



Financial Institutions Management 2

Financial crisis and the change of the banking business model (ECB-1)

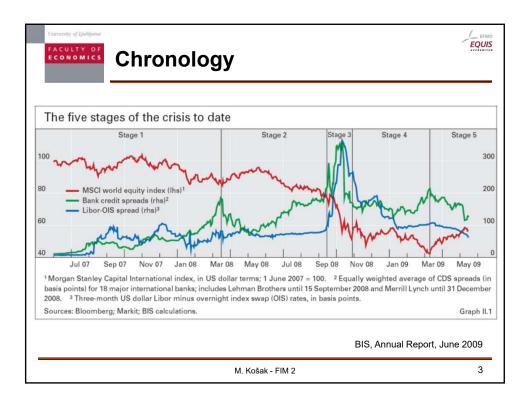
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- Genesis and taxonomy of the crisis
- Any explanations available?
- Short term and long term measures provided by central banks and governments
- How to proceed and how to fix the financial system
- · Forecasts for the future
- Long run perspectives
- The future of financial regulation

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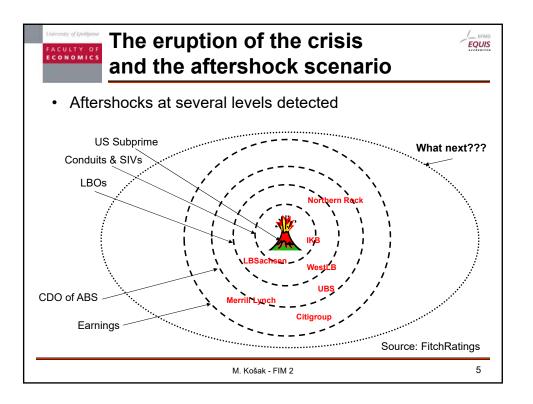




The five stages of the crisis to date

- Prelude to the crisis (Pre-March 2008):
 - Subprime mortgage defaults and financial stress
 - Uncertainty about size and distribution of losses
- Towards the Lehman bankruptcy (Mid-March to Mid-Sept. 2008):
 - Bank losses and writedowns accumulate
 - Liquidity crisis reveals underlying solvency crisis
- Global loss of confidence (15 Sept Oct 2008):
 - Demise of Lehman brothers triggers a bigger run on key funding markets
 - Loss of confidence affects markets and countries globaly
- Global downturn (Late Oct 2008 Mid-March 2009):
 - Markets remain volatile, credit losses keep mounting
- Downturn deepens but loses speed (since Mid-March 2009):
 - Asset prices recover somewhat after more policy action
 - Confidence in the global financial system is not restored fully yet
 - Credit losses continue
- · Exit strategies

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What happened in the centre?



- · Collapse of the subprime mortgage system in the USA
- Financial bubble(s) burst!
- "Originate and distribute" model in the banking industry failed:
 - The traditional alternative "originate and hold" model
- · Preconditions for the "originate and distribute" model:
 - Securitisation of financial assets
 - Easy access to debt / liquidity
 - Low cost of borrowing (i.e. low interest rates, attractive borrowing schemes)
- Different (segments of) financial markets highly interrelated and corelated

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Securitisation of mortgage loans



- Securitisation:
 - = conversion of bank loans and other financial assets into tradable securities
- Why is securitisation possible?
- Credit fuction of banks can be split in several operations:
 - Origination of loans
 - Guaranteeing
 - Servicing
 - Funding
- Why is securitisation useful?
 - specialisation, liquidity, tailor made financial assets, risk profile ...
- Securitisation of mortgage loans!

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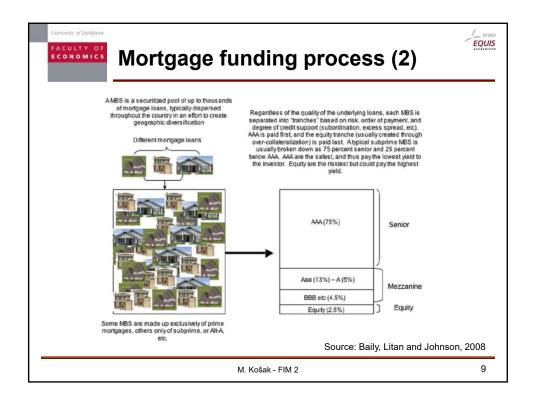


Mortgage funding process (1)



- Mortgage funding process:
 - securitisation and issuance of mortgage backed securities: MBS
- Issuers:
 - Government Sponsored Agencies (GSA)
 - GNMA, FNMA, FHLMC
 - Private issuers (segment of subprime mortgage loans)
- Criteria for categorisation of MBSs:
 - Credit record and score
 - Debt service-to-income ratio (DTI)
 - Loan-to-value ratio (LTV)
- · Categorisation of MBSs:
 - "Prime"
 - "Sub-prime": low credit scores, DTI > 55%, LTV > 85%
 - "Alt-A" = alternative to prime loans; met criteria but missing documentation

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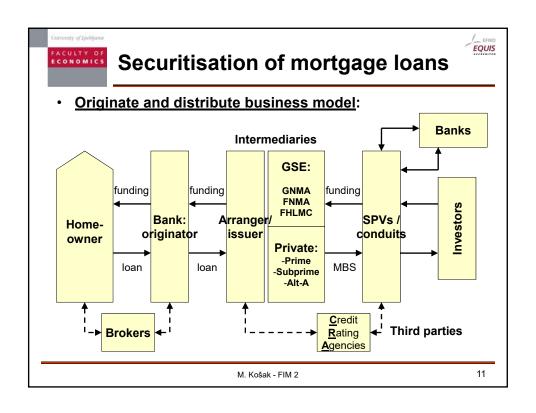


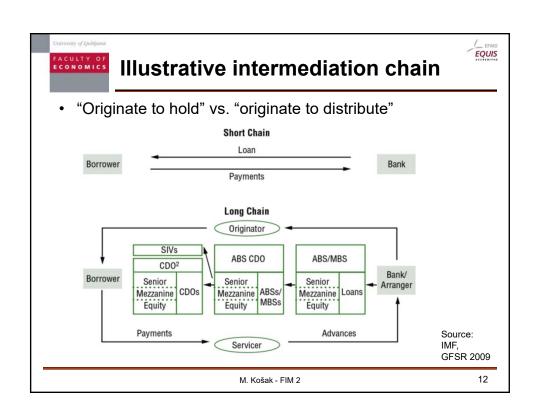
Subprime mortgage loans



- Subprime mortgage loans some of the related issues:
 - "predatory lending"
 - · Example:
 - "Low doc" loans (less documentation required) evolved to "no docs" and to "liar loans" (borrowers were allowed and even encouraged to lie about income and other information relevant to the application process),
 - "Ninja loans" (no income, no job, no assets).
 - "predatory borrowing":
 - A stated income loan application is done by the borrower, and no proof of income is needed
 - fixed-rate mortgages (FRM) vs. adjustable-rate mortgages (ARM)
 - "hybrids" and "teaser rates"
 - complicated products

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The crisis has spread around



- The immediate aftershocks:
 - ABCP (asset backed commercial papers)
 - SIVs (special investment vehicles)
 - LBO exposures
 - CDO (collateralized debt obligations) of ABS (asset backed securities)
 - Earnings in the financial industry (substantial writedowns!)
 - Monolines and insurance companies issuing CDSs (CDS = credit default swap)
- The second, third,...round aftershocks
 - Commercial banks, interbank market, equity markets, nonfinancial effects (decreasing sales,...), currency markets affected,...
- · Globalisation of the crisis

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Direct causes at the origin



- Direct causes:
 - The way how mortgage loans were produced:
 - "<u>originate and distribute</u>" => carelessness of the originators /agents (moral hazard situation)
 - The securitisation process of the mortgage loans:
 - Kind of mortgages as well as process of refinancing (short term!)
 - So long as the house price was rising...
 - · Structured products: "turning lead into gold"
 - \$100 of sub prime mortgages into \$70 to \$80 of short maturity AAA securities
 - The role of CRAs (credit rating agencies):
 - Advisors and rating agents all in one! (conflict of interests)
 - Regulation:
 - · Some segments not regulated or "selfregulated"

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The circumstances



- Elements of the crisis which had catalytical effects:
 - High and excessiv leverage:
 - e.g. Lehman Brothers < 5%
 - Short term wholesale financing and tremendous maturity mismatch:
 - The most common type of debt: 3 m commercial papers
 - Excessive "funding" illiquidity => insolvency => panic
 - Low quality of the assets:
 - The quality of the assets turned out to be worse than expected
- Lethal combination of all three effects (1, 2, 3):
 - Some investment banks, SIVs / SPVs, conduits

"As long as the music is playing, you've got to get up and dance"
- Charles O. Prince, CitiGroup (FTimes)

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Fundamental causes of the crisis



- "This crisis has many causes not just private sector stupidity and greed"
 - P. Mortimer-Lee (BNP Parisbas)
- The most important are:
 - Global imbalances
 - Conduct of the monetary policy in the major economies
 - Financial innovation and regulatory arbitrage:
 - => change in the banking business model

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Fundamental causes: Global imbalances



Global imbalances:

- Emerging market crises in late 1990s:
 - The global mismatch between desired savings and realized investment
 - Emerging markets and developing countries focus on exports, and generate substantial domestic savings
 Demand for high rated paper & => short maturities
- Industrial countries (e.g. US) expand domestic demand:
 - But after collapse of "dot.com" bubble, corporate savings and subdued investment
 - · Household savings falls, residential investment increases
- Rise in asset prices (bubbles!):
 - Financed by rapidly growing emerging economies (e.g. Asia)
 - · Assisted by national central banks and their monetary policies

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Fundamental causes: Monetary policies



Monetary policies in developed economies:

- Historically low interest rates
- Maintenance of high liquidity
- External inflationary shocks (e.g. energy, food)
- Pressure for higher returns => take more risk
- Excessive demand => (financial) asset bubbles
- The role of central banks:
 - Should they "lean" against the asset price / debt extension phenomenon? or
 - Should they just "clean up" after the event? But, once you
 do it, everybody expects you will do it again!

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Fundamental causes: Financial innovation (1)



- Financial innovation and regulatory arbitrage:
 - Traditionally "originate and keep" model in banking
 - Intensified regulation of the banking sector (e.g. capital charges) => regulatory arbitrage
 (e.g. morgage loans distributed via unregulated financial instruments to unregulated financial intermediaries
 - Development of the "shadow banking" system:
 - · Conduits, SPVs, SIVs

"Over time, however, many roles traditionally filled by banks were taken over by unregulated institutions — "shadow banking system", which relied on complex financial arrengements to bypass those safety regulations".

- P. Krugman (2008)

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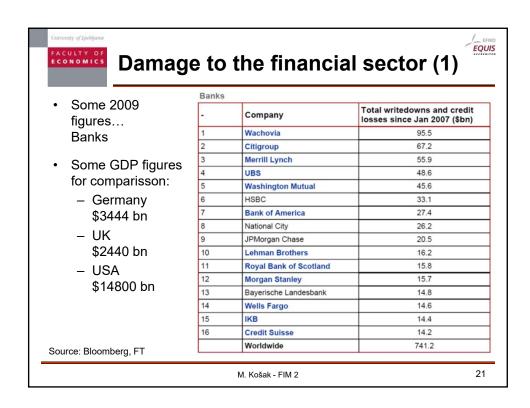


Fundamental causes: Financial innovation (2)

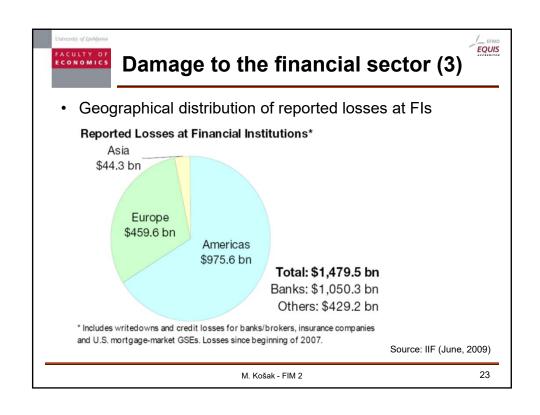


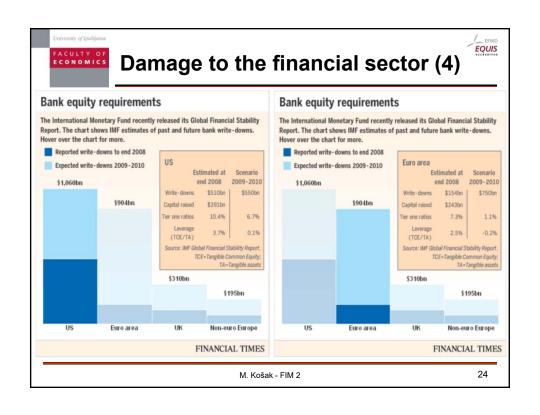
- Innovations in regulation:
 - New capital adequacy standards in banking industry (i.e. Basel 2):
 - · Does it work properly?
 - Example:
 - The UK FSA (Financial Stability Authority) allowed Northern Rock to calculate its capital on the basis of IRB
 - Reduction in capital followed and the bank paid a massive dividend to shareholders as a result
 - Procyclical effects
 - Implementation of the "mark-to-market" principle
 - Inadequate credit risk provisioning? => cyclicality in credit activity of banks

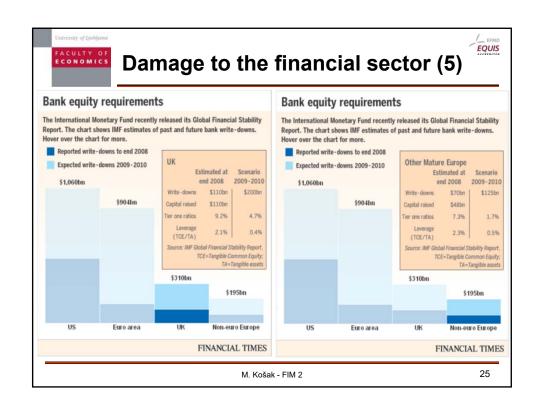
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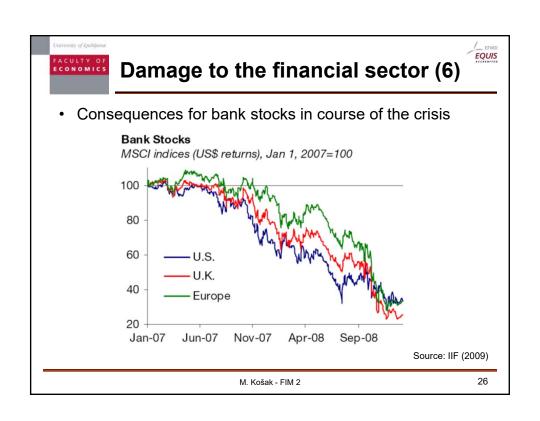


	Insure	r's			
Some 2009 figures Insurance companies	-	Company	Total writedowns and credit losses since Jan 2007 (\$bn)		
	1	AIG	60.9		
	2	Ambac	10.6		
 Some GDP figures for comparisson: Germany \$3444 bn UK \$2440 bn 	3	Hartford Financial	7.9		
	4	Metlife	7.2		
	5	Allianz	4.5		
	6	Prudential Financial	4.4		
	7	Allstate Corp	4.4		
	8	MBIA			
	9	Swiss Re	4.2		
	10	Aegon	3.8		
		Worldwide	146.0		
- USA	GSEs				
\$14800 bn		Company	Total writedowns and credit losses since Jan 2007 (\$bn)		
	1	Freddie Mac	58.4		
	2	Fannie Mae	56		
		Total	114.4		











Unpleasant consequences



- Consequences for financial markets:
 - Illiquidity:
 - Illiquidity has spread from the relatively obscure sub-primer market to national markets and even globally
 - · Debt markets, interbank markets affected
 - Loss of confidence & growing uncertainty
 - Substantially increased volatility of market rates:
 - · Short term financial instruments affected the most
- · How to bridge these obstacles in the markets?
 - Need for liquidity => central banks
 - Need for credibility => central banks / governments
 - Need for funding => governments

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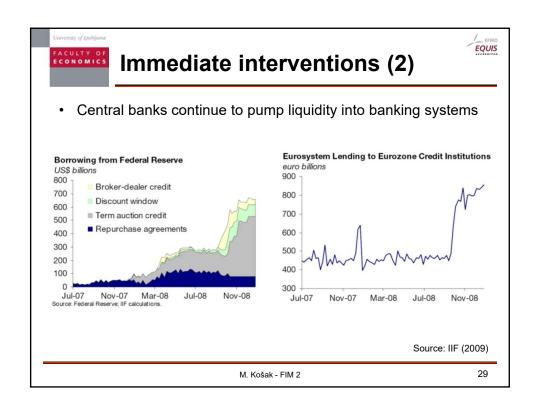
Immediate interventions (1)

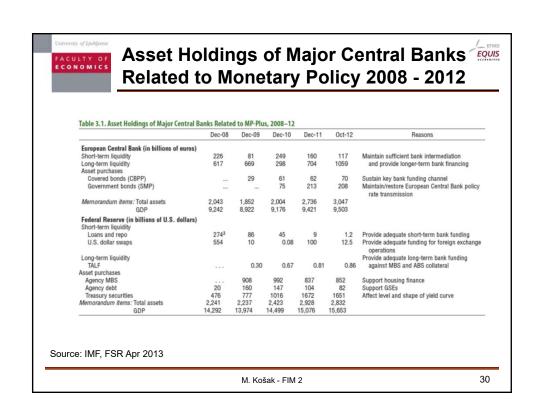


- · Central banks:
 - Providing substantial amounts of extra liquidity
 - Lowering interest rates in order to impact market rates and stimulate borrowing and sending signal
 - But still a problem: market for interbank loans

"There have been three great inventions since the beginning of time: fire, the wheel and central banking." – Will Rogers

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Asset Holdings of Major Central Banks Related to Monetary Policy 2008 - 2012



	Dec-08	Dec-09	Dec-10	Dec-11	Oct-12	Reasons
Bank of England (in billions of pounds)						
Liquidity (longer term) ¹	170	24	17	10	11	Provide adequate bank refinancing
Asset Purchase Facility						
Gilts		188	198	249	375	Raise nominal spending in order to meet inflation target by affecting level and shape of yield curve
Corporate bonds		1.55	1.12	0.65	0.03	Improve liquidity in corporate credit
Commercial paper		0.43	0.00	0.00		
Funding for lending					4.42	Encourage lending to the real economy
Memorandum items: Total assets	238	238	247	290	414	
GDP	1,441	1,402	1,467	1,516	1,548	
Bank of Japan (in trillions of yen)						
Liquidity (new stimulus)			24.8	32.0	29.0	Ease financing conditions
Other outstanding loans and repo	39.9	42.3	18.8	7.5	3.7	

Source: IMF, FSR Apr 2013

Other outstanding loans and report Asset purchases Commercial paper Corporate bonds Government bonds and bills ETFs, REITS

Memorandum items: Total assets

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Reduce market rates and risk premiums across various types of financial assets and combat deflation risks

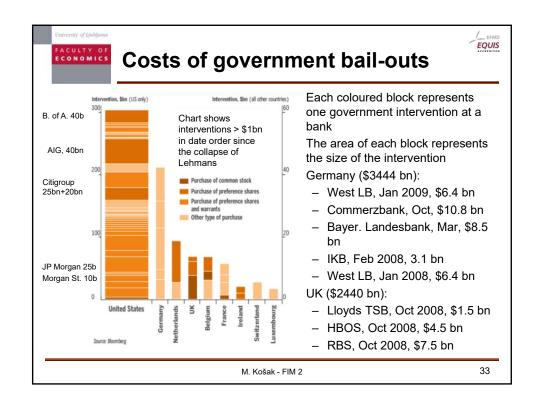


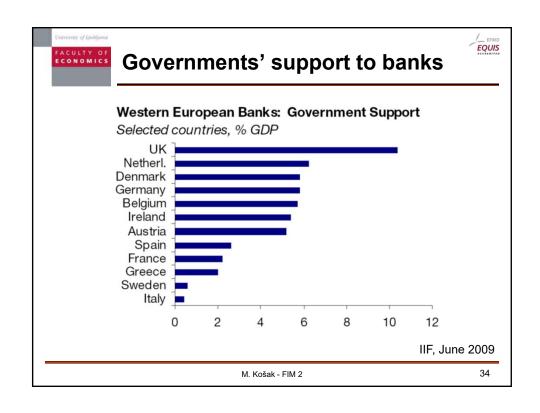
Immediate interventions (3)

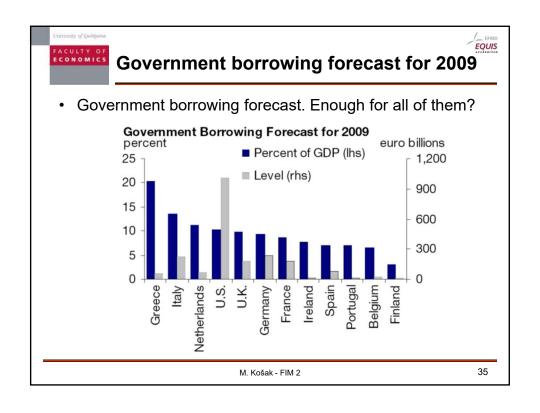


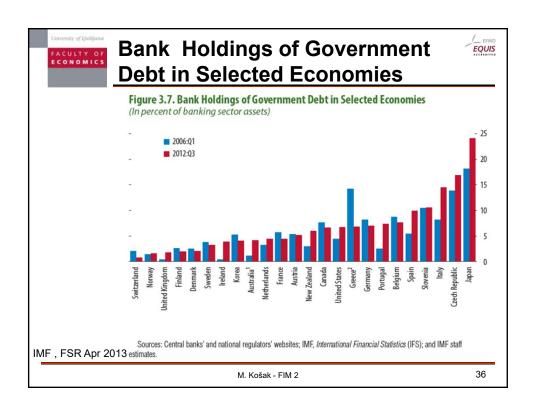
- Government **rescue programmes** for national banking sectors, announced at the end of 2008:
 - Expansion of retail deposit insurance
 - Guarantee of wholesale liabilities
 - Capital injections
 - Asset purchases
 - "The important thing for government is not to do things which individuals are doing already, and do them a little better or a little worse, but to do those things which at present are not done at all."
 - John Maynard Keynes
- State aid in the EU: http://ec.europa.eu/competition/elojade
- Governments need to borrow extensively:
 - Crowding out effect
 - Where do savings come from?

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Coordination of interventions



- Coordination among central banks?
- · Coordination among governments?
 - To some extent within the EU (Oct. / Nov. 2008)
 - G20 Summits:
 - · Washington Summit (Nov. 2008):
 - Bretton Woods 2 ? Definitely not!
 - Great expectations about short term "fire fighting" measures and long term institutional reforms
 - Very modest results
 - · London Summit, UK, April 2009.
 - Pittsburgh Summit, Pennsylvania US, Sept. 2009:
 - More specific solutions
 - World Economic Forum in Davos (Jan 2009)

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Long run perspectives



- Immediate "fire fighting" measures not enough! -Institutional reforms needed!
- · Some of the issues that need to be addressed:
 - Different approaches in regulation and supervision of financial markets and institutions:
 - · Do we need to regulate everything?
 - The operating mode of regulators and supervisors (single vs. multiple regulators)
 - · Can regulation slow down financial innovations?
 - How will pay the cost of more regulation?
 - Risk management in financial and non-financial firms
 - Some accounting practices (e.g. mark to market)
 - The role of CRAs. Do they need supervision?

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The future of regulation (1)



- Likely changes in financial sector regulation till end year 2010:
 - New definition of equity capital (Tier 1 capital)
 - Financial leverage limitations (internationally coordinated)
 - Aditional capital requested for systemically important banks
 - Aditional capital for market trading activities
 - Countercyclical capital requirements
 - Authomatic debt to equity conversion in case of trigger events (e.g. FI approaching insolvency):
 - Living wills, convertible contingent bonds (CoCo bonds)
 - Liquidity regulation
 - Harmonisation of the accounting standards (GAAP vs. IASB)
 - Supervision of the CRAs
 - The importance of systemic risks (ESRB in EU)
 - Regulation of the financial derivatives markets

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