figure 36).

As a result of the sharply contrasting developments in 2008, the difference between the level of issuance in Europe and the USA has narrowed considerably.

Within Europe, the UK continues to be the largest issuer of securitised instruments, accounting for almost 40% of total issuance in Europe in 2008.

Other important issuers in Europe in 2008, albeit to a lesser extent than the UK, were Italy, Spain and Netherlands with a respective market share of 11.7%, 11.5% and 10.3%.

As noted, much of the gross securitisation issuance in 2008 was placed with central banks. Thus, to obtain a more accurate picture of the underlying activity in the securitisation market it is important to focus on net issuance. As shown in Figure 37, net securitisation issuance in Europe and the US collapsed through 2007 and the first half of 2008 and remained anaemic in the second half of 2008.

**Table 17: Value of European securitisation by country of collateral**

Country of collateral	Value of securitisation issues in 2008, € billion	Growth from 2007 to 2008	Share of total in 2008
Belgium	34.9	772.5%	5.0%
France	14.2	264.1%	2.0%
Germany	50.1	170.8%	7.1%
Greece	12.7	139.6%	1.8%
Ireland	40.7	291.3%	5.8%
Italy	82.2	211.4%	11.7%
Netherlands	72.6	77.9%	10.3%
Portugal	14.8	37.0%	2.1%
Russia	0.9	-18.2%	0.1%
Spain	80.7	32.1%	11.5%
UK	271.9	57.5%	38.7%
Other	27.7	-71.2%	3.9%
Europe total	703.4	55.9%	100.0%

Source: London Economics' calculations based on data from the European Securitisation Forum (ESF)

In the United States, the issuance of all three main categories of securitised instruments, namely asset backed securities (ABS), collateralised debt obligations (CDOs) and mortgage backed securities (MBS), declined in 2008 (see Table 18).

In contrast, only the issuance of CDOs declined in 2008 in Europe while issuance of ABS and particularly MBS rose sharply.

Despite the different issuance levels in the United States and Europe, the breakdown of total issuance by type of security was very similar in 2008. MBS accounted for the bulk of issuance in both Europe (83% of total issuance) and the United States (86% of total issuance). ABS accounted for 10% of total issuance in both the United States and Europe and CDOs for 7% and 4% respectively (see Table 18).

**Table 18: Value of European and US securitisation by type of instrument**

	Europe				United States			
	Issuance in 2008 in € billion	Change 2007 to 2008 in %	Share in total issuance		Issuance in 2008 in € billion	Change 2007 to 2008 in %	Share in total issuance	
			2007	2008			2007	2008
ABS	73.0	26.3	12.7	10.3	88.7	-76.1	17.3	9.5
CDO	47.9	-46.0	19.5	6.7	40.1	-88.6	16.4	4.3
MBS	590.2	92.1	67.7	83.0	804.8	-43.5	66.3	86.2
Total	711.1	56.7			933.6	-56.5		

Notes: European ABS issuance includes auto, credit card, leases, loans, receivables and other. European CDO issuance numbers only include euro-denominated issuance regardless of the country of collateral. A substantial percentage of CDOs are backed by multi-jurisdictional collateral. US ABS issuance includes auto, credit card, home equity, student loan, equipment leases, manufactured housing, and other. US CDO issuance numbers only include US-denominated issuance regardless of the country of collateral and may include European transactions which are denominated in US dollars.

Source: London Economics' calculations based on data from the European Securitisation Forum (ESF)



## 5 Correspondent Banking and Trade Finance

### 5.1 Correspondent banking

Correspondent banking is an arrangement under which a bank acting as a correspondent accepts deposits and performs banking services for other banks, typically located in countries other than the home country of the correspondent bank. Correspondent banking services are primarily provided across international boundaries, but may also be domestic agency relationships.

While there exists no publicly available data which would provide a good picture of the volume and value of correspondent activities undertaken by banks, a number of recent trends suggest that the volume of such activity is not growing as rapidly as in the past.

With the advent of a number of cross-border large value payment and foreign exchange systems<sup>28</sup>, the role of correspondent banks in facilitating cross-border payments is decreasing and correspondent banking activities are increasingly concentrated among a limited number of large banks.

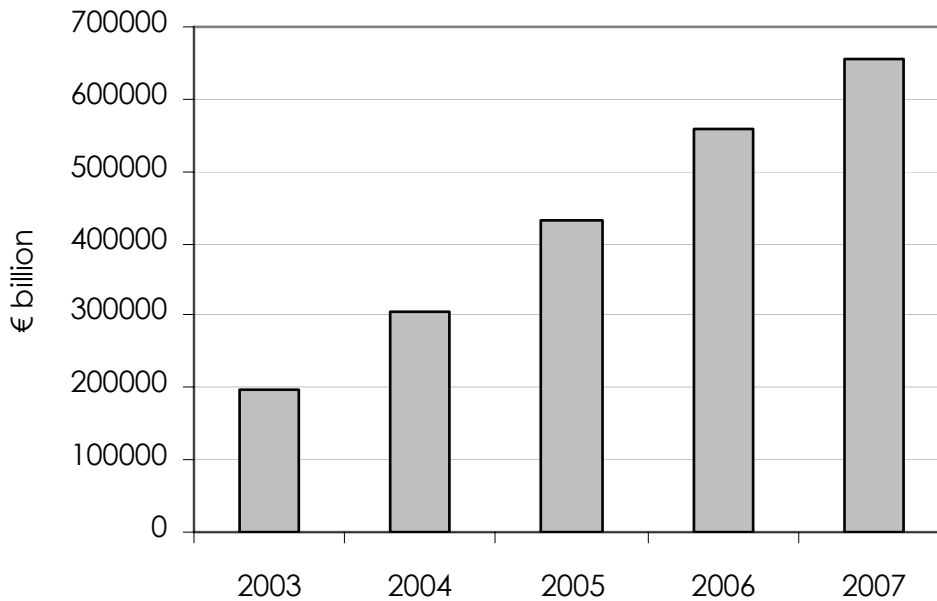
In the EU the most important systems include the Trans-European Automated real-time Gross settlement Express Transfer (TARGET) system for settlement of central bank operations, cross-border and domestic inter-bank transfers and other large value euro payments, the EURO1 system for both inter-bank and commercial payments and the Continuous Linked System (CLS) which foreign exchange transactions<sup>29</sup>. An illustration of the rapid growth of the use of such system is provided in Figure 38 which shows the level of the value of CLS transactions since 2003.

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<sup>28</sup> For a good overview of the development of such system see Bech, M.L., Preisig, C. and Soramäki, K., *Global Trends in Large-Value Payments* Federal Reserve Bank of New York Economic Policy Review September 2008

<sup>29</sup> European Central Bank, *Payment And Securities Settlement Systems In The European Union* Volume 1 August 2007

**Figure 38: Value of CLS transactions**



Source: ECB Payment Statistics November 2008

## **5.2 Trade finance**

Major banks in Europe, and throughout the world, offer trade finance services which help to mitigate the risk of non payment to the exporter by the importer. These services include:

- Documentary collection, whereby the exporter instructs the exporter's bank to deliver documents and collect payments from the importer. This speeds the collection process, but the bank does not guarantee payment.
- Export letters of credit (LCs, also called documentary credits). Under this product, the importer gets its bank to certify that it will be able to pay for a shipment. If the exporter does not trust the importer's bank, the exporter's bank can provide confirmation of an LC.

Banks also offer products to reduce credit risk. Export credit insurance allows exporters to offer open account terms in competitive markets. Finally, banks offer trade lending (also called export working capital lending) against the security of the actual goods. This allows the exporter who lacks sufficient liquidity to cover the entire cash cycle.

There exist no data on the trade finance. But, in light of broad concerns by policy-makers about a potentially sharp decrease in the availability of

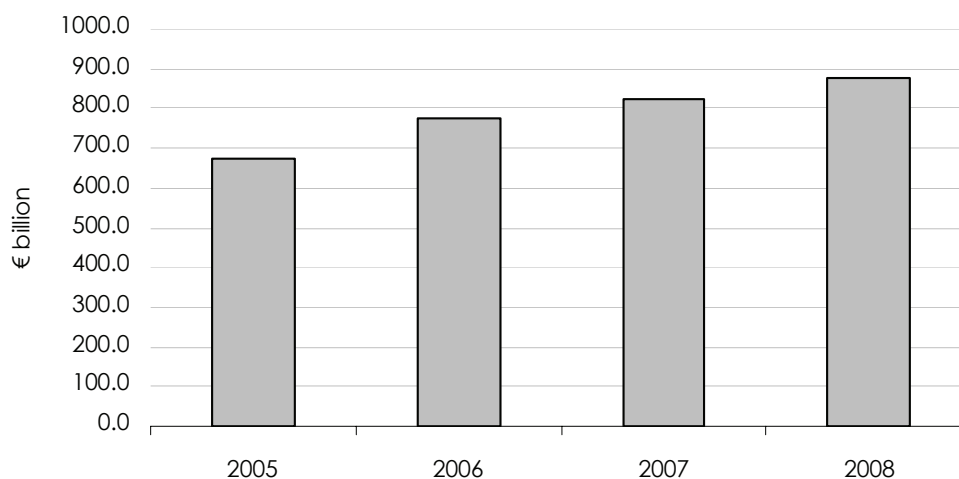
trade finance in the second half of 2008 and first months of 2009, the IMF conducted a survey of major trade finance providers in the world.

The results of this survey<sup>30</sup> show that trade finance has become costlier with 70% of banks participating in the survey reporting that prices for letters of credit are higher in 2008 than in 2007 and 90% noting the same pattern for the price of trade lending, mainly as a result of an increase in the cost of funds. More than 90% of the banks from the industrialised countries participating in the survey reported to have tightened their lending criteria reflecting increased concerns about counterparty risk.

In addition to using trade finance to mitigate the risks associated with the sale of products and goods abroad, exporters can also obtain insurance against the risk of non-payment from a public or private sector providers of export credits and investment insurance.

While the lack of data about trade finance makes it difficult to quantify the reduction, if any, in the availability of such finance, the latest data from the Berne Union, which represents the major public and private sector providers of export credit and investment insurance, shows that trade credit insurance continued to increase in 2008 (see Figure 39). As the data is only provided annually, it is not possible at this stage to determine whether the availability of trade insurance decreased in the second half of 2008.

**Figure 39: Trade credit insurance**



Source: Berne Union

<sup>30</sup> See Dorsey, T. *Trade Finance Stumbles*, IMF Finance & Development March 2009

## 6 Commercial Paper, Foreign Exchange, Derivatives

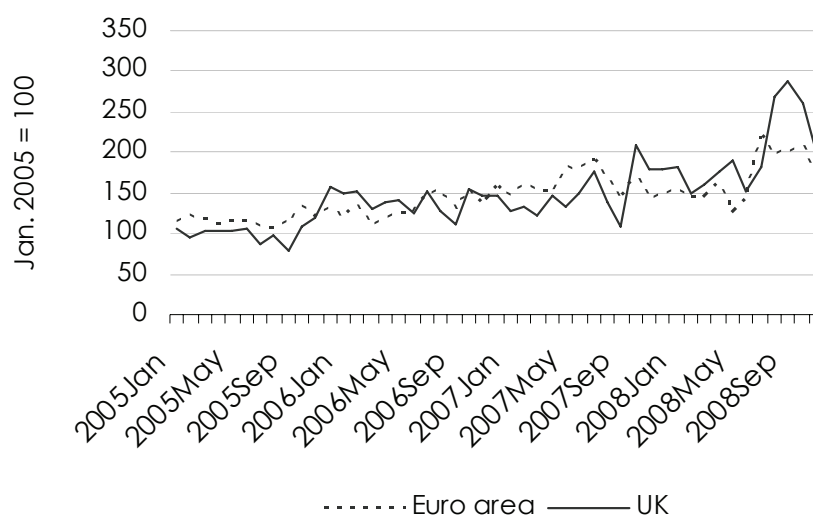
This chapter presents recent trends in commercial paper issuance including asset backed commercial paper, foreign exchange trading and all derivatives except commodity derivatives.

### 6.1 Commercial paper and short-term debt issuance

Issuance of short-term debt instruments has risen markedly in the Euro area and the UK since the onset of the financial crisis (see Figure 40).

Average monthly gross issuance of commercial paper by all UK residents rose from €29.5 billion in 2006 to €30.7 billion in 2007 and €36 billion in 2008. Similarly, average monthly gross issuance of short-term debt instruments by all residents of the Euro area grew from €766.5 billion to €946.5 billion in 2007 and €962.5 billion in 2008.

**Figure 40: Gross issues of commercial paper and short-term debt in the Euro area and the UK**

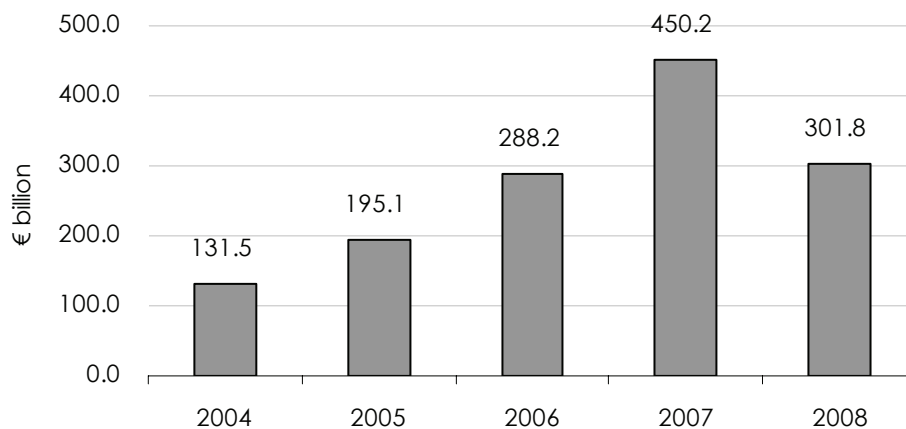


Notes: Commercial paper in the UK and short-term debt instruments in the Euro area issued by all issuers

Source: London Economics' calculations based on data from the Bank of England and the European Central Bank

In contrast to the pattern of commercial paper and short-term debt instruments issuance, asset backed commercial paper (ABCP) issuance fell by 33% in 2008 to €301 billion after growing by about 50% in each of the previous three years (see Figure 41).

**Figure 41: Issuance of asset backed commercial paper in the EU 2004 -2008**

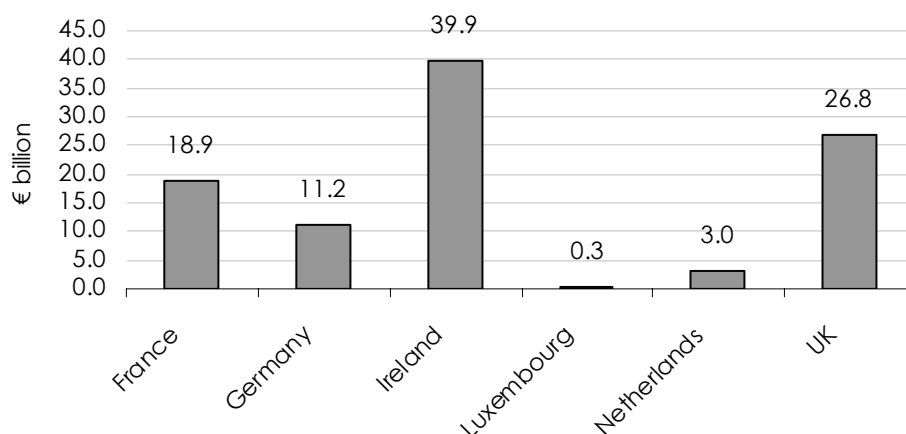


Source: London Economics' calculations based on data from the ESF

The largest issuer of ABCP in 2008 was Ireland which accounted for 40% of the total ABCP issuance (see Figure 42). The UK was the second largest issuer with a market share of 27% followed by France with a market share of 19%.

Reflecting the fall in issuance, total EU outstanding of ABCP fell from €29.4 billion at the end of 2007 to €14.3 billion at the end of 2008, of which €8.1 billion were from issuers resident in Ireland.

**Figure 42: Issuance of asset backed commercial paper by Member State in 2008**



Source: London Economics' calculations based on data from the ESF

## 6.2 Foreign exchange trading

The latest triennial BIS survey of foreign exchange trading shows that world-wide foreign exchange market daily turnover reached €2.9 trillion in April 2007.

The United States accounted for 16.7% of world-wide daily turnover compared to 34.7% for the United Kingdom. The EU27's share of daily turnover world-wide stood at 48.9%<sup>31</sup>.

Reflecting the strong concentration of foreign exchange trading in the European Union, the United Kingdom accounted for 70% of the total EU27 market turnover in foreign exchange in 2007 and for 76% of the increase in EU27 foreign exchange market turnover between 2004 and 2007 (see Table 19).

France and Germany are the only other EU27 Member States that accounted for more than 5% of total EU27 foreign exchange market turnover in 2007.

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<sup>31</sup> See Bank for International Settlements, Triennial Central Bank Survey Foreign Exchange and derivatives market activity in 2007, December 2007

The foreign exchange trading survey undertaken at six-month intervals by the Bank of England shows that after reaching a peak of US\$1,832 billion in April 2008, foreign exchange turnover in the UK fell back to US\$1,679 billion in October 2008.

**Table 19: Foreign exchange daily market turnover**

Country	Average daily turnover in April, € billion			Share of EU27 turnover	Share in increase in EU27 turnover
	2001	2004	2007		
Austria	8.9	10.5	13.1	0.9	0.6
Belgium	11.2	16.1	35.0	2.5	3.5
Bulgaria	-	-	0.7	0.1	-
Cyprus	-	-	-	-	-
Czech Republic	2.2	1.6	3.6	0.3	0.4
Denmark	25.7	33.0	62.7	4.4	5.7
Estonia	-	0.0	0.7	0.1	0.1
Finland	2.2	1.6	5.8	0.4	0.8
France	53.6	51.5	87.5	6.2	7.0
Germany	98.3	94.9	72.2	5.1	-2.4
Greece	5.6	3.2	3.6	0.3	0.1
Hungary	1.1	2.4	5.1	0.4	0.5
Ireland	8.9	5.6	8.0	0.6	0.5
Italy	19.0	16.1	26.3	1.8	2.0
Latvia	-	1.6	2.2	0.2	0.1
Lithuania	-	0.8	0.7	0.1	0.0
Luxembourg	14.5	11.3	31.4	2.2	3.6
Malta	-	-	-	-	-
Netherlands	33.5	39.4	17.5	1.2	-3.1
Poland	5.6	4.8	6.6	0.5	0.4
Portugal	2.2	1.6	2.2	0.2	0.1
Romania	-	-	2.2	0.2	-
Slovakia	1.1	1.6	2.2	0.2	0.1
Slovenia	0.0	0.0	0.0	0.0	0.0
Spain	8.9	11.3	11.7	0.8	0.3
Sweden	26.8	24.9	30.6	2.2	1.4
United Kingdom	563.0	605.4	991.2	69.7	76.1
<b>Total EU27</b>	<b>883.6</b>	<b>928.6</b>	<b>1422.9</b>	<b>-</b>	<b>-</b>

Source: London Economics' calculations based on Bank for International Settlements, *Triennial Central Bank Survey Foreign Exchange and derivatives market activity in 2007*, December 2007

## 6.3 Derivatives

Derivatives fall into two categories: (i) over-the-counter (OTC) derivatives which refer to derivatives traded directly between two parties, and (ii) exchange derivatives which are traded through a financial intermediary.

With 88.7% of derivatives having been contracted over-the-counter at the end of 2007, OTC derivatives make up the larger part of the derivatives market<sup>32</sup>.

The amount of outstanding OTC derivatives grew steadily until June 2008 before declining marginally by 1.9% through the second half of 2008, the period for which the latest data are available. Table 20 presents the evolution of the main derivatives classes over the last 3 years.

**Table 20: Amounts outstanding of OTC-derivatives**

Instrument	Notional amounts outstanding (billion Euro)				Gross market values (billion Euro)		
	Dec.	Dec.	June	Dec.	Dec.	Dec.	Dec.
	2006	2007	2008	2008	2006	2007	2008
Foreign exchange	30,578	38,203	39,954	35,750	961	1,227	2,815
Interest rate	221,398	267,059	290,728	300,839	3,664	4,875	13,236
Equity linked	5,686	5,753	6,456	4,666	648	776	800
Commodity	5,402	5,743	8,392	3,181	506	1,290	686
Credit default swaps	21,754	39,327	36,365	30,084	357	1,360	4,061
Unallocated	32,670	48,330	51,832	50,831	1,298	1,215	2,753
Total	317,487	404,416	433,726	425,352	7,434	10,742	24,351

Source: London Economics' analysis based on data from BIS, Quarterly Review, June 2009

<sup>32</sup> See BIS Quarterly Review, March 2009.



Overall, from December 2007 to December 2008, the notional amount outstanding of foreign exchange, equity linked and commodity derivatives and credit default swaps posted declines respectively of 6.4%, 18.9%, 44.6% and 23.5% while the notional amount outstanding of interest rate derivatives increased by 12.6%.

Credit default swaps grew somewhat faster than foreign exchange and interest rate derivatives, with their share in total derivatives outstanding growing from 5.5% to 8.4% in contrast to the drop from 81.2% to 76.2% in the combined share of foreign exchange and interest rate derivatives.

**Table 21: Over-the-counter foreign exchange and interest rate derivatives daily average turnover (2007)**

	Daily average turnover in FX derivatives 2007, € million	Share of EU FX derivatives, 2007	Share of growth in EU FX derivatives between 2004 and 2007	Daily average turnover in interest rate derivatives 2007, € million	Share of EU interest rate derivatives, 2007	Share of growth in EU int. rate derivatives between 2004 and 2007
Austria	9.5	0.8%	0.5%	3.6	0.4%	-2.9%
Belgium	25.5	2.2%	3.3%	16.1	1.6%	-3.4%
Czech	2.9	0.2%	0.5%	0.7	0.1%	0.0%
Denmark	53.3	4.5%	6.2%	7.3	0.7%	-0.6%
Finland	5.8	0.5%	1.2%	2.2	0.2%	0.8%
France	74.5	6.3%	7.1%	128.5	12.9%	2.5%
Germany	56.2	4.8%	-2.8%	65.7	6.6%	11.8%
Greece	2.9	0.2%	0.1%	0.0	0.0%	0.0%
Hungary	3.6	0.3%	0.5%	0.7	0.1%	0.3%
Ireland	5.1	0.4%	0.6%	5.1	0.5%	-1.7%
Italy	19.0	1.6%	1.6%	21.9	2.2%	-3.3%
Latvia	1.5	0.1%	0.2%	0.0	0.0%	0.0%
Luxembourg	22.6	1.9%	3.2%	2.2	0.2%	-1.3%
Netherlands	16.1	1.4%	-4.1%	19.7	2.0%	1.7%
Poland	5.1	0.4%	0.2%	2.2	0.2%	0.8%
Portugal	2.2	0.2%	0.3%	0.7	0.1%	0.0%
Romania	1.5	0.1%	0.3%	0.0	0.0%	0.0%
Slovakia	2.2	0.2%	0.3%	0.0	0.0%	0.0%
Spain	8.0	0.7%	0.0%	12.4	1.2%	1.0%
Sweden	26.3	2.2%	1.4%	8.8	0.9%	1.2%
UK	838.0	70.9%	79.3%	698.5	70.1%	92.9%
<b>Total</b>	<b>1182.5</b>	<b>100.0%</b>	<b>100.0%</b>	<b>996.4</b>	<b>100.0%</b>	<b>100.0%</b>

Source: Bank of International Settlements, Triennial Central Bank Survey, Foreign exchange and derivatives market activity in 2007

On a global perspective, the EU27 continues to dominate the world OTC derivative market, accounting for 65.9% of the interest rate derivative

market and 60.4% of the foreign exchange derivative market in 2007<sup>33</sup>. Within the European Union, London is the major OTC derivative trading centre, accounting for 38.6% and 44.0% of global trade in foreign exchange and interest rate derivatives markets, respectively.

Daily average turnover in the European Union's interest rate and foreign exchange derivatives markets has grown significantly between 2004 and 2007. In particular, daily average turnover in the derivatives markets rose from €733.1 million in 2004 to €996.4 million in 2007 (interest rate derivatives) and from €747.4 million in 2004 to €1182.5 million in 2007 (foreign exchange derivatives).

The UK took the lion's share of this increase, accounting for 92.9% of the growth in interest rate derivatives trade and 79.3% of the growth in foreign exchange derivatives trade.

In 2007, the UK traded 70% of total EU interest rate derivatives and 71% of all EU foreign exchange derivatives (see Table 21).

Exchange traded derivatives also experienced a significant increase in recent years, with the notional value of total contracts growing by 46.1% between 2005 and 2008, from €424.0 trillion to €619.5 trillion. More than 99% of exchange derivatives trade took place the Euronext Liffe (80.3%) and Eurex (19.3%) in 2008.

Among the various exchange derivatives, short-term interest rate futures maintained their large share of more than 50% of total trade throughout the years, while derivatives related to stock indices (options and futures) increased their share of total trade from 5.2% to 8.7%<sup>34</sup>.

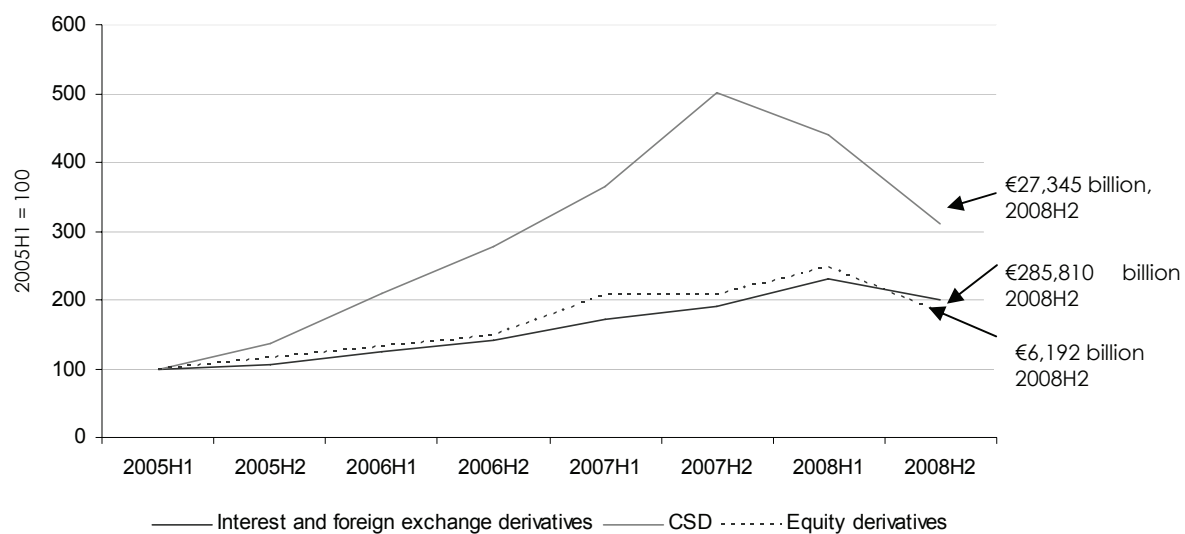
The latest available data from the International Swaps and Derivatives Association (ISDA) show that the notional amounts outstanding for the different types of derivatives contracts fell sharply in the second half of 2008, especially in the case of CDSs. Besides the general fall-out of the financial crisis and heightened sensitivity to counterparty risk, this decline also reflects a major industry-wide effort to clear offsetting CDS positions between matching counterparties (see Figure 43).

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<sup>33</sup> These values are based on data from BIS, Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity in 2007, the most recent collection of country level data on OTC derivatives.

<sup>34</sup> See World Federation of Exchanges, Annual Statistics 2006-2008 for further information on exchange traded derivatives.

**Figure 43: World-wide notional amounts outstanding by major type of derivative contract**



Source: London Economics' calculations based on data from ISDA

## 7 Asset Management

The present chapter firstly reviews the recent trends and developments in asset management in general, and then looks at the different segments of the asset management sector, such as management of assets under discretionary mandates, fund management, custody business, private equity and hedge funds<sup>35</sup>.

### 7.1 Asset management

According to the latest data<sup>36</sup> from the European Fund and Asset Management Association (EFAMA), total assets under management (AuM)<sup>37</sup> by asset managers residing in the EU27 are estimated to have declined to €10.7 trillion at the end of 2008, down 21% from €13.6 billion at the end of 2007 which represented over one third of assets managed world-wide by the asset management industry.

Within the EU, the UK has the largest asset management industry in 2007<sup>38</sup> with AuM of €4.6 trillion, followed by France (€ 2.9 trillion) and Germany (€1.5 trillion). In total, these 3 countries accounted for 66% of all assets under management in the EU27 at the end of 2007 (see Table 22).

The value of assets under management in the EU27 at the end of 2007 exceeded slightly the annual GDP level of that year. However, in some countries this figure is much higher, reflecting the importance in both absolute and relative terms of this sector in the national economy. For example, in the UK the ratio of AuM to GDP stood at 224% in 2007, and in France the similar figure was 152% (see Table 22).

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<sup>35</sup> It should be noted that the figures shown for total asset management do not include all the assets under management by hedge funds and private equity funds as a number of the latter two types of asset managers are not covered by the EFAMA data.

<sup>36</sup> EFAMA, *Asset Management in Europe: Facts and Figures*, April 2009

<sup>37</sup> Assets under Management include investment funds (UCITS and non-UCITS) and discretionary mandates. Whilst UCITS products are regulated under the 'Undertakings for Collective Investment in Transferable Securities' (UCITS) Directive, non-UCITS products are collective investment vehicles regulated by specific national laws (e.g. regulated hedge funds).

<sup>38</sup> Detailed data at the level of EU Member States were not yet available at the time of the writing of the present report.

**Table 22: Assets under management – end of 2007**

EU Member State	Value of assets under management € billion	Share of total assets under management in EU27	Ratio of assets under management to GDP
Austria <sup>1</sup>	103	0.8%	38%
Belgium	586	4.3%	175%
France	2,881	21.2%	152%
Germany	1,509	11.1%	62%
Greece	27	0.1%	12%
Hungary	26	0.2%	26%
Italy	774	5.7%	50%
Netherlands	492	3.6%	87%
Portugal	84	0.6%	52%
United Kingdom	4,595	33.8%	224%
Other EU Member States	2,527	18.6%	77%
Total EU27	13,604	100%	102%

Note: 1 = fund assets only

Source: EFAMA, *Asset Management in Europe: Facts and Figures*, April 2009

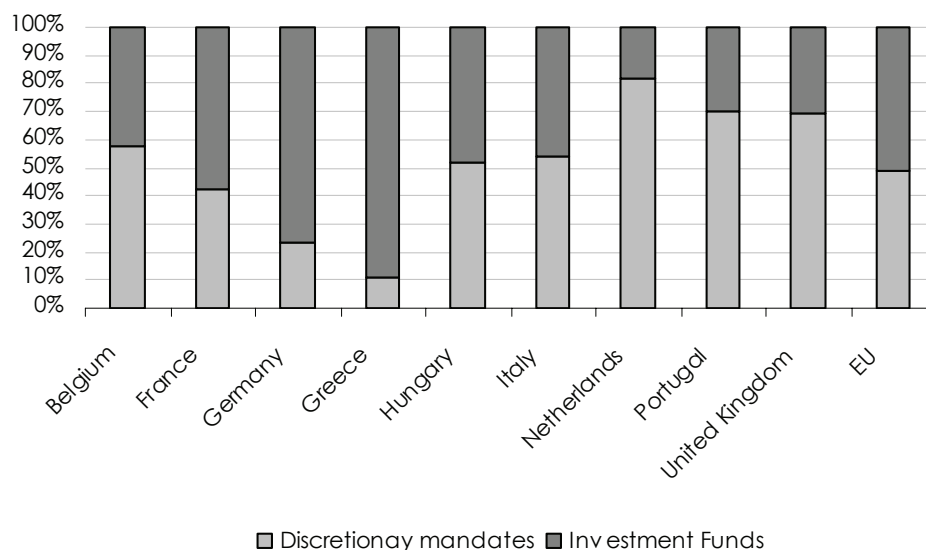
The asset management industry provides many different products and services, which are broadly divided into investment funds and discretionary mandates. In contrast to investment funds, discretionary mandates *"give asset managers the authority to manage the assets on behalf of a client in compliance with a pre-defined set of rules and principles, on a segregated basis separate from other client assets"*<sup>39</sup>

At an EU-wide level, the two types of activities were about evenly split in value terms in 2007 (see Figure 44).

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<sup>39</sup> EFEMA, op. cit. , April 2009

**Figure 44: Split of assets under management – discretionary mandates versus investment funds**



Source: EFAMA, Asset Management in Europe: Facts and Figures, April 2009

## 7.2 Discretionary mandates

The level of assets managed under discretionary mandates<sup>40</sup> stood at €6.7 billion at the end of 2007, with the UK accounting for almost half of the total (see Table 23).

Overall, the degree of geographical concentration of the discretionary mandates sub-sector is more concentrated than the fund management sub-sector, with the top three countries accounting for 71% of total AuM in 2007.

<sup>40</sup> Some of the discretionary data in the EFAMA report includes significant pooled vehicles, eg. life funds, that are not classified under the investment fund category mandates. This is particularly the case with respect to UK assets under management.

**Table 23: AuM from discretionary mandates – end of 2007**

EU Member State	Value of assets under management € billion	Share of total assets under management in EU27	Ratio of assets under management to GDP
Belgium	338	5.1%	101%
France	1,217	18.3%	64%
Germany	344	5.2%	14%
Greece	3	--	2%
Hungary	13	0.2%	13%
Italy	418	6.3%	27%
Netherlands	401	6.0%	71%
Portugal	59	0.9%	36%
United Kingdom	3,180	47.7%	155%
Other EU Member States	692	10.4%	21%
Total EU27	6,665	100%	50%

### 7.3 Fund management

According to the latest data<sup>41</sup> from the European Fund and Asset Management Association (EFAMA), net assets under management by fund managers declined worldwide by 23% in 2008 due to a sharp drop in asset values and large redemptions, especially in the aftermath of the bankruptcy of Lehman Brothers.

At the end of 2008, net assets under management world-wide stood at €13.6 trillion compared to €17.8 trillion at the end of 2007 (see Figure 45).

The EU is home to the second largest fund industry in the world, accounting for almost 35% of all net assets under fund management worldwide in 2008 (see Figure 46)<sup>42</sup>. The largest fund industry is in the United States which accounted for almost 55% of net assets under fund management worldwide in 2008.

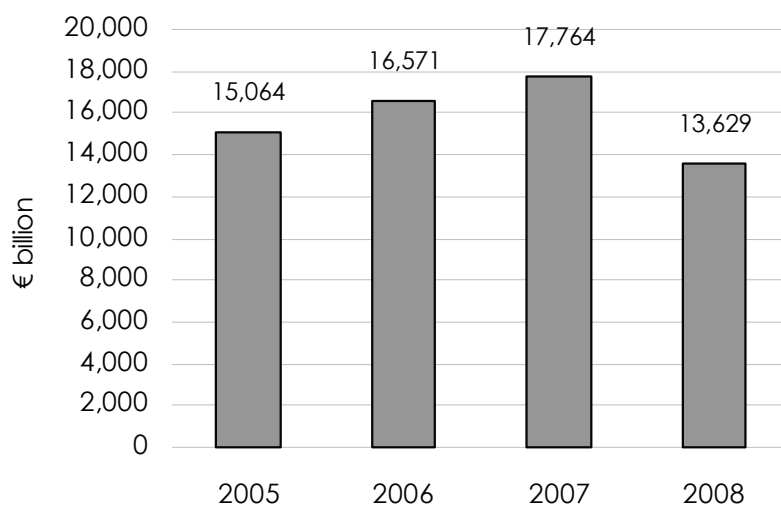
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<sup>41</sup> EFAMA, *Worldwide Investment Fund Assets and Flows, Trends in the Fourth Quarter 2008*, 11 May 2009

<sup>42</sup> The EFAMA figures reported in this sub-section differ somewhat from those reported in the section on asset management as they are derived from two different EFAMA publications.

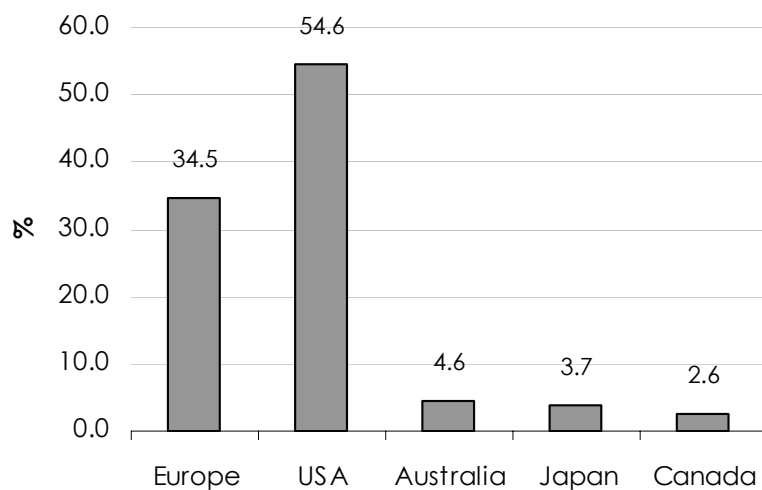


**Figure 45: Net assets under fund management - world**



Source: London Economics' calculations based on data from EFAMA

**Figure 46: Net assets under fund management**



Source: London Economics' calculations based on data from EFAMA

Within the EU27, Luxembourg had the largest fund management sector in term of net assets under management, with a market share of 26.4% in 2008, followed by France (21.9%), Germany (15.4%), Ireland (11.0%) and the United Kingdom (7.8%) (see Table 24).

The geographical concentration of fund management increased very marginally in 2008. The fund management firms in Luxembourg, France, Germany, Ireland and the United Kingdom accounted in 2008 for 82.5% of total net assets under fund management in the EU27, up slightly from 81% in 2007.

**Table 24: Net assets under fund management in the EU**

	Net assets under management, € million	Share in total EU assets under management in %	Number of funds	Share in total number of funds in the EU in %	Average net assets under management per fund
Austria	127,729	2.2	2307	4.5	55.4
Belgium	92,822	1.6	1924	3.7	48.2
Bulgaria	164	0.0	82	0.2	2.0
Czech Republic	4,495	0.1	107	0.2	42.0
Denmark	97,788	1.7	789	1.5	123.9
Finland	41,338	0.7	522	1.0	79.2
France	1,293,265	21.9	12232	23.7	105.7
Germany	911,330	15.4	6052	11.7	150.6
Greece	10,324	0.2	279	0.5	37.0
Hungary	9,473	0.2	412	0.8	23.0
Ireland	647,054	11.0	5025	9.7	128.8
Italy	246,981	4.2	1132	2.2	218.2
Luxembourg	1,559,653	26.4	12325	23.9	126.5
Netherlands	67,504	1.1	522	1.0	129.3
Poland	17,446	0.3	436	0.8	40.0
Portugal	25,054	0.4	523	1.0	47.9
Romania	1,701	0.0	68	0.1	25.0
Slovakia	3,278	0.1	124	0.2	26.4
Slovenia	1,872	0.0	132	0.3	14.2
Spain	203,498	3.4	3014	5.8	67.5
Sweden	86,624	1.5	565	1.1	153.3
United Kingdom	458,116	7.8	3062	5.9	149.6
Total EU27	5,907,509	100	51634	100	114.4

Note: The total EU27 refers to the countries in the table as no data is available from Member States with low level of investment funds assets

Source: London Economics calculations based on data from EFAMA

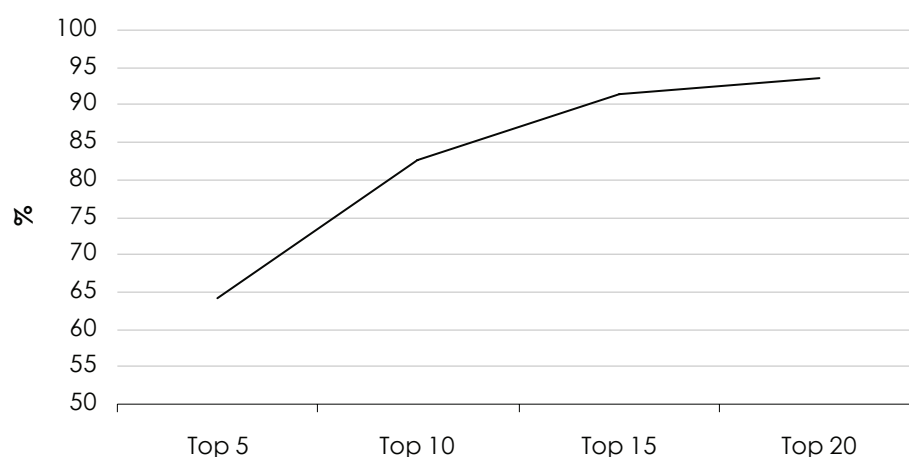
## 7.4 Custody business

The custody business involves processing cross-border securities trades, keeping financial assets safe and servicing the associated portfolios. It is a global activity which is undertaken on a significant scale by only a limited number of banks.

At the end of 2008, total assets under custody stood at €81 trillion and the five largest global custodians accounted for 64.3% of all assets under custody worldwide (see Figure 47). The four largest were US banks and the fifth was an EU bank.

Moreover, the largest 10 global custodians, of which 4 are European banks, had 82.4% of all assets under custody and the twenty largest custodians accounted for 93.6% of all assets under custody.

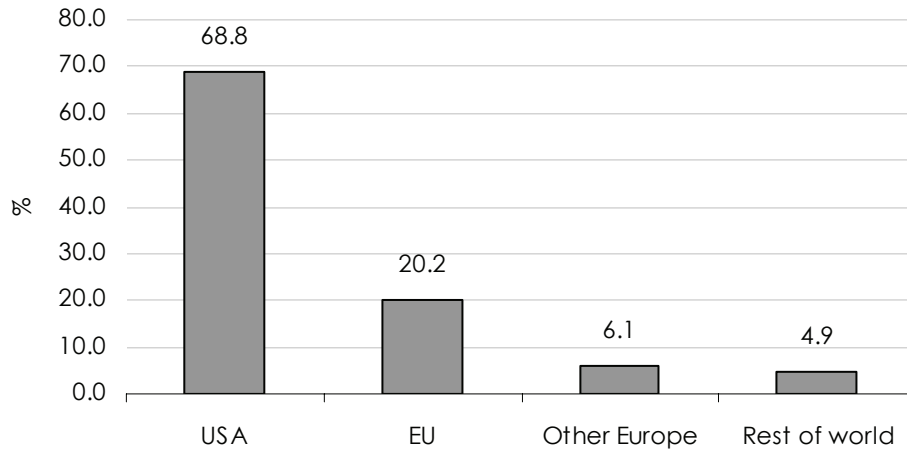
**Figure 47: Share of assets under custody by largest global custodians**



Source: London Economics based on data from [globalcustody.net](http://globalcustody.net)

At the end of 2008, among the top twenty global custodians, US banks held 68.8% of all assets under custody, compared to 20.2% accounted for by banks from the European Union and 11.0% accounted for by banks located elsewhere (see Figure 48).

**Figure 48: Share of assets under custody by 20 largest global custodians**

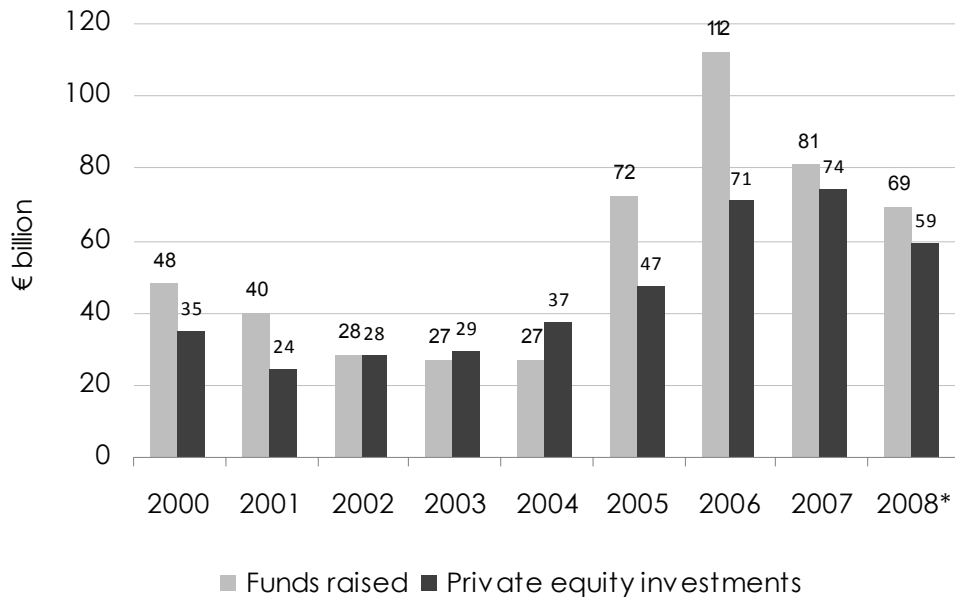


Source: London Economics' calculations based on data from [globalcustody.net](http://globalcustody.net)

## **7.5 Private equity**

Compared with previous years, the private equity sector shrunk in 2007 and 2008. In particular, funds raised fell from €112 billion in 2006, to €81 billion in 2007 and again to €69 billion in 2008, while private equity investments grew slightly to €74 billion in 2007 from €71 billion in 2006, before falling to €59 billion in 2008 (see Figure 49).

**Figure 49: Funds raised and annual private equity investments in Europe, 1997-2007 € billion**



Source: European Private Equity and Venture Capital Association (EVCA), Annual Survey 2007

Breaking down the value of funds raised to the country level, the United Kingdom accounted for the largest amount of funds raised at €41.4 billion, or 52.4% of the total. France was second with 8.3% (€6.6 billion raised) and Germany third with 7.2% (€5.7 billion raised). As a result, these three countries account for 67.9% of total European private equity and venture capital investment in 2007.

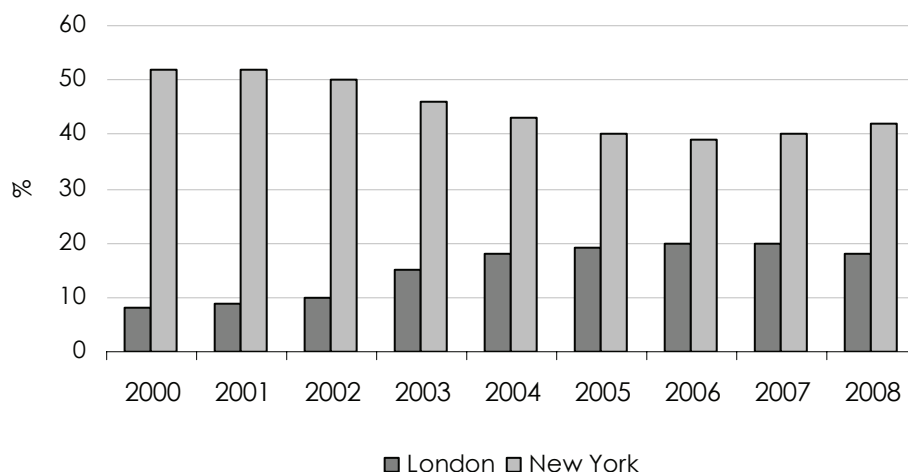
Such investment can be very substantial in relation to overall GDP; in 2007, private equity and venture capital investments exceeded 1% of the GDP in UK and Sweden, for example.

## 7.6 Hedge funds

The value of assets under management by hedge funds based, but not necessarily domiciled, in Europe stood at €222.8 billion in 2008, down from €339.7 billion in 2007.

While the United States still remains the leading location of hedge fund management, accounting for about 70% of total assets under management, London has developed as the second most important world centre for hedge funds. With the exception of 2008, London has been increasing its market share total assets under management from New York (see Figure 50).

**Figure 50: Assets under management by hedge fund industry – share of New York and London**



Source: International Financial Services, London (IFSL), Hedge Funds 2009

Within the EU, the sector is heavily concentrated on the UK, which now accounts for 80.6% of total assets under hedge fund management in the European Union.

According to a recent survey by the Alternative Investment Management Association (AIMA)<sup>43</sup>, the nature of investors in hedge funds and funds of funds has changed markedly in recent years. Traditionally, high net worth individuals accounted for most of the assets under management.

These latest survey results indicate however, that institutional investors<sup>44</sup> now account for an absolute majority of all assets under management by hedge funds and funds of funds globally. Pension funds are the source of about a third of all investments in hedge funds and funds of funds by institutional investors.

<sup>43</sup> See Alternative Investment Management Association, *Majority of Hedge Fund Assets Under Management Now From Institutional Investors*, Press communiqué of 4 March 2009.

<sup>44</sup> The Alternative Investment Management Association defines institutional investors as pension funds, university endowments, foundations and governmental authorities.

## 8 Insurance

The chapter reviews trends in life and non-life insurance. Moreover, the analysis of non-life insurance is further disaggregated into a number of lines such as motor, health & accident, property, general liability, legal expenses, marine, aviation, transport (MAT), etc.

Re-insurance is covered separately in this chapter.

### 8.1 The insurance market

#### 8.1.1 World Insurance Markets

At the most aggregated level, the total value of the insurance premium income stood at €2,903 billion in 2008, representing a 2.0% decrease on the value of insurance premiums written in 2007 in real terms.

The EU 27 countries accounted for €1,099 billion of this total (37.9%), while the US accounted for €844bn (29.1%), with Japan accounting for €322 billion (11.1%).

This is presented in Table 25. There were some significant variations in the growth of insurance premiums volume by jurisdiction between 2007 and 2008. In particular, there was a 13.0% decline in premium volume written in the United Kingdom, compared with a 6.8% increase in Japan and 2.5% increase across the European Union (excluding the United Kingdom).

**Table 25: Premium value by region in 2008 (global market)**

Country	Insurance premium written 2008 (€ billion)	Insurance premium written 2007 (€ billion)	Change (in %) Inflation adjusted	Share of world market	Premium as % of GDP
World	2,903	2,807	-2.0%	100.0%	7.1%
EU-27	1,099	1,122	-6.7%	37.9%	8.3%
UK	306	367	-13.0%	10.5%	16.8%
EU-27 excluding UK	793	755	2.5%	27.3%	6.9%
USA	844	842	-3.4%	29.1%	8.7%
Japan	322	267	6.8%	11.1%	9.8%

Source: Swiss Re, sigma No 3/2009



Insurance premium, as a percentage of GDP, stood at 7.1% in the worldwide market according to Swiss Re (2009).

At 16.8%, the UK market has the highest level of premium as a proportion of GDP penetration rate among the regional markets in comparison to 9.8% for Japan, 8.7% for the United States, and 6.9% for the EU 27 area excluding the United Kingdom.

### 8.1.2 The EU27 insurance markets

Within Europe, Luxembourg has the highest overall insurance penetration rate with insurance premium equal to 33.6% of its GDP. The other major insurance markets also having high degrees of insurance penetration were the UK (14.4%), the Netherlands (13.4%), and France (10.3%), as shown in Table 26<sup>45</sup>.

There has been trend growth in insurance penetration in the United Kingdom and the rest of Europe since 1995. Insurance penetration in the UK has increased from 10.5% in 1995 to 14.4% in 2007. Similarly, insurance penetration in the EU27 increased from 6.5% to 8.6% between 1995 and 2007.

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<sup>45</sup> It should be noted that the detailed analysis of the value of insurance premiums in Europe relies on a dataset which is different from the one used for the world analysis and that the two data sets yield somewhat different figures for the EU total and the UK.

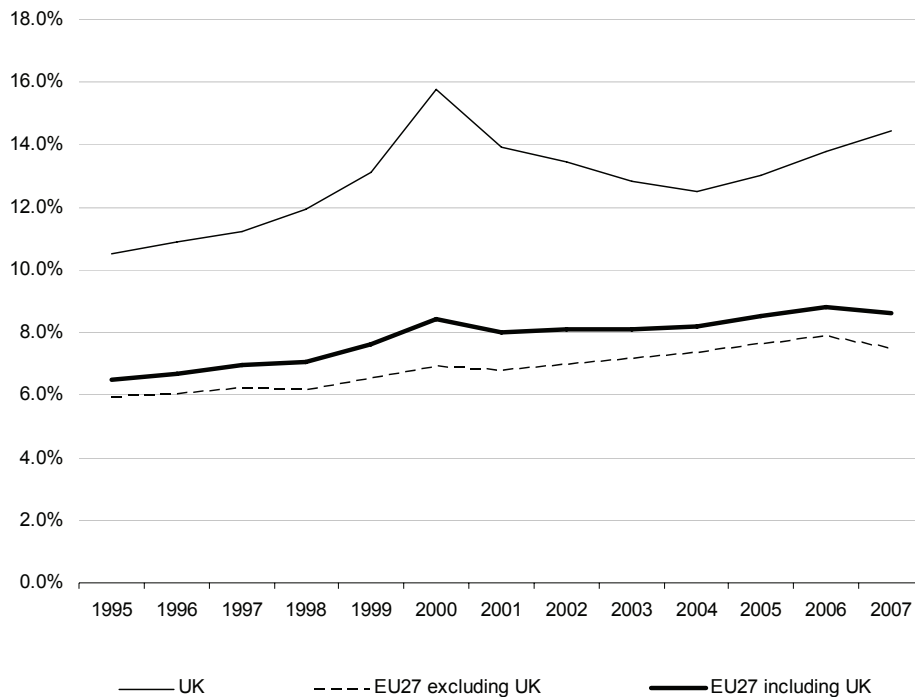
**Table 26: Total gross written premiums in EU27, 2007**

Country	Value (€ billion)		Real growth (%)	Share of EU27 (%)	Share of GDP (%)
	2007	2006	2006-7	2007	2007
Austria	15.9	15.6	-0.3%	1.5%	5.9%
Belgium	31.4	29.8	3.8%	2.9%	9.4%
Bulgaria	0.8	0.6	25.3%	0.1%	2.7%
Cyprus	0.7	0.6	8.0%	0.1%	4.4%
Czech Republic	4.8	4.3	5.7%	0.4%	3.8%
Denmark	20.1	18.7	5.6%	1.9%	8.9%
Estonia	0.4	0.3	43.0%	0.0%	2.8%
Finland	15.0	14.9	-0.9%	1.4%	8.4%
France	194.3	197.1	-3.0%	18.2%	10.3%
Germany	163.2	161.9	-1.4%	15.3%	6.7%
Greece	4.7	4.3	5.0%	0.4%	2.1%
Hungary	3.7	3.1	3.8%	0.3%	3.7%
Ireland	17.7	16.2	6.4%	1.7%	9.3%
Italy	99.1	106.5	-8.8%	9.3%	6.4%
Latvia *	0.3	0.3	n.a.	0.0%	1.4%
Lithuania *	0.4	0.4	n.a.	0.0%	1.5%
Luxembourg	12.2	12.9	-7.2%	1.1%	33.6%
Malta	0.3	0.3	20.0%	0.0%	6.4%
Netherlands	76.0	72.9	2.5%	7.1%	13.4%
Poland	11.6	9.6	13.9%	1.1%	3.7%
Portugal	13.7	13.1	2.3%	1.3%	8.4%
Romania	2.0	1.3	42.5%	0.2%	1.6%
Slovakia	1.7	1.4	7.9%	0.2%	3.1%
Slovenia	1.9	1.7	5.7%	0.2%	5.5%
Spain	54.5	52.8	0.4%	5.1%	5.2%
Sweden	25.1	23.1	6.5%	2.4%	7.6%
United Kingdom	295.0	267.7	8.1%	27.7%	14.4%
EU27	1066.7	1031.6	1.0%	100.0%	8.6%
EU27 excl. UK	771.7	763.9	-1.4%	72.3%	7.5%

Note: \* 2007 value estimated as equal to 2006 value

Source: London Economics' calculations based on CEA (2008): "Statistics No.36", European Insurance in Figures, October 2008, and Eurostat data on GDP and inflation.

**Figure 51: UK and EU27 total gross written premiums as share of GDP (%), 2000-2007**



Note: Latvia and Lithuania 2007 data estimated as equal to 2006 values.

Source: London Economics' calculations based on CEA (2008): "Statistics No.36", European Insurance in Figures, October 2008, and Eurostat data on GDP.

### 8.1.3 The EU27 non-life insurance markets

In 2007, total non-life insurance premium stood at €398.4bn for the EU27 Member States. The United Kingdom (18.1%) and Germany (22.0%) stood out as the largest markets in the EU in 2007. The other major markets, with shares greater than 10%, were the Netherlands (12.4%) and France (14.6%).

The highest penetration rate in the non-life sector within the EU27 was in the Netherlands with premiums equal to 8.7% of GDP. This was about twice as much as the next highest penetration rates in the non-life sector, which were about 3.6%, in the United Kingdom, Germany, Luxembourg and Slovenia.

Penetration rates in the non-life sector appear more volatile in the United Kingdom than the EU27 as a whole, looking at historical data. There has been some growth since 2000, but this followed a fall in penetration since 1995. The non-life insurance penetration rate in the UK fluctuated roughly between 3.5% and 4.5% over this period, whilst in the rest of Europe, it has increased slightly from a low of 2.8% in 2001 to approximately 3.2% in 2007.

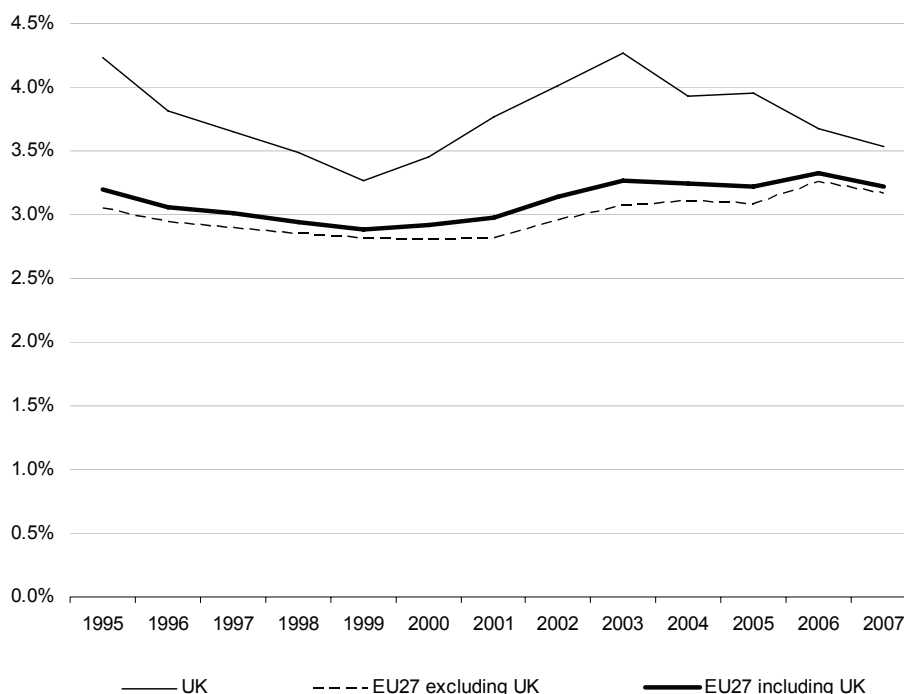
**Table 27: Gross written non-life premiums in EU27, 2007**

Country	Value (€ billion)		Real growth (%)	Share of EU27 (%)	Share of GDP (%)
	2007	2006	2006-7	2007	2007
Austria	8.7	8.4	0.9%	2.2%	3.2%
Belgium	9.5	9.1	2.3%	2.4%	2.8%
Bulgaria	0.7	0.5	11.3%	0.2%	2.2%
Cyprus	0.4	0.3	7.3%	0.1%	2.4%
Czech Republic	2.9	2.6	2.2%	0.7%	2.2%
Denmark	6.4	6.2	1.2%	1.6%	2.8%
Estonia	0.3	0.2	18.9%	0.1%	1.7%
Finland	3.1	3.1	-1.8%	0.8%	1.7%
France	58.3	56.9	0.9%	14.6%	3.1%
Germany	87.8	87.1	-1.4%	22.0%	3.6%
Greece	2.2	2.0	4.9%	0.5%	1.0%
Hungary	1.7	1.6	-4.6%	0.4%	1.7%
Ireland	3.7	3.8	-6.6%	0.9%	1.9%
Italy	37.7	37.1	-0.6%	9.5%	2.4%
Latvia *	0.3	0.3	n.a.	0.1%	1.3%
Lithuania *	0.3	0.3	n.a.	0.1%	1.0%
Luxembourg	1.3	1.3	-0.5%	0.3%	3.6%
Malta	0.1	0.1	2.6%	0.0%	2.2%
Netherlands	49.4	47.2	3.0%	12.4%	8.7%
Poland	4.8	4.2	8.7%	1.2%	1.6%
Portugal	4.4	4.4	-2.0%	1.1%	2.7%
Romania	1.6	1.0	38.2%	0.4%	1.3%
Slovakia	0.9	0.8	1.0%	0.2%	1.6%
Slovenia	1.3	1.2	4.4%	0.3%	3.7%
Spain	31.1	29.5	2.5%	7.8%	3.0%
Sweden	7.6	7.7	-3.2%	1.9%	2.3%
United Kingdom	72.2	71.4	-0.7%	18.1%	3.5%
EU27	398.4	388.3	0.2%	100.0%	3.2%
EU27 excl. UK	326.2	317.0	0.5%	81.9%	3.2%

Note: \* 2007 value estimated as equal to 2006 value

Source: London Economics' calculations based on CEA (2008): "Statistics No.36", European Insurance in Figures, October 2008, and Eurostat data on GDP and inflation.

**Figure 52: UK and EU27 gross written non-life premiums as share of GDP (%), 2000 to 2007**



Note: Latvia and Lithuania 2007 data estimated as equal to 2006 values.

Source: London Economics' calculations based on CEA (2008): "Statistics No.36", European Insurance in Figures, October 2008, and Eurostat data on GDP.

In Table 28, we have presented some information on the total non-life premiums collected in the European Union by product line in 2006 and 2007. The analysis indicates that total premiums collected in relation to general liability insurance, property and MAT insurance decreased between 2006 and 2007 (by 3.8%, 0.1% and 2.9% in real terms respectively), while premiums in legal expenses increased by 3.0% in real terms. It is important to note that even though there has been a 3.0% increase in the premiums written in relation to legal expense insurance, this market is particularly small with premiums accounting for 0.05% as a proportion of GDP.

**Table 28: EU27 premiums on non-life insurance lines**

Non-life insurance line	Value (€ billion)		Real growth (%)	Share of GDP (%)
	2007	2006	2006-7	2007
General liability insurance	31.9	32.4	-3.8%	0.26%
Legal expenses insurance	6.7	6.3	3.0%	0.05%
Property insurance	76.5	74.8	-0.1%	0.62%
MAT insurance	15.9	16.0	-2.9%	0.13%

Note: Latvia and Lithuania 2007 data estimated as equal to 2006 values.

Source: London Economics' calculations based on CEA (2008): "Statistics No.36", European Insurance in Figures, October 2008, and Eurostat data on GDP and inflation.

In Table 29 we have provided some more disaggregated information on the non life insurance premiums as a proportion of GDP in each of the European Union Member States.

There is some variation in relation to the importance of the particular non-liability insurance markets in each of the Member States. For example, marine, aviation and transport premiums as a proportion of GDP were 0.46% in the United Kingdom and 1.14% in Luxembourg, whilst the average across non UK-EU Member States of 0.06%.

**Table 29: Non-life insurance line premiums as share of GDP (%), 2007**

<b>Country</b>	<b>General liability insurance</b>	<b>Legal expenses insurance</b>	<b>Property insurance</b>	<b>Marine, aviation and transport insurance</b>
Austria	0.24%	0.14%	0.81%	0.05%
Belgium	0.22%	0.09%	0.63%	0.06%
Bulgaria	0.06%	0.00%	0.43%	0.10%
Cyprus	0.21%	n.a.	0.60%	0.04%
Czech Republic	0.29%	0.01%	0.52%	0.02%
Denmark	0.10%	0.00%	0.91%	0.07%
Estonia	0.03%	n.a.	0.36%	0.03%
Finland	0.10%	0.03%	0.38%	0.06%
France	0.35%	0.03%	0.70%	0.06%
Germany	0.28%	0.13%	0.59%	0.08%
Greece	0.03%	0.02%	0.22%	0.03%
Hungary	0.07%	0.00%	0.51%	0.01%
Ireland	0.38%	n.a.	0.54%	n.a.
Italy	0.21%	0.02%	0.32%	0.04%
Latvia *	0.04%	n.a.	0.20%	0.02%
Lithuania *	0.05%	n.a.	0.17%	0.01%
Luxembourg	0.23%	0.04%	0.61%	1.14%
Malta	0.13%	n.a.	0.40%	0.09%
Netherlands	0.22%	0.10%	0.62%	0.14%
Poland	0.08%	0.10%	0.26%	0.03%
Portugal	0.07%	0.01%	0.43%	0.05%
Romania	0.03%	n.a.	0.21%	n.a.
Slovakia	0.09%	0.00%	0.34%	0.01%
Slovenia	0.12%	0.00%	0.51%	0.04%
Spain	0.18%	0.01%	0.67%	0.06%
Sweden	0.12%	n.a.	0.87%	0.04%
United Kingdom	0.39%	0.04%	0.89%	0.46%
EU27	0.26%	0.05%	0.62%	0.13%
EU27 excl. UK	0.23%	0.06%	0.57%	0.06%

Note: \* 2007 value estimated as equal to 2006 value

Source: London Economics' calculations based on CEA (2008): "Statistics No.36", European Insurance in Figures, October 2008, and Eurostat data on GDP and inflation.

The most significant of the four insurance lines considered in this section relates to property insurance, which accounts for total premiums of €76.5 billion in 2007, equivalent to 0.62% of GDP across the European Union.

Total property premiums written were highest in the United Kingdom, Sweden and Denmark, at 0.9%.

**Table 30: Property insurance premiums in EU27, 2007**

	Value (€ billion)		Real growth (%)	Share of EU27 (%)	Share of GDP (%)
Country	2007	2006	2006-7	2007	2007
Austria	2.2	2.1	3.3%	2.9%	0.8%
Belgium	2.1	2.0	5.7%	2.8%	0.6%
Bulgaria	0.1	0.1	-1.3%	0.2%	0.4%
Cyprus	0.1	0.1	9.9%	0.1%	0.6%
Czech Republic	0.7	0.6	4.7%	0.9%	0.5%
Denmark	2.1	2.0	-0.5%	2.7%	0.9%
Estonia	0.1	0.0	14.9%	0.1%	0.4%
Finland	0.7	0.7	3.1%	0.9%	0.4%
France	13.3	12.8	1.9%	17.4%	0.7%
Germany	14.2	14.2	-2.4%	18.6%	0.6%
Greece	0.5	0.5	3.0%	0.6%	0.2%
Hungary	0.5	0.5	0.2%	0.7%	0.5%
Ireland	1.0	1.0	-2.6%	1.3%	0.5%
Italy	4.9	4.8	-0.3%	6.4%	0.3%
Latvia *	0.0	0.0	n.a.	0.1%	0.2%
Lithuania *	0.0	0.0	n.a.	0.1%	0.2%
Luxembourg	0.2	0.2	-0.3%	0.3%	0.6%
Malta	0.0	0.0	-0.6%	0.0%	0.4%
Netherlands	3.5	3.5	-1.5%	4.6%	0.6%
Poland	0.8	0.7	3.6%	1.1%	0.3%
Portugal	0.7	0.7	0.2%	0.9%	0.4%
Romania	0.3	0.1	80.9%	0.3%	0.2%
Slovakia	0.2	0.2	-1.6%	0.2%	0.3%
Slovenia	0.2	0.2	5.4%	0.2%	0.5%
Spain	7.0	6.6	3.8%	9.1%	0.7%
Sweden	2.9	2.9	-1.6%	3.8%	0.9%
United Kingdom	18.2	18.2	-1.9%	23.8%	0.9%
EU27	76.5	74.8	-0.1%	100.0%	0.6%
EU27 excl. UK	58.3	56.6	0.6%	76.2%	0.6%

Note: \* 2007 value estimated as equal to 2006 value

Source: London Economics' calculations based on CEA (2008): "Statistics No.36", European Insurance in Figures, October 2008, and Eurostat data on GDP and inflation.



**Table 31: Marine, aviation and transport premiums in EU27, 2007**

Country	Value (€ billion)		Real growth (%)	Share of EU27 (%)	Share of GDP (%)
	2007	2006	2006-7	2007	2007
Austria	0.13	0.13	-2.2%	0.8%	0.0%
Belgium	0.20	0.23	-12.9%	1.3%	0.1%
Bulgaria	0.03	0.03	-16.2%	0.2%	0.1%
Cyprus	0.01	0.01	-2.1%	0.0%	0.0%
Czech Republic	0.03	0.02	4.6%	0.2%	0.0%
Denmark	0.15	0.15	-2.4%	0.9%	0.1%
Estonia	0.01	0.00	2.0%	0.0%	0.0%
Finland	0.11	0.11	-3.3%	0.7%	0.1%
France	1.05	1.10	-5.7%	6.6%	0.1%
Germany	1.90	1.86	-0.1%	12.0%	0.1%
Greece	0.08	0.07	4.0%	0.5%	0.0%
Hungary	0.01	0.01	-8.3%	0.1%	0.0%
Ireland	n.a.	n.a.	n.a.	0.0%	n.a.
Italy	0.67	0.72	-7.9%	4.2%	0.0%
Latvia *	0.01	0.01	n.a.	0.0%	0.0%
Lithuania *	0.00	0.00	n.a.	0.0%	0.0%
Luxembourg	0.42	0.41	-0.4%	2.6%	1.1%
Malta	0.01	0.01	12.0%	0.0%	0.1%
Netherlands	0.79	0.72	7.9%	5.0%	0.1%
Poland	0.08	0.08	-1.5%	0.5%	0.0%
Portugal	0.08	0.08	3.3%	0.5%	0.1%
Romania	n.a.	n.a.	n.a.	0.0%	n.a.
Slovakia	0.01	0.01	-1.1%	0.1%	0.0%
Slovenia	0.01	0.01	8.1%	0.1%	0.0%
Spain	0.59	0.59	-2.6%	3.7%	0.1%
Sweden	0.12	0.12	0.8%	0.8%	0.0%
United Kingdom	9.39	9.49	-3.0%	59.1%	0.5%
EU27	15.88	15.96	-2.9%	100.0%	0.1%
EU27 excl. UK	6.49	6.47	-2.1%	40.9%	0.1%

Note: \* 2007 value estimated as equal to 2006 value

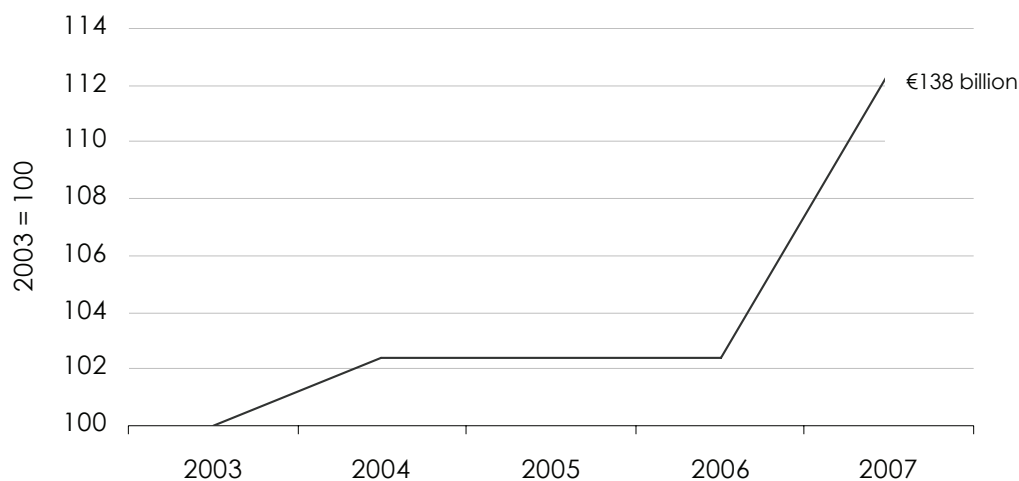
Source: London Economics' calculations based on CEA (2008): "Statistics No.36", European Insurance in Figures, October 2008, and Eurostat data on GDP and inflation.

Finally marine, aviation and transport (MAT) insurance, which accounts for approximately €15.9 of insurance premiums (equivalent to 0.13% of EU wide GDP), is highly concentrated in the United Kingdom. Total premiums written in the UK stand at 0.5% of UK GDP, equal to two-thirds of all premiums written across the EU27 and a penetration rate approximately 5 times as high as the rest of the European Union Member States excluding the UK.

## 8.2 Re-insurance

The latest available data from the International Association of Insurance Supervisors show that, after a period of stagnation in 2005 and 2006, world-wide re-insurance premiums received by re-insurers grew by 10% in 2007, and reached €138 billion (see Figure 53).

**Figure 53: Premiums collected by re-insurance companies – 2003 = 100**

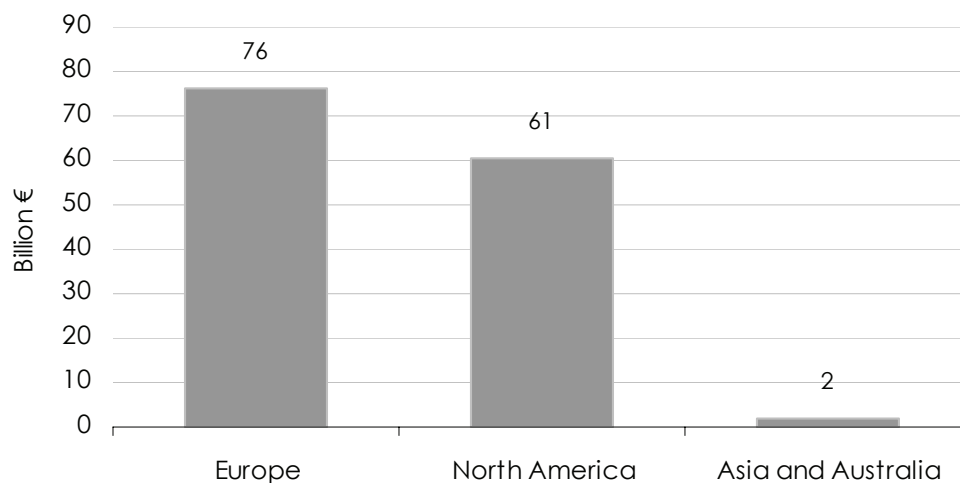


Source: London Economics calculations based on data from International Association of Insurance Supervisors (IAIS)

In 2007, re-insurers from Europe collected €76 billion in premiums, 36% more than re-insurers from North America (including Bermuda) (see Figure 54).

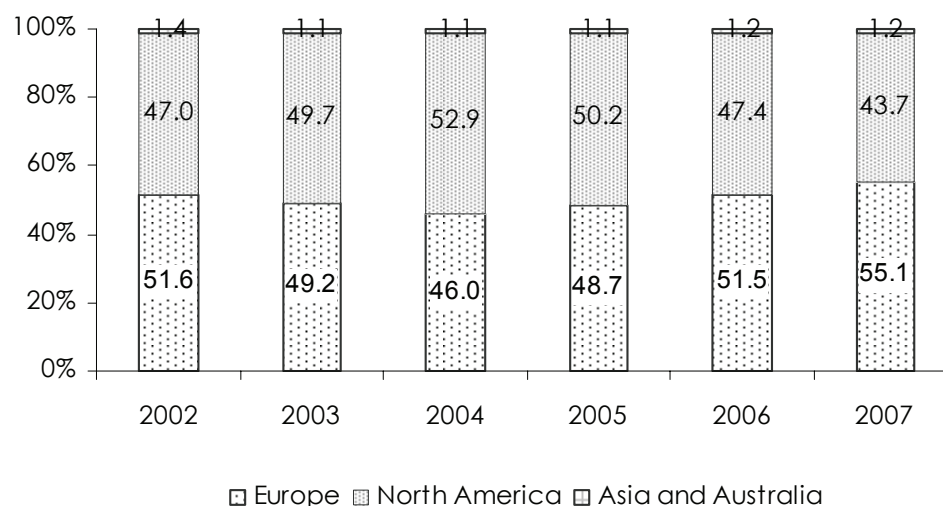
The pre-eminence of European re-insurers in 2007 is more marked than in the previous year and a reversal of the situation prevailing in from 2003 to 2005. In fact, since their market share of world-wide re-insurance premiums reached a low of 46% in 2004, European re-insurers have steadily made market share gains, almost entirely at the expense of re-insurers from North America (see Figure 55)

**Figure 54: Premiums collected by re-insurance by major region of the world – billions of €**



Source: London Economics calculations based on data from International Association of Insurance Supervisors (IAIS)

**Figure 55: Premiums collected by re-insurance by major region of the world – share of world total**



Source: London Economics calculations based on data from International Association of Insurance Supervisors (IAIS)

The re-insurance market is dominated by a number of very large players. Together, the five largest re-insurers in the world collected 60% of total re-insurance premiums in 2007. This is in sharp contrast with the next five largest re-insurance companies which collected 16% of world-wide premiums (see Table 32).

Collectively re-insurers from the EU dominate the market, accounting for 47% of world-wide re-insurance premiums collected by the 15 largest re-insurers in the world, although the largest re-insurers is Swiss and alone accounted for 21% of the market (see Table 32)

In contrast, re-insurers from North America accounted for only 28% of re-insurance premiums in the world. It is important to note that the distribution of premiums among the different re-insurers is not reflective of the geographical distribution of the booking of the re-insurance premiums as all these re-insurers operate globally and may be booking premiums in different parts of the world.

**Table 32 Largest re-insurance groups in the world**

<b>Name and nationality of the group</b>	<b>Gross premiums in 2007 (billions of €)</b>	<b>Share of total gross premiums of 35 largest re-insurance groups</b>	<b>Cumulative market share</b>
Swiss Re Group – CH	22,378	18.3	18.3
Munich Re – DE	21,772	17.8	36.1
Berkshire Hathaway Group – USA	13,097	10.7	46.8
Hannover Re – DE	8,993	7.3	54.1
Lloyd's of London – UK	7,559	6.2	60.3
Scor Group – FR	5,184	4.2	64.5
London Reins Group – UK	4,474	3.7	68.2
RGA Reins. Co – USA	3,918	3.2	71.4
Transatlantic Holdings Inc. Group – USA	3,125	2.6	73.9
Everest Re Group – USA	2,975	2.4	76.4
Korean Reins Co – KO	2,838	2.3	78.7
Partner Re Group – USA	2,780	2.3	80.9
XL Capita – USA	2,485	2.0	83.0
Aegon – NL	1,796	1.5	84.4
Odyssee Re Group - USA	1,666	1.4	85.8

Notes: CH = Switzerland, DE = Germany, FR = France, KO = Korea, NL = Netherlands  
Source: A.M. Best Research, 2008 Special Report Global Reinsurance Market Review

## 9 Commodities

Most commodity prices, especially energy prices, rose sharply through 2007 and the first half of 2008, before falling precipitously in the second half of 2008 (see Table 33).

Whilst most commodity prices recovered somewhat in 2009, at the end of April 2009, almost all were still below their December 2005 level. Only food prices stood 35% higher in April 2009 than in December 2005.

**Table 33: Rate of growth in selected commodity price indices – 2005 to 2009**

Reference period	All commodities	Edibles	Agricultural raw materials	Metals	Energy
Dec. 2004 to Dec. 2005	22.0%	4.7%	2.7%	24.2%	30.4%
Dec. 2005 to Dec. 2006	14.3%	15.0%	12.9%	53.0%	7.1%
Dec. 2006 to Dec. 2007	29.4%	25.6%	-0.3%	-8.2%	44.0%
Dec. 2007 to peak in 2008	39.9% <sup>1</sup>	23.5% <sup>2</sup>	7.6% <sup>1</sup>	23.7% <sup>3</sup>	51.1% <sup>1</sup>
Peak in 2008 to Dec. 2008	-55.2%	-32.3%	-28.2%	-48.6%	-63.1%
Dec. 2008 to Apr. 2009	5.7%	9.0%	-6.8%	9.1%	5.3%
For memo: Dec. 2005 to Apr. 2009	-2.1	31.6	-19.0	-2.5	-9.4

Notes: 1 = peak in July 2008, 2 = peak in June 2008, 3 = peak in March 2008

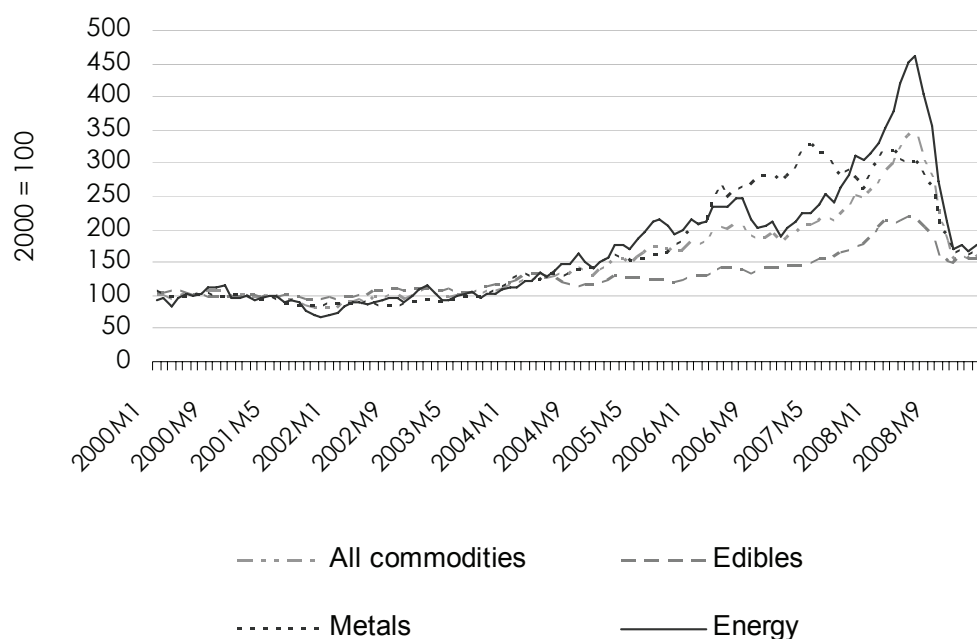
Source: London Economics calculations based on data from the IMF

As can be seen from Figure 56, the movements in the different commodity price indices stand in sharp contrast to the pattern prevailing in the earlier years of the present decade.

The rapid rise in commodity prices in 2007 and in particular the first half of 2008 fuelled considerable interest in commodity futures for hedging purposes, and as a new asset class for a range of investors who previously would not have invested in commodities futures.

As a result, OTC and on-exchange trading in commodity futures grew very rapidly in 2007 and the first half of 2008.

**Figure 56: Selected commodity price indices - 2000 =100**



Source: London Economics calculations based on data from the IMF

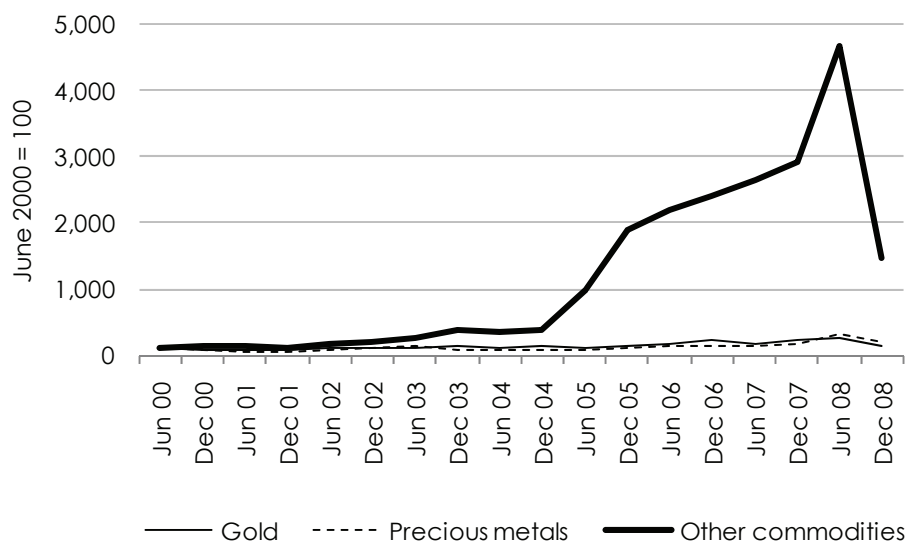
The level of notional amounts outstanding of OTC commodity derivatives reached a high of €8,391 billion at the end of June 2008, before falling to €3,181 billion at the end of December 2008, the last period for which comprehensive data from the BIS are available.

At that date, commodities other than gold and precious metals accounted for 88.6% of the total notional amount, gold for 8.9% and precious metals for 2.5%.

The data in Figure 57 clearly show that, over the last 5 years, the largest increase by far in notional amount outstanding occurred in the asset class "commodities other than gold and precious metals". However, since June 2008, that asset class has also seen the largest decrease, primarily driven by the fall in commodity prices.

Specifically, the notional amount outstanding in "commodities other than gold and precious metals" grew by 1,113% from December 2004 to June 2008 while the notional amount standing of gold derivatives increased by only 76% and that of precious metals by 258%. In contrast, in the six-month period of June 2008 to December 2008, the notional amount outstanding of "commodities other than gold and precious metals" decreased by 68%, of gold decreased by 39% and of precious metals decreased by 42%.

**Figure 57: Value of notional amount outstanding of OTC commodity derivatives**

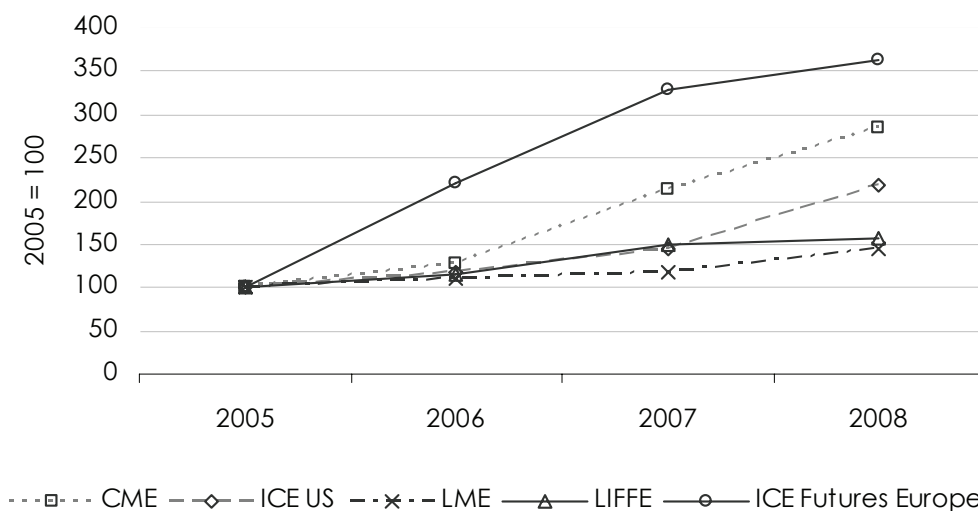


Source: London Economics calculations based on data from the BIS

Commodity derivatives are also traded on selected exchanges, most notably the London Metal Exchange (LME), LIFFE and Ice Futures Europe, and the CME Group (comprising the CME, CBOT and Nymex) and ICE US in the USA.

The contract volume increased rapidly on all these exchanges in recent years. Within Europe, ICE Futures Europe saw its contract volume increase by 264% between 2005 and 2008, with most of the growth occurring in 2006 and 2007. Similarly, LIFFE experienced an increase in contract volume of 55%, again with most of the growth concentrated in 2006 and 2007, while the LME gained 44%, with a more pronounced growth spurt in 2008 (see Figure 58).

**Figure 58: Contract volume at major commodities exchanges**



Note: The data refer to total contract volume reported by the various exchanges and include in a number of cases non-commodity derivatives  
Source: London Economics calculations based on data from CME Group Annual Review 2008, LME annual report, ICE US and Ice Futures Europe websites and LIFFE website



## 10 Conclusions

The roots of the current financial crisis can be traced back to a combination of rapid product innovation, the misunderstanding and under-pricing of credit risk, rapid increases in leverage and underestimation of liquidity risk, and, more generally, a growing opacity of the financial sector, with the emergence of a large, unregulated sector, the so-called “shadow financial sector”.

The wholesale financial sector has been hit hard by the unfolding financial crisis although some sub-sectors such as the issuing of fixed income securities and equity trading benefited from the rapidly evolving market conditions.

Globally, growth in wholesale financial services turned negative in 2008 after having decelerated to 2.7% growth in 2007. The latest available data suggest that output in worldwide wholesale financial services declined by 3.0% in 2008, back to a level slightly below the one reached in 2006.

A sharp contraction in the sector is particularly evident in the United Kingdom, Ireland and Luxembourg. As downsizing by wholesale financial services organisations continues, the other Member States are very likely to show a decline in wholesale financial services sector activity in 2009.

The unprecedented events in financial markets in 2008 called for substantial public assistance to the sector both in terms of general liquidity provision and direct assistance to individual financial institutions.

In parallel with these immediate fire-fighting measures, the major countries of the world embarked on a comprehensive regulatory reform process aiming to prevent the recurrence of a financial crisis of the scale and depth experienced in 2008. This exercise was considered by policy-makers and officials to be of the highest urgency and various aspects of the reform package are already well progressed.

While the need for rapid action and reform is fully understandable, there is a danger that too rapid, disproportionate and/or not fully thought-through action may result in unintended consequences which could have a serious impact on the competitiveness of the European wholesale financial services industry. The example of the negative impact on US financial markets of the Sarbanes-Oxley legislation, which was passed rapidly in the wake of the Enron scandal should serve as a useful reminder that even the most well intended measure can have negative consequences if not fully thought through and assessed.

A recent City of London report<sup>46</sup> noted that *“Capital markets have a fundamental impact on the cost of doing business across the whole economy. Capital markets that work well are the engine room of strong and sustainable economic growth. Regulatory authorities have a critical role in ensuring the soundness and proper functioning of these markets”*. These few elementary facts should be core guiding principles for the current reform process to ensure that the wholesale financial services sector can continue to play in the future its required role in supporting a vibrant European economy.

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<sup>46</sup> City of London, *Assessing the Effectiveness of Enforcement and Regulation*, April 2009.

## **Annex 1 Details of the Estimation of Size of the Wholesale Financial Sector**

This annex provides more details of how the estimates of the size of the wholesale financial services sector were derived for each Member State. The EU27 estimate is simply the sum of the estimates of the wholesale financial services sector is the 27 individual Member States.

As was noted in Chapter 3, the estimate of the size of the wholesale financial services sector in a Member State is based on an average of two different benchmarks: firstly, the size of the sector using as a starting point the typical size of the retail sector as a proportion of GDP and secondly using per capita indicators.

The use of the second benchmark takes account of the fact that a) the level of retail banking in an economy depends not only on the economy's GDP level but also on the size of its population and b) population size and GDP level are not perfectly correlated.

The details of this benchmarking exercise are provided in Tables 34 and 35.

The second column of Table 34 shows the size of the overall financial sector as a proportion of GDP in each Member State. The average of this indicator over the period 2004-2008 for the 20 Member States with the smallest financial sector (as a proportion of GDP) is 4.4%. This 4.4% figure is assumed to be a good indicator of the typical size of the retail sector and therefore is deducted from the size of the overall financial sector (as percentage of GDP) in each Member State to obtain an estimate of the wholesale financial sector (as a percentage of GDP). In cases where the resulting estimate is zero or negative, the size of the wholesale financial sector was set arbitrarily at a very small figure, namely 0.2% of GDP. The results of this estimation are provided in column 3 of Table 34.

A similar estimation was done using the average size of the financial sector on a per capita basis. Column 4 shows total financial intermediation on a per capita basis for each Member State. The average of this indicator over the period 2004-2008 of the 20 Member States with the smallest financial sector (on a per capita basis) is €0.7 million. This €0.7 million figure is assumed to be a good indicator of the typical size of the retail sector and, therefore, is deducted from the size of the overall financial sector (on a per capita basis) in each Member State to obtain an estimate of the wholesale financial sector (on a per capita basis). This per-capita estimate is then transposed back into a measure expressing the size of the wholesale financial sector as a percentage of GDP. In cases where the resulting estimate is zero or negative, the size of the wholesale financial sector was set arbitrarily at a very small figure, namely 0.2% of GDP. The results of this estimation are provided in column 5 of Table 32.

The next step of the estimation involved computing for each EU Member State the average of the two estimates of the size of the wholesale financial services sector as a percentage of GDP. The results of this averaging process are provided in the first column of Table 35

Next, we computed the implied share of wholesale financial services in total financial services (column 3 of Table 35) and examined how this share evolved over time. In the few cases where this share grew rapidly, and there were no obvious reasons why this should be the case, the share of wholesale financial services in 2008 was scaled back to its 2007 level (column 4 of Table 35).

The final estimate of the size of the wholesale financial services sector in each Member State is shown in the last column of Table 35.

**Table 34: Estimation of the size of the wholesale financial services sector in Member States part I**

	Approach 1		Approach 2		
	Total financial intermediation GVA as % of GDP, 2008	Wholesale financial intermediation in % of GDP based on % of GDP approach, 2008	Total financial intermediation per capita in € million, 2008	Wholesale financial intermediation per capita in € million, 2008	Wholesale financial intermediation in % of GDP based on per capita approach, 2008
<b>Austria</b>	5.4%	0.9%	1.65	0.95	3.1%
<b>Belgium</b>	5.6%	1.1%	1.60	0.90	3.1%
<b>Bulgaria</b>	5.0%	0.6%	0.19	0.02	0.5%
<b>Cyprus</b>	8.0%	3.6%	1.52	0.82	4.3%
<b>Czech Republic</b>	3.7%	0.2%	0.48	0.02	0.2%
<b>Denmark</b>	5.4%	1.0%	1.97	1.27	3.5%
<b>Estonia</b>	4.1%	0.2%	0.43	0.02	0.2%
<b>Finland</b>	2.9%	0.2%	0.90	0.20	0.6%
<b>France</b>	4.9%	0.4%	1.32	0.62	2.3%
<b>Germany</b>	4.2%	0.2%	1.15	0.45	1.6%
<b>Greece</b>	4.7%	0.3%	0.91	0.21	1.1%
<b>Hungary</b>	4.6%	0.2%	0.41	0.02	0.2%
<b>Ireland</b>	10.6%	6.2%	3.81	3.10	8.6%
<b>Italy</b>	5.1%	0.6%	1.20	0.50	2.1%
<b>Latvia</b>	7.2%	2.8%	0.66	0.02	0.2%
<b>Lithuania</b>	2.4%	0.2%	0.21	0.02	0.2%
<b>Luxembourg</b>	27.2%	22.8%	18.59	17.88	26.2%
<b>Malta</b>	4.5%	0.2%	0.54	0.02	0.2%
<b>Netherlands</b>	6.0%	1.6%	1.95	1.25	3.9%
<b>Poland</b>	4.5%	0.2%	0.38	0.02	0.2%
<b>Portugal</b>	7.5%	3.0%	1.01	0.31	2.3%
<b>Romania</b>	1.9%	0.2%	0.11	0.02	0.4%
<b>Slovenia</b>	4.5%	0.2%	0.73	0.03	0.2%

**Table 34: Estimation of the size of the wholesale financial services sector in Member States part I**

	Approach 1		Approach 2		
	Total financial intermediation GVA as % of GDP, 2008	Wholesale financial intermediation in % of GDP based on % of GDP approach, 2008	Total financial intermediation per capita in € million, 2008	Wholesale financial intermediation per capita in € million, 2008	Wholesale financial intermediation in % of GDP based on per capita approach, 2008
<b>Slovakia</b>	3.8%	0.2%	0.41	0.02	0.2%
<b>Spain</b>	5.2%	0.8%	1.15	0.45	2.0%
<b>Sweden</b>	3.6%	0.2%	1.14	0.44	1.4%
<b>United Kingdom</b>	8.4%	4.0%	2.24	1.54	5.8%
<b>EU27</b>	5.5%	1.2%	1.23	0.61	2.7%

Source: London Economics calculations based on Eurostat data

**Table 35: Estimation of the size of the wholesale financial services sector in Member States – part II**

	Wholesale financial intermediation in % of GDP, 2008 – average of approaches 1 and 2	Implied share of wholesale financial services in total financial intermediation, 2008	Adjusted share of wholesale financial services in total financial intermediation, 2008	Final estimate of wholesale financial intermediation in % of GDP, 2008
<b>Austria</b>	2.0%	37.4%	37.4%	2.0%
<b>Belgium</b>	2.1%	38.1%	38.1%	2.1%
<b>Bulgaria</b>	0.6%	11.4%	11.4%	0.6%
<b>Cyprus</b>	3.9%	49.2%	43.3%	3.5%
<b>Czech Republic</b>	0.2%	4.8%	4.8%	0.2%
<b>Denmark</b>	2.3%	41.4%	41.4%	2.3%
<b>Estonia</b>	0.2%	4.8%	4.8%	0.2%
<b>Finland</b>	0.4%	14.4%	13.0%	0.4%
<b>France</b>	1.4%	27.8%	27.8%	1.4%

**Table 35: Estimation of the size of the wholesale financial services sector in Member States – part II**

	Wholesale financial intermediation in % of GDP, 2008 – average of approaches 1 and 2	Implied share of wholesale financial services in total financial intermediation, 2008	Adjusted share of wholesale financial services in total financial intermediation, 2008	Final estimate of wholesale financial intermediation in % of GDP, 2008
<b>Germany</b>	1.3%	31.3%	30.3%	1.3%
<b>Greece</b>	0.7%	14.7%	6.4%	0.3%
<b>Hungary</b>	0.2%	4.6%	4.6%	0.2%
<b>Ireland</b>	7.4%	69.8%	69.8%	7.4%
<b>Italy</b>	1.4%	26.8%	21.1%	1.1%
<b>Latvia</b>	1.5%	20.7%	16.3%	1.2%
<b>Lithuania</b>	0.2%	8.9%	8.9%	0.2%
<b>Luxembourg</b>	24.5%	90.0%	90.0%	24.5%
<b>Malta</b>	0.2%	4.1%	7.4%	0.3%
<b>Netherlands</b>	2.7%	45.2%	44.4%	2.7%
<b>Poland</b>	0.2%	4.9%	4.9%	0.2%
<b>Portugal</b>	1.4%	18.5%	18.5%	1.4%
<b>Romania</b>	0.3%	14.5%	14.5%	0.3%
<b>Slovenia</b>	0.2%	4.1%	3.7%	0.2%
<b>Slovakia</b>	0.2%	5.1%	5.1%	0.2%
<b>Spain</b>	1.9%	36.6%	26.4%	1.4%
<b>Sweden</b>	0.8%	22.0%	22.0%	0.8%
<b>United Kingdom</b>	4.9%	58.0%	58.0%	4.9%
<b>EU27</b>	2.1%	37.8%	35.9%	2.0%

## Glossary

ABS	Asset Backed Securities
AIFM	Alternative Investment Fund Managers
AIMA	Alternative Investment Management Association
AuM	Assets under Management
BIS	Bank for International Settlements
BRICs	Brazil, Russia, India and China
CCP	Central Counter Party
CDO	Collateralised Debt Obligation
CEA	European Insurance Committee
CEBS	Committee of European Banking Supervisors
CESR	Committee of European Securities Regulators
CEIOPS	Committee of European Insurance and Occupational Pensions Supervisors.
ECB	European Central Bank
EFMA	European Fund and Asset Management Association
ESRC	European Systemic Risk Council
ESF	European Securitisation Forum
ESFS	European System of Financial Supervisors
EVCA	European Private Equity and Venture Capital Association
FESE	Federation of European Securities Exchanges
FSB	Financial Stability Board



FSF	Financial Stability Forum
FX	Foreign Exchange
GDP	Gross Domestic Product
GVA	Gross Value Added
IMF	International Monetary Fund
IAIS	International Association of Insurance Supervisors
ISDA	International Swaps and Derivatives Association
IFSL	International Financial Services London
MAT	Marine, Aviation and Transport
MBS	Mortgage Backed Securities
MiFID	Markets in Financial Instruments Directive
OTC	Over-the-counter
UCITs	Undertakings for Collective Investments in Transferable Securities
WFE	World Federation of Exchanges
WTO	World Trade Organisation

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