



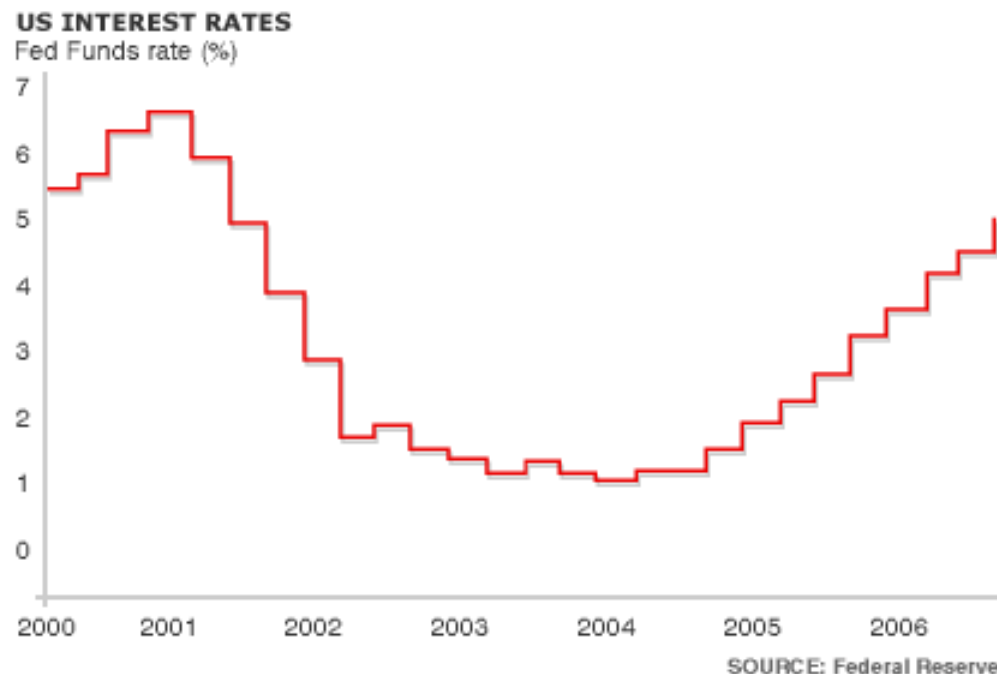
Credit Crunch – A Realignment of Risk Management in Banking after(?) the Crisis

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How did it come?

- 2000: burst of the „dot-com-bubble“
- 2001: 9/11 **Terrorism Threat**
- Incredible number of cuts in interest rates through the „Fed“
AND allocation of huge liquidity



How did it come?

- → well running real estate market got an additional push
- → quick increasing real estate market + increasing (private) debt
- → Global Financial Markets → Worldwide Influence

Additional catalysts:

- Financial Institutions were looking for **more volumes** and **higher returns**
 - target customers with less credit-rating/-worthiness and/or
 - financial innovations and/or
 - financial products with very complex structures

US-American Loan Business



- Examples for typical US-American loans:
 - Low interest rates at the beginning – increase in interest rates after several years/months
 - Special constructions: e.g. bullet mortgages with interest payments only!! (one single payment for the entire loan amount at maturity)
- No credit assessment of the prospective customers
 - “We still have the mortgage as a collateral!”
 - “The value of the mortgage is always increasing!”
- A lot of those transactions was done by free agents which do not cover loan risks → they just hand over credit risk to the banks

Innovative Financial Instruments



- Relocation of products below the line (off-balance-sheet)
- Securitization of loan products (and outsourcing → SPVs/SIVs + refinancing with short term commercial papers)
- The so securitized loans (primary securitizations) were again securitized in several tranches with
 - ratings analogical to corporate ratings (which was a wrong assumption!)
 - PDs which were based on the history of excellent loan periods, almost no data of bad loan scenarios were available

.... next steps



- Securitize - dismantle – re-packaging – again dismantle → steadily growing number of market participants which were interdependent which one and the same counterparty/credit risk!
- Many of those financial companies were/are Non-Banks which are not controlled by the Banking Supervisors and which won't get liquidity in case of a crisis!

Next mistakes

- Assumption that there is high liquidity in those products and therefore the Banks use them in their trading books (=working capital) → mark-to-market valuation although there was no real market, only the prices of the issuers/market makers → „marked-to-model“
- Wrong assumptions of correlations of different asset classes (the market was applying similar hedging strategies), no IT-systems for valuation of those structured products, missing liquidity, etc. → wrong prices and wrong models!!!
- Stress tests underestimated the risks as well because those stress tests were set up with parameters of periods with positive development of the economy (crisis data were almost not available)

... and so it came



- The interest rates began to rise → a lot of existing mortgage loans defaulted → a lot of properties were set free and the prices dropped
- Because of the higher interest rates (i.e. more expensive loans) the request for real estate decreased → the prices of the properties dropped as well (additional catalyst)
- → adjustment of the ratings of the mortgage-backed securities
- → some Hedge Funds and SIVs got problems with refinancing their revalued portfolios
- → the Banks got some pressure to supply their SIVs with liquidity → some of them had to take back the loans into their books (balance sheets)

...final steps



- Growing mistrust between Banks because nobody knew which Bank took which risk
- Central Banks (Fed, ECB) pumped a lot of money into the markets
- Banks/Financial Institutions had to revalue their (credit risk) portfolios and write off billions of EUR
- The rest is history!
- (Or still FUTURE?)

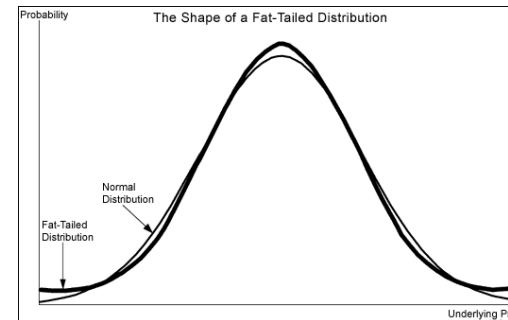
Lessons for the future – Realignment of Risk Management



- A living pro-active risk-management culture
- Definition of risk adequate processes within the organization
- Risk manager is a partner for the market units (and not a “handicap”)
- “Understand the product and its risks!”
- No difference between internal and external market calculations and market valuations
- No blind trust to risk systems and the (mathematical and statistical) models → there are not always Standard Gaussian Distributions, low correlations and an efficient market!!!

Lessons for the future – Realignment of Risk Management

- More emphasis on analysis of stress scenarios and modeling of “tails” in the risk distributions



- Development of banking and risk management systems for highly sophisticated structured products
- Supervisors have to set up rules also for Non-Banks who act like Banks
- Lesson from the credit crunch:
Correlation between **Market risk**, **Credit risk** and **Operational risk** is much higher than expected!!

9 RULES of



RISK MANAGEMENT

Raiffeisen Bausparkasse Group

- 1 **THERE IS NO RETURN WITHOUT RISK**
Rewards go to those who take risks.

- 2 **BE TRANSPARENT**
Risk should be fully understood.

- 3 **SEEK EXPERIENCE**
Risk is measured and managed by people, not mathematical models.

- 4 **KNOW WHAT YOU DON'T KNOW**
Question the assumptions you make.

- 5 **COMMUNICATE**
Risk should be discussed openly.

- 6 **DIVERSIFY**
Multiple risks will produce more consistent rewards.

- 7 **SHOW DISCIPLINE**
A consistent and rigorous approach will beat a constantly changing strategy.

- 8 **USE COMMON SENSE**
It is better to be approximately right, than to be precisely wrong.

- 9 **RETURN IS ONLY HALF THE EQUATION**
Decisions should be made only by considering the risk and return of the possibilities.



Known Losses



Bank / Investment Company	Depreciation Mio EUR	Bank / Investment Company	Depreciation Mio EUR
Merrill Lynch	25.200	JP Morgan Chase	3.000
Citigroup	24.600	Bear Stearns	3.000
Northern Rock	24.000	Royal Bank of Scotland	3.000
Sachsen LB	17.000	Canadian Imperial	3.000
UBS	13.600	Barclays	2.500
Morgan Stanley	8.400	Goldman Sachs	2.400
Freddie Mac	8.100	Bank of China	2.300
Fannie Mae	6.700	BNP Paribas	2.200
Bank of America	5.500	Wells Fargo	2.100
American International Group	5.300	Credit Suisse	2.000
Capital One	4.900	Washington Mutual	1.600
Crédit Agricole	3.700	Sovereign Bancorp	1.600
IKB	3.500	Dresdner Bank	1.475
HSBC	3.400	
Deutsche Bank	3.100	Gesamt	196.475

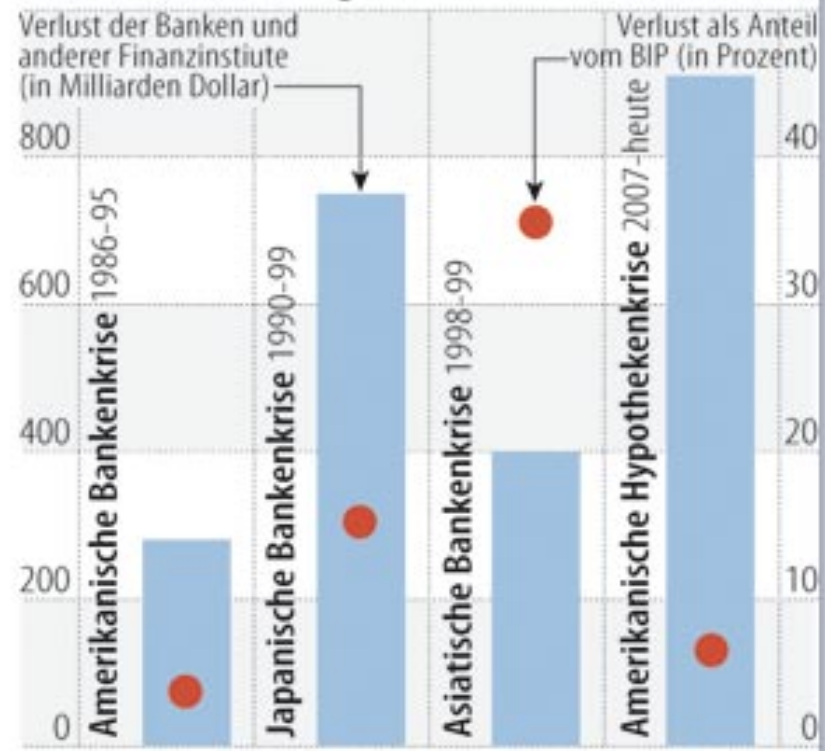
Financial crises and the results

Finanzkrisen und ihre Folgen

Hauspreise in Amerika und Europa
Veränderung zum Vorjahr in Prozent



Finanzkrisen im Vergleich



Source: FAZ.NET, 14.04.2008

Phases of Credit Crunch and the Consequences

Defaulting mortgage loans and repayment problems of US mortgage loans (particularly subprime segment)



Losses and negative rating changes of Asset Backed Securities and ABCP



Illiquidity of ABS and ABCPs; increase of risk aversion of investors against risky investment products



Squeeze of liquidity on the money markets (i.e. up to 1 year)



Refinancing problems of banks and high losses because of re valuation of credit risk instruments

The End!

Thank you for your attention!

Contact



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