

Financial services: Challenges and prospects

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Introduction

This project was conducted by means of five case studies, and an online survey and interviews with experts from companies, research institutions and public authorities. The survey and interviews were vital in order to hear different opinions about changes in the financial sector resulting from the financial crisis, and the emergence of a new regulatory regime.

The methodology of case studies was adapted after a number of financial institutions rejected requests for access to information regarding their business strategies and working conditions during this unstable and uncertain time. Only two companies agreed to participate in the case study – Generali in France, and the UK building society Leek United. The studies were conducted by means of on-site visits. For the three remaining case studies, a comprehensive analysis of nine companies was conducted; these were chosen to represent the approaches developed in the interim report: the 'liberal' approach, the 'sustainable' approach and the 'state-ownership' approach.

Online survey

Methodology

An online survey was conducted in order to gain an updated view of experts' perceptions of the crisis and the expected changes in the financial sector. Participants answered questions about how the banking and insurance sectors have responded to the crisis, about the intervention of public institutions and international regulations, as well as the future of the financial sector and the insurance sector. The questionnaire can be found in the Annex.

The survey addressed experts in the banking and insurance sector, research institutions and public authorities. Experts who had previously participated in the former Economix/DKRC project were also contacted. The online survey was made available on the Economix homepage in November and December 2009.

The participation rate of experts was rather low, due to the sensitive political situation in the financial sector. Out of 60 people contacted, only 10 (16.6 %) participated. Consequently, a higher level of participation could not be expected in a second round and the panel of experts was not extended. All results therefore have to be earmarked as non-representative.

Results

The respondents work for banking and insurance organisations, intermediaries and banking associations, from a range of countries, including Belgium, France, Germany, Italy and Poland.

The majority of respondents identified three key reasons for the financial crisis:

- the liberalisation of capital markets;
- the inefficiency of internal control systems in financial institutions;
- the failure of risk assessment.

Respondents did not think the banking sector's response to the crisis was sufficient. Half of the respondents said the following actions were unsatisfactory:

- reduction of risky assets;
- rebuilding consumer trust;
- adaptation of business models;
- incentives for long-term trading;
- developing a long-term business strategy.

However, a majority of respondents regarded the increase of equity ratios, the improvement of risk assessment and the rebuilding of profit margins as satisfactory.

The response of the insurance sector was slightly more positive: the majority of respondents were satisfied with the increase of more prudential ratios, the reduction of risky assets and the improvement of risk assessment.

In most of the cases, the actions of public authorities were considered satisfactory; these actions include:

- the control of derivatives markets;
- increasing equity ratios and/or prudential ratios;
- coordinating international policy actions.

Half the respondents were not satisfied with the reduction of the volume of risky assets.

Measures announced by the G20 governments, the Basel Committee and the Solvency II programme, aimed at regulating capital markets and clamping down on tax havens were seen by half the interviewees as being sufficient. However, the majority of respondents felt that the control of derivative products was insufficient.

The majority of respondents felt it less probable that the financial crisis would deepen within the next 12 months. They expect that their own countries will take between two and 15 years to return to a pre-crisis level of overall economic activity.

Questions about a dominant business model in the financial insurance sectors did not yield a clear answer. This reflects the findings of the overview report, which states that policy decisions and the adjustment of business models still remain highly unclear.

Expert interviews

Twenty expert interviews were conducted in order to compare the opinions and expectations of different experts and stakeholders in the financial sector. Written protocols are available for each interview. Parts of the interviews are presented in the overview report.

Selection of interview partners

Individuals from banks, insurance companies, intermediaries, research institutions, public authorities and social partners were chosen for the expert interviews.

Banks and insurance companies were selected to permit a discussion of their strategic view on the changes wrought in market circumstances by the crisis. Additionally, two intermediaries – an IT service provider for back office activities and a hedge funds consulting agency – were interviewed. Interviews were also conducted with social partners who gave their views about the regulation of the financial market over the course of the crisis. Moreover, it was important that research institutions and consultancies be contacted, to enable discussion of different approaches to financial regulation, as well as of questions about the future development of the crisis and the industry. Questions about regulations were in particular discussed with a representative of the European Central Bank.

Banks	Deutsche Bank	
	Commerzbank	
	Leek United Building Society	
	Group BPCE	
	Erste Bank	
Insurance companies	AXA Group	
	PZU Polska	
Intermediaries	IBM	
	LPR Consulting (Hedge funds consulting)	
Research and training institutes	London School of Economics	
	Cass Business School	
	Queen Mary University, School of Law	
	Wirtschaftsuniversität Wien (University of economics)	
	Ineum Consulting	
	Romanian Banking Institute	
EU public authorities	European Central Bank	
Social partners	AMICE - Association of Mutual Insurers and Insurance Cooperatives in Europe	
	Uni Finance	
	European Banking Federation (EBF)	
	European Association of Cooperative Banks (EACB)	

Table 1: Expert interviews – Institutions consulted

Source: Economix

Methodology

The aim of the expert interviews was to evaluate how the European financial sector is going to be reorganised. This required different sets of questions for the different target groups.

Companies were asked for both their perception of the crisis and details of how their business was reorganised over the course of the financial crisis. It was particularly important to find out the following:

- how the financial crisis has affected business and employment levels;
- how companies respond to consumer reactions;
- what changes in public regulation are expected and how they will affect individual businesses in different regions of the EU;
- how globalisation trends are expected to change and how worldwide financial centres will develop;
- what changes may take place in industrial relations and how these might affect the business.

Researchers were asked about their assessment of current developments in the financial sector and their appraisal of a well-functioning financial system. In particular, their assessments were sought regarding:

- regulations;
- reactions in the banking and insurance market;
- adaptation of risk management;
- different market models, such as a decentralised banking system.

Intermediaries were asked about:

- their expectations for the medium-term development of the investment business and the derivatives markets;
- their expectations regarding the impact of work reorganisation and the introduction of new technical solutions in the business;
- the business models for service providers in the financial sector.

EU authorities were interviewed to gain an accurate view of the efforts to improve measures for controlling financial markets. The questions focused on:

- the control of hedge funds and derivatives markets;
- the control of balance sheets in banking and insurance institutions;
- the links between business banking and retail banking;
- the appropriate level of risk involvement of financial investors;
- the development of efficient instruments for long-term risk assessment.

Social partners at EU level were asked about:

- long-term strategies for the reorganisation of the financial sector;
- the effect of the financial crisis on industrial relations;
- the role of HR development for reorganisation.

List of interviews

Interviews were conducted with a range of experts, listed in Table 2.

Table 2: *Experts consulted*

Country	Name	Position	Institution
Austria	Prof. Dr. Fritz Breuss	Head of Department	Wirtschaftsuniversität Wien (University of economics)
Austria	Michael Weiss	Head of Personnel Development and Recruiting	Erste Bank
France	Axel Francerie/ Wouter Hendriks	Senior Consultant Risk & Regulatory	INEUM Consulting
France	Nick Lane	Head of Group Strategic Planning	AXA Group
France	M. Jean Luc Vergne	Head of Human Resources	Group BPCE
Germany	Eckhard Bilitewski	Head of Financial Services Industry Business Development	IBM Deutschland GmbH
Germany	Dr. Carl-Christoph Hedrich	Group Communications	Commerzbank
Germany	Dr. Bernhard Speyer	Head of DB Research, Economics, Banking, Financial Markets, Regulation	Deutsche Bank
Poland	Przemek Dabrowski	Head of Financial Division	PZU Polska
Romania	Gabriela Tudora	Director General adjuncta	Romanian Banking Institute
UK	Prof. Charles Goodhart	Professor of Banking and Finance	London School of Economics
UK	Neil Warrender	Head of Hedge Funds Consulting	LPR Consulting
UK	Prof Geoffrey Wood	Professor of Economics, Finance Faculty	Cass Business School
UK	Prof. Rosa Maria Lastra	Professor of International Financial and Monetary Law	Queen Mary University, School of Law
EU	Elisa Bevilacqua	Senior Advisor Communication & Research	EACB (European Association of Cooperative Banks)
EU	Sebastien de Brouwer/ Elena Letemendia	Head of Retail Financial Services, Legal & Social Affairs /Senior Advisor, Economic & Monetary Affairs	(EBF) European Banking Federation
EU	Mauro Grande	Director General of the Directorate General Financial Stability	European Central Bank
EU	Dr. Volker Heegeman	Head of Legal Department	EACB (European Association of Cooperative Banks
EU	Catherine Hock	Deputy Secretary General at AMICE	AMICE
EU	Oliver Roethig	Head of Unit, Finance	Uni Finance
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Source: Economix

Case studies

Methodology

It was initially planned to conduct five case studies by doing on-site visits at companies to discuss the adaptation of business strategies and working conditions with selected representatives. However, about 50 institutions declined to participate. Their reluctance can be explained by the high level of sensitivity surrounding the issues and the insecurity in the financial sector regarding new regulations and further developments; moreover, banks are often asked to take part in surveys or research projects.

Two case studies were conducted as initially planned with Generali France and the UK building society Leek United.

The methodology of the remaining case studies was adapted so that within each of the three case studies, three major banks or insurance companies would be investigated in detail, using published material from companies such as annual reports, press releases and, in particular, reports from the rating agencies. This promised to provide three advantages over on-site visits.

- The inclusion of companies did not now depend on the agreement of the firms. Thus, it was possible to include prime companies for each approach in the three case studies.
- Each case study report contains an analysis of three representative companies much more than initially planned. Thus a broader view has been provided, instead of focusing on one particular business.
- Materials published by companies and rating agencies contain a detailed description of strategic adaptations during the course of the crisis. The idea was to scrutinize these sources in detail rather than relying on information given during interview.

The nine individual companies were selected according to the principal classification of business strategies which was developed in the interim report.

- The 'liberal' approach assumes a more-or-less unchanged business model, one relatively reliant on risky businesses such as investment banking.
- The 'sustainable' approach characterises banks with a conservative and risk-sensitive business model and a strong customer focus.
- The 'state-ownership' approach comprises companies that relied on governmental support. The strategy of these companies strongly influenced by governments focuses on deleveraging and less risky business.

Selection of case studies

Among the selected companies, the majority are representative of the various segments of the financial services industry. From the private banking segment, Deutsche Bank and Barclays, for example, represent the 'liberal' approach while the cooperative Rabobank represents the 'sustainable' approach; Royal Bank of Scotland and Commerzbank represent the 'state-ownership' approach. In addition to the big players, two very small banks (Leek United and GLS Bank) were included, in order to analyse the specific market segment of building societies in the UK and so-called 'ethical' banks in Germany. Generali and Fortis were included as examples of companies in the insurance business. The companies are located in seven EU Member States.

Table 3: List of case studies

Case study	Туре	Company	Country
1	Company case study (bank)	Building Societies	United Kingdom
2	Company case study (insurance)	Generali	France
3	Liberal approach	Deutsche Bank	Germany
		Unicredit	Italy
		Barclays	United Kingdom
4	Sustainable-finance approach	GLS Bank	Germany
		Santander	Spain
		Rabobank	Netherlands
5	State-ownership approach	Commerzbank	Germany
		Royal Bank of Scotland	UK
		Fortis	Belgium

Source: Economix

Structure of case studies

Structure of case studies with adapted methodology

For the analysis of the nine companies included in the adapted approach, a substantial number of publications and articles were analysed. In particular, the companies' annual reports from the last three years, press releases about acquisitions and disposals or other important changes, articles from financial newspapers and journals as well as the reports from rating agencies were scrutinised.¹

The reports for the individual companies focused on ten topics:

- the company's business performance in the light of the financial crisis;
- development and structure of employment;
- ownership structure;
- important business events, such as governmental support, mergers or acquisitions;
- the company's strategy and changes resulting from the crisis;
- the performance of single business segments;
- remuneration systems;
- evaluation of the companies by rating agencies;
- risk management;
- the outlook of the company and of rating agencies.

¹ In addition, case studies published by Eurofound looking at Dexia Bank Belgium and Danske Bank were used in the analysis.

After the case studies were written, the institutions were contacted and asked for additional material or for further clarification of certain points.

Structure of initially planned case studies

Several interviews were conducted with representatives of the companies, related social partners, researchers and umbrella organisations. The detailed guidelines for these two case studies can be found in the Annex.

Annex 1: Questionnaire for online survey

Financial Services: Challenges and prospects

Online survey on behalf of the European Foundation for the Improvement of Living and Working Conditions, Dublin

Dear Madam, Dear Sir,

Thank you for joining our online survey!

Your opinion is very important: You will be asked 12 questions about the reasons for the financial crisis, present actions and your expectations of future developments. Your answers will be used to receive updated information from European financial experts.

We guarantee high standards of data protection: This means that all information will remain strictly confidential. Data will be made anonymous and data presentation will not allow the identification of individual responses. All data sets will be locked in the survey institute.

Please start the survey here:

Start

(1) What were, in your opinion, the most important reasons for the emergence of the financial crisis?

	Very important	Important	Less important	Not important
Liberalisation of capital markets				
Globalisation of capital markets				
Inefficiency of internal control systems in financial institutions				
Inefficiency of public control systems				
Rise of profit rates in financial markets				
'Cheap' monetary policy				
Criminal action				
Decline of sustainable business practices				

(1) What were, in your opinion, the most important reasons for the emergence of the financial crisis? (cont'd)

	Very important	Important	Less important	Not important
Declining equity ratios				
Limited power of supervisory boards				
Failure of risk assessment				
Economic downturn				
Others, please specify:				
Your comments:				

(2) At this point in time, how do you assess the response of the banking sector in your country regarding the challenges of the financial crisis?

	Very satisfactory	Satisfactory	Unsatisfactory	Not applied
Increase of equity ratios				
Reduction of risky assets				
Reduction of high-risk trade				
Rebuilding consumer trust				
Improving risk assessment				
Adaptation of business models				
Restricting bonus payments				
Incentives for long-term trading				
Developing social responsibility				
Developing a long-term business strategy				
Rebuilding profit margins				
Repayment of public aid				

Please explain the responses classified as very satisfactory or satisfactory:

Your comments:

(3) At this point in time, how do you assess the response of the insurance sector in your country regarding the challenges of the financial crisis? Are these answers very satisfactory, satisfactory, unsatisfactory or not applied at all?

	Very satisfactory	Satisfactory	Unsatisfactory	Not applied
Increase of prudential ratios				
Reduction of risky assets				
Reduction of high-risk trade				
Rebuilding consumer trust				
Improving risk assessment				
Adaptation of business models				
Restricting bonus payments				
Incentives for long-term trading				
Developing social responsibility				
Developing a long-term business strategy				
Developing low-cost products and services				
Developing more complex products and services				
Specialising on specific markets				

Please explain the responses classified as very satisfactory or satisfactory:

Your comments:

(4) At this point in time, how do you assess the response of the public institutions in your country regarding the challenges of the financial crisis? Are these answers very satisfactory, satisfactory, unsatisfactory or not applied at all?

	Very satisfactory	Satisfactory	Unsatisfactory	Not applied
Control of derivatives markets				
Safeguarding the financial system				
Providing economic stimuli				
Restricting bonus payments				
Reducing the volume of risky Assets				

(4) At this point in time, how do you assess the response of the public institutions in your country regarding the challenges of the financial crisis? Are these answers very satisfactory, satisfactory, unsatisfactory or not applied at all? *(cont'd)*

	Image:

Please explain the responses classified as very satisfactory or satisfactory:

Your comments:

(5) Among the different measures announced by the G20 governments, the Basel Committee, and the Solvency II programme, how efficient are the following selected measures in your opinion?

	Very efficient	Efficient	Inefficient
Regulation of capital markets			
Equity ratios or prudential rules			
Reform of accounting norms			
Control of wage policies			
Reform of rating agencies			
Control of derivative products			
Struggle against tax havens			
Control of hedge funds			
Others, please specify:			1

Your comments:

(6) What type of business model for the banking sector will be superior to overcome the financial crisis and to avoid its recurrence in future?

Universal banks	Specialised banks	
Profit oriented banks	Customer oriented banks	
State-owned banks	Private banks	
Standardised financial products	Individualised financial products	
Security oriented banking	Risk oriented banking	
Long-term business strategy	Short-term business strategy	

Other characteristics, please specify:

(7) What type of business model for the insurance sector will be superior to overcome the financial crisis and to avoid its recurrence in future?

Independence from banking business	
al markets Making profits on insurance markets	
Security based strategies	
General insurance	
	al markets Making profits on insurance markets Security based strategies

Other characteristics, please specify:

(8) In your opinion how probable is a new rise of the financial crisis within the next 12 months?

Area / country:	Very satisfactory	Satisfactory	Unsatisfactory	Not applied
Your country				
European Union				
USA				
Asia				
Your comment:				

(9) How many years will it take your country to return to the pre-crisis level of overall economic activity?

Number of years	
Will not be achieved during the next 10 years	
Don't know	

(10) How will default risks in the following banking segments develop in your country during the next 12 months?

Market segment	Increase	No change	Decrease	Don't know
Private credits				
Business credits				

(11) How will insurance markets develop during the next 12 months?

Market segment	Increase	No change	Decrease	Don't know
Risks on capital markets				
Risks on main insurance markets				
Market volumes				
Profit margins				

(12) References:

(13)

(14)

Your country of residence:

Your business sector:

Private banking	
Public banking	
Intermediary financial services	
Insurance	
Non-financial business sector	
Non-financial public sector	
Research	
Other, please specify:	

Your position:

Managing director, CEO	
Head of department	
Expert	
Other, please specify:	

Thank you for your co-operation

Annex 2: Guidelines for case studies

The following topics were discussed in several interviews with company representatives, related social partners or umbrella organisations:

Company related information (collected in advance):

- evolution of balance sums;
- evolution of employment;
- principal skills structure;
- remuneration schemes; and
- organisation of workers' representation.

Strategic management

Business strategy

- How has the business strategy been adapted to the crisis? What are the new principles and objectives?
- How has the company redefined its specialisation patterns? What will the role of retail banking, commercial banking, investment banking and bank assurance be?
- If the bank received public support, how has this affected the business strategy?
- Has the company been reorganised in terms of information technology? What are the main instruments?
- How have global value chains been reorganised? What are the main objectives? What legal barriers are affecting global value chains? What functions will remain in Europe and where?

Changes in the financial market

- How has the crisis affected the competitive position of the company in comparison to major competitors on national and international markets?
- How do you assess the planned regulations by G20, Solvency II and Basel II?
- How important are economies of scale in the face of changing market conditions? Will large-scale financial institutions be dominant or is there a chance for small, customer–focused services?
- How will the innovation of financial products develop?
- Will markets for derivatives experience a revival or will they dry up under restrictive regulations?
- Will the financial business return to traditional banking and insurance or will it start a new phase of innovation?

Customers

- Are customers reacting to the crisis by shifting towards security-oriented financial products or are they continuing with speculative investments? How important are trust-based customer relations for future business models? In which market segment are changes in customer behaviour most relevant?
- Are business clients searching for alternative financial resources apart from commercial banking? Will this favour investment funds and insurance companies?

Control and risk assessment

- How is risk assessment reorganised in the company?
- How will this affect the competitive position in national and global markets?
- How important is risk assessment for the business strategy?
- What are the strategic goals of risk assessment?

Human resources

- How has the crisis or the change of your business strategy affected the number of jobs?
- How did human resource policies change with the crisis? Will they change in the future?
- How have remuneration schemes been changed?

- Do you see a skills response to the crisis? Did any qualifications become more important?
- Will there be a reorganisation of business fields? What are the consequences for competencies of employees or recruitment agencies?
- How has your training strategy been adapted?

Workers' representatives

- How do you evaluate the effect of the crisis on the company?
- How do you assess changes in the business strategy?
- What consequences does the change of the business strategy have for the workforce?
- Have working conditions been affected by the crisis?
- Will particular groups of workers be affected differently? If yes, how and which groups?
- How important is the reform of remuneration systems bonus systems, top management salaries, and staff salaries?
- How did social partners contribute to overcoming the financial crisis?

Annex 3: Glossary

Asset-backed security (ABS)

A financial security backed by a loan, lease or receivables (claims expected to be collected in cash) against assets other than real estate and mortgage-backed securities. For investors, asset-backed securities are an alternative to investing in corporate debt.²

Basel II

A new international capital agreement, which redefines the guidelines for determining the minimum capital requirements for banks. It aligns capital requirements more closely with the underlying risk.

Collateralised debt obligations (CDOs)

Asset-backed securities based on a portfolio of assets, which can include bonds, loans or derivatives. CDOs are unique in that they represent different types of debt and credit risk, which are referred to as 'tranches' or 'slices' each having a different maturity and risk. The higher the risk, the more the CDO pays.

Credit default swap (CDS)

The buyer of a credit swap receives credit protection, whereas the seller of the swap guarantees the credit-worthiness of the product. By doing so, the risk of default is transferred from the holder of the fixed income security to the seller of the swap.

Clawback

Benefits that were previously given but have been taken back because of special circumstances. This refers to banks' bonus payments which can be reduced or cancelled retrospectively if the company's performance does not match with previously set objectives.

² The sources of this glossary are the glossaries in Deutsche Bank Group Annual Report 2009, Unicredit Group Annual Report 2008 and investopedia.com

Core Tier 1 capital

Tier 1 capital is the most reliable and liquid part of a bank's capital. This includes equity capital and disclosed reserves. It is a bank's tangible capital.

Core Tier 1 capital ratio

Indicates the ratio between a bank's Core Tier 1 capital and its risk-weighted assets (RWA).

Derivatives

Financial instruments whose value derives largely from the price, price fluctuations and price expectations of an underlying instrument, such as shares, bonds, foreign exchange rates or an index. Derivatives include swaps, options and futures. Most derivatives are characterised by high leverage.

Economic capital

A figure that states with a high degree of certainty the amount of equity capital a bank needs at any given time to absorb unexpected losses arising from current exposures. Economic capital is a measure of the variability of the expected loss of the portfolio and depends on the degree of diversification of the portfolio itself.

Equity ratio

The proportion of a company's equity to total assets

Exposure

The amount the bank may lose in case of losses incurred due to risks taken – for example, in the case of a borrower's or counterparty's default.

Hedge fund

A fund whose investors are generally institutions and wealthy individuals. Hedge funds are a part of alternative investments. They are subject to less stringent regulatory obligations (or none) and can therefore employ strategies that mutual funds are not permitted to use – for example, short selling, leveraging and derivatives. Hedge funds offer the chances of high profits but also carry the risk of losing invested capital; thus their returns are uncorrelated with traditional investment returns.

Impairment

Within the framework of the IAS/IFRS, this refers to the loss of value of a balance sheet asset, recorded when the balance sheet value is greater than the recoverable value (the sum that can be obtained by selling or using the asset). Impairment means generally a reduction in a company's stated capital.

Investment banking

This is a generic term for capital-market oriented business, primarily the issuing and trading of securities and their derivatives, interest and currency management, corporate finance, mergers and acquisitions (M&A) advisory, structured finance and private equity. Investment Banks can also trade securities for their own accounts.

Leverage ratio

This is the ratio of total assets to equity. It is calculated to get an idea of the company's methods of financing or to measure its ability to meet financial obligations.

Mark-to-market

The accounting act of recording the price or value of a security, portfolio or account to reflect its current market value rather than its book value.

Mortgage-backed securities (MBS)

A type of asset-backed security that is secured by a mortgage or a collection of mortgages – an MBS allows a smaller regional bank to lend mortgages to its customers without having to worry about whether the customers have the assets to cover the loan. Instead, the bank acts as a middleman between the home buyer and the investment markets. Subcategories are residential mortgage-backed securities (RMBS) and commercial mortgage-backed securities (CMBS).

Monoline insurers

These are insurance companies that insure against only one kind of risk. They provide credit insurance to debt issuers and other market participants.

Option

The right, but not the commitment, acquired by the payment of a premium, to purchase (a call option) or sell (a put option) a specific underlying asset (such as security or foreign exchange) from or to a counterparty (the option seller) at a predetermined price on or before a specific future date.

Risk-weighted assets (RWA)

These are on-balance sheet assets and off-balance sheet assets (derivatives and guarantees) classified and weighted by different coefficients referring to risks, following regulatory banking rules issued by local supervisors (such as Bafin, FSA, etc.), to calculate solvency ratios.

Securitisation

This is the creation of tradable securities from loan claims, deposit positions and ownership rights in the wider sense. Examples of securitised rights are asset-backed securities (ABS) and mortgage-backed securities (MBS). Rights are often evidenced through so-called special purpose vehicles (SPVs), companies whose sole purpose is to issue these securities and whose assets are the ownership interests in the company.

Value-at-risk (VaR)

This is a technique used to estimate the probability of portfolio losses based on the statistical analysis of historical price trends and volatilities. Using VaR, it is possible to measure risk while it happens; VaR is an important consideration when banks make trading or hedging decisions.

Kurt Vogler-Ludwig, Danielle Kaisergruber and Helene Giernalczyk with support from Luisa Stock and Simone Poppe

Explanation of rating codes

Moo	Moody's		Standard & Poor's Fitch		tch	Description	Explanation				
Long Term	Short Term	Long Term	Short Term	Long Term	Short Term		1				
Aaa		AAA		AAA						Prime	Triple A = Credit risk almost zero
Aal		AA+	A-1+	AA+	F1+	High grade					
Aa2		AA		AA			Safe investment, low risk of failure				
Aa3	P-1	AA-		AA-							
A1		A+	A-1	A+	- F1		Safe investment, unless unforeseen events should occur				
A2		А		А			Upper medium grade	in the economy at large or in that			
A3	P-2	А-	A-2	А-	F2		particular field of business				
Baa1		BBB+		BBB+			Medium safe investment. Occurs				
Baa2		BBB		BBB		Lower medium grade	often when economy				
Baa3	P-3	BBB-	A-3	BBB-	F3		has deteriorated. Problems may arise				
Ba1		BB+	_	BB+			Speculative investment. Occurs				
Ba2		BB		BB		Non Investment grade speculative	often in deteriorated circumstances, usually				
Ba3		BB-	В	BB-	В	-	problematic to predict future development				
B1		B+	1	B+			Speculative				
B2		В		В		Highly Speculative	investment; Deteriorating				
B3	Not Prime	B-		B-			situation expected				
Caal		CCC+		CCC	C	Substantial risks					
Caa2		CCC	С			Extremely speculative	High likelihood of bankruptcy or other				
Caa3		CCC-		eee			In default with little	business interruption			
Ca		CC				prospect for recovery					
/			/	DDD			Bankruptcy or lasting				
/		D		DD	/	In default	inability to make payments most likely				
/				2			payments most likely				