Economic assessment of the current financial crisis

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Frankfurt, 4 March 2009

Round Table for EU State Aid Law

Outline

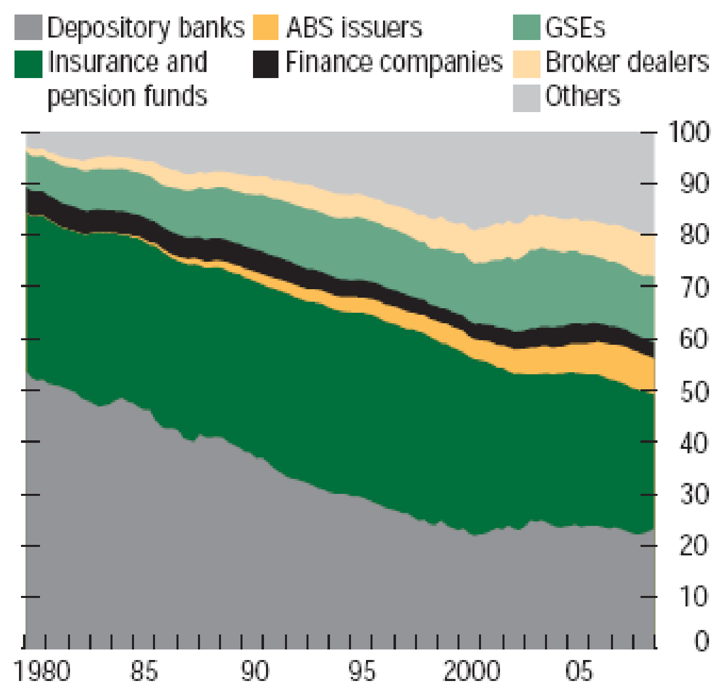
- **Traditional banking vs. modern finance**
- **Structural market failures and regulatory inadequacies**
- **A brief history of the crisis**
- **Market failures, regulation and competition policy**
- **Conclusion**

Traditional banking versus modern finance

Traditional banking vs. modern finance

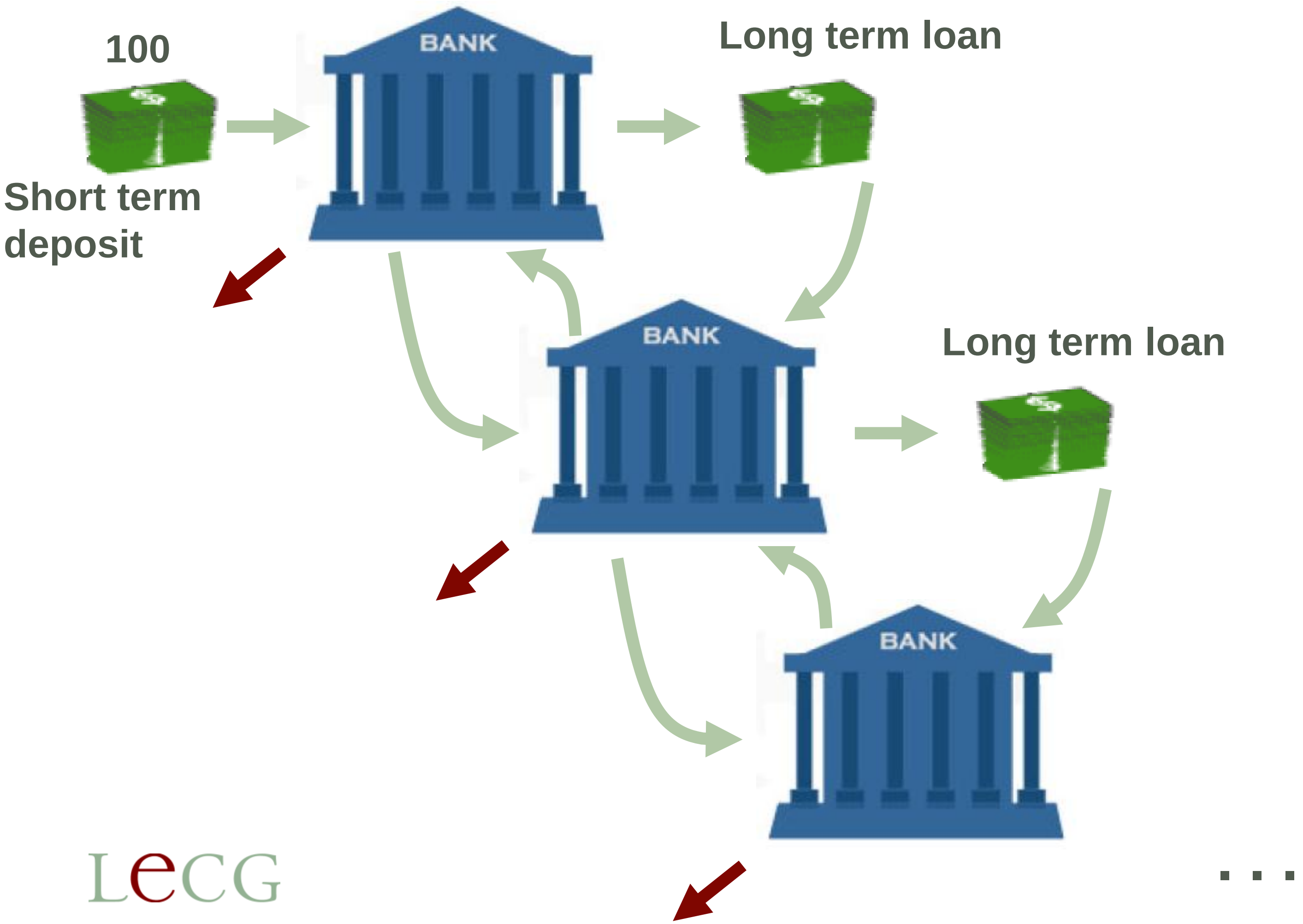
- **Traditional 'originate and hold' model**
  - 'Relationship' banking
  - Maturity mismatch: short term deposits vs long term loans
- **Modern 'originate and distribute' model**
  - Banks acquire and cede risks in the financial markets
  - Financial innovation and risk exposure (new financial instruments, securitisation)
  - Expanded and diversified business model in new markets

United States: Breakdown of Financial Sector
(In percent of total assets)

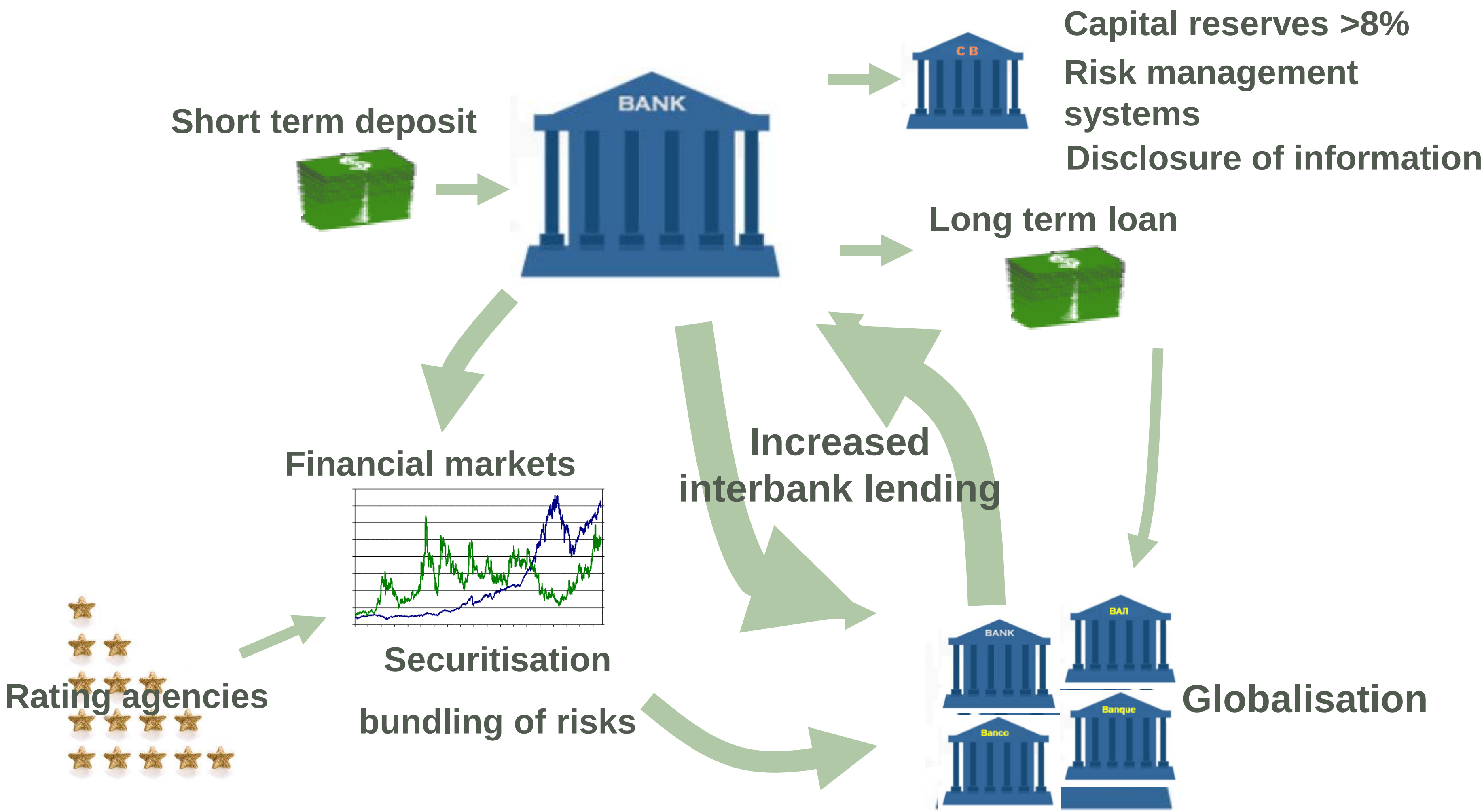


Source: U.S. Board of Governors of the Federal Reserve System.
Note: Government-sponsored enterprises (GSEs) include agency- and GSE-backed mortgage pools. Broker dealers include funding corporations. ABS = asset-backed security.

Traditional banking



Modern finance



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Modern finance: risks

- Illustration for option value with Black & Scholes, 1973
- The original formula for calculating the theoretical option price (OP) is as follows:

$$OP = SN(d_1) - Xe^{-rt}N(d_2)$$

- Where:

$$d_1 = \frac{\ln\left(\frac{S}{X}\right) + \left(r + \frac{v^2}{2}\right)t}{v\sqrt{t}} \qquad d_2 = d_1 - v\sqrt{t}$$

- The variables are:

  S = stock price
  X = strike price
  t = time remaining until expiration, expressed as a percent of a year
  r = current continuously compounded risk-free interest rate
  v = annual volatility of stock price (the standard deviation of the short-term returns over one year).
  ln = natural logarithm
  N(x) = standard normal cumulative distribution function
  e = the exponential function

- However, if markets disappear or are extremely volatile, it becomes highly complex or impossible to value market instruments

Structural market failures and regulatory inadequacies

Structural market failures

	Traditional model	Modern model
Asymmetric information	Adverse selection and moral hazard in borrower-lender relationship	Adverse selection and moral hazard in the relationship between sellers and buyers of securitised loans
Systemic risk	Direct contagion resulting from direct financial linkages including credit exposures or payment settlement exposures Indirect contagion resulting from expectations about a bank's health and about the resilience of the sector Both forms can lead to a confidence shock and a 'retail' bank run	Potentially greater exposure to direct and indirect contagion due to: -Increased reliance on interbank markets that may dry up - Globalisation of finance that increases geographic spread of a crisis - Distorted valuation of assets and mispricing of risks Both forms of contagion can lead to a confidence shock and a 'wholesale' (and possibly 'retail') bank run

In defence of ‘modern banking’?

- **The previous table shows that traditional banking**
  - Is not immune to problems of asymmetric information and systemic risk
  - Also suffers from the ‘too-big-to-fail’ problem
- **It is true that modern banking may recently have been more exposed to those problems due to**
  - Conflicts of interest of and poor performance by rating agencies
  - Inadequate regulation
  - Inappropriate corporate governance
- **However, modern banking has – at least in principle – many advantages over traditional banking**
  - For the banks, it *can* be provide methods to manage risks more effectively and efficiently
  - For the public, it *can* provide/improve access to capital markets
- **Can we really distinguish between ‘good’ and ‘bad’ banks from an *ex-ante* perspective?**

Regulatory inadequacies

- **Insufficient focus on macro-prudential regulation (systemic risk), and too much focus on micro-prudential regulation (‘fallacy of composition’ – individual banks’ actions to manage their own risk may negatively affect risk management of the collective)**
- **Insufficient consideration given to conflicts of interest between investors, originators, intermediaries and rating agencies**
  - Underestimation of risks related to off-balance sheet vehicles
  - Too prominent a role of ratings in regulators’ risk assessment framework
    - Ratings are paid for by issuers: incentive for rating agencies to increase rating
    - ~60% of structured issues rated AAA (against 1% of corporate bonds), but recovery rate only 5% (see article by Tony Jackson in *Financial Times*, 2 March 2009)
  - Decreased incentives for originators of loans to screen and monitor, as a result of selling to intermediaries that re-package and securitize
  - Corporate governance (structure of managerial incentives and remuneration) too ‘short-termist’
- **Insufficient response to the challenge of the regulatory arbitrage linked with the process of financial innovation**
- **Insufficient levels of cooperation and information sharing between central banks and supervisory authorities**

A brief history of the crisis

A brief history of the crisis

Phase I – US housing market bubble bursts

Prices starting to dip (2nd half 2006)

Phase II – Crisis and meltdown in the financial sector

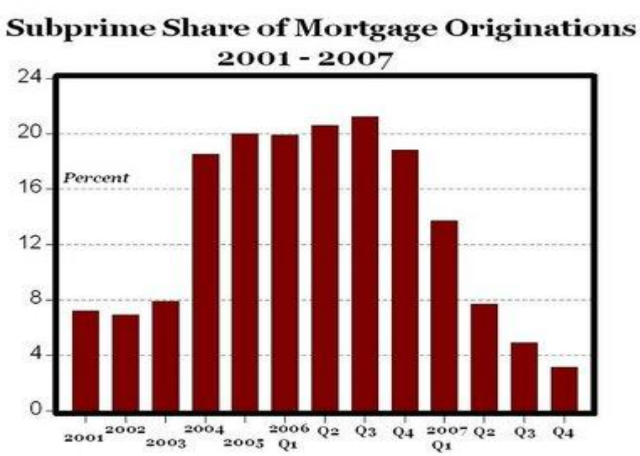
From August 2007 onwards

Phase III – Repercussions in the real economy

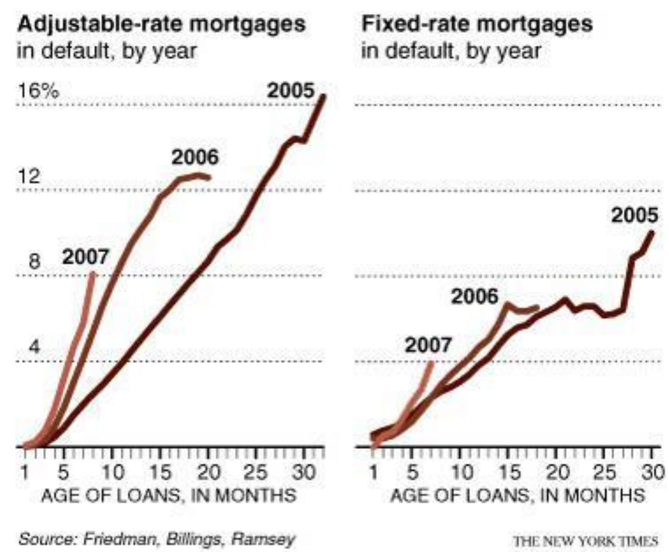
Starting Autumn 2008

Phase I – Housing bubble bursts

- **Events & Economics**
  - Increasing presence of subprime mortgage loans
    - Asymmetric information and adverse selection of subprime lenders
  - Decreasing housing prices due to surplus inventory (overbuilding)
    - Imperfect information on housing market developments
  - High default rates of subprime and prime mortgage loans
    - Externalities from subprime to prime mortgage market



Source: Joint Center for Housing Studies of Harvard University – The state of the nation's housing 2008



Phase II – Financial meltdown

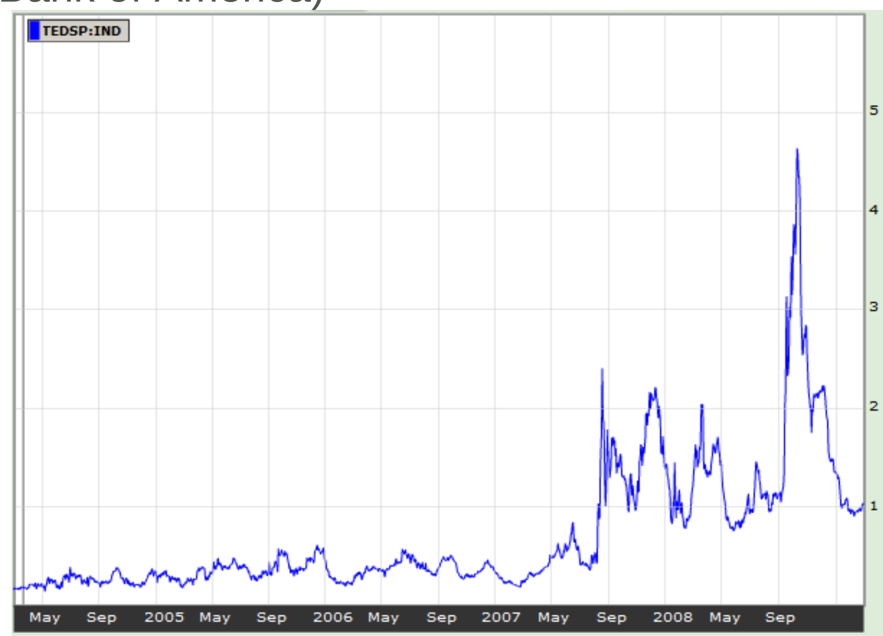
- **Events & Economics**
  - Collapse of securitisation markets after defaults on mortgages and foreclosures
    - Distorted valuation of financial instruments (asymm info, agency problem)
  - Decrease in bank assets due to high exposure to subprime mortgages
    - Externalities from housing market to banks' balance sheet (financial market)
  - Fall of assets price triggers deleveraging spiral (pro-cyclicality)
  - Uncertainty on banks' exposure to toxic assets (opacity)
  - Systemic risk causes spread in entire financial system

- **Main problems**
  - Uncertainty and intransparency have led to
    - Confidence crisis that increases the perceived risk of interbank lending and eventually freezes the interbank market
    - Inability of central bank interventions to revive interbank liquidity
  - Systemic risk
    - TBTF doctrine
    - Globalisation

Phase II – Financial meltdown (cont.)

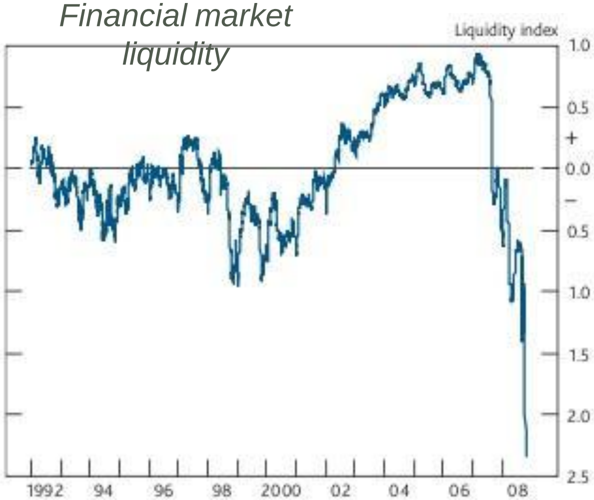
- **Confidence crisis: increased cost of interbank lending (liquidity premium)**
  - The TED spread measures the difference between the 3-month LIBOR (Eurodollar futures) and the 3-month US Treasury Bill futures rate
  - The spread has been at around 20-50 bp prior to August 2007
  - From August 2007, mostly between 100 bp and 200 bp
  - Peaked at 463 bp on 10 October 2008 (‘Black Friday’: Lehman Brothers officially bankrupt, Merrill Lynch bought by Bank of America)

TED spread



- **Drying up of interbank liquidity**

Financial market liquidity



Phase II in depth – Systemic externalities

- **Failure of a large bank or financial institution may weaken other banks and the financial markets (whereas failure of a non-bank tends to have the opposite effect on its competitors)**
- **There are several reasons for the systemic vulnerability of financial institution to bank failures:**
  - Informational contagion
  - Loss of relation-specific information
  - High degree of interconnectedness
  - Fire sales of assets by one bank to address liquidity problems lowers the value of assets on other financial institutions' balance sheets
  - Deleveraging (e.g., in response to asset value decreases) raises risk of default for other borrowers

Phase II in depth – Deleveraging

- **The forceful deleveraging witnessed in recent months reverts the sustained expansion of banks' balance sheets prior to the crisis**
- **The 'modern' banking model, and the requirement of marking to market, makes banks' abilities to refinance more sensitive to changes in asset values**
- **The high degree of interconnectedness between banks and other financial institutions amplifies and accelerates balance-sheet expansions and contractions**

Phase II in depth – Deleveraging (cont.)

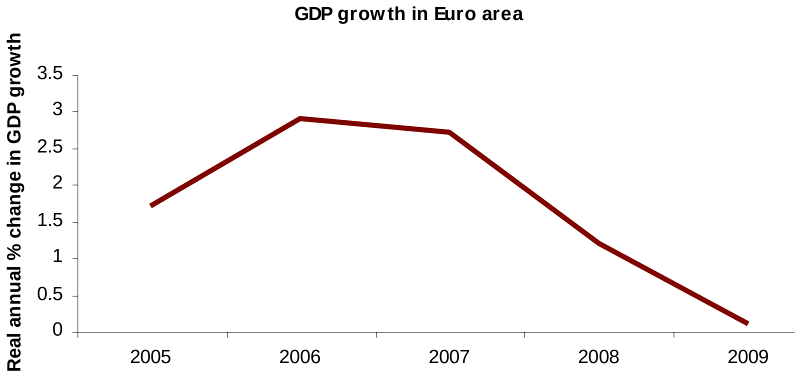
- **Decrease in asset prices decreases the size of the balance sheet (‘marking-to-market’)**
  - Initial price decrease from subprime market
  - This effect is reinforced by the ‘disappearance of markets’ and the implied disappearance of prices as valuation tools
  - In addition, there are ‘fire sales’ of assets for which there still is a market, depressing asset prices further
- **The decrease in the value of assets held by banks means a decrease in the value of the collateral against which they fund themselves; this implies lower funding and hence a diminished ability to lend**

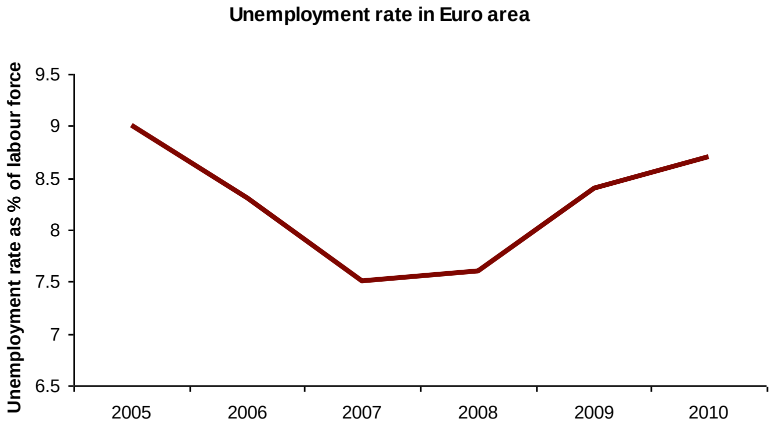
Phase III - Real economy shock

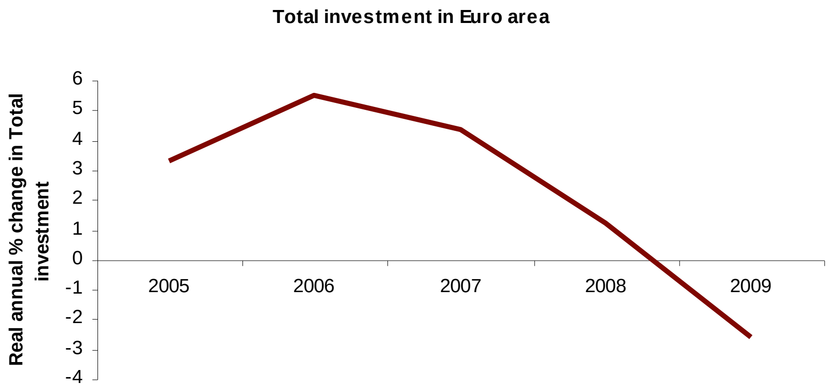
- **Events & Economics**
  - Firms: credit squeeze by banks leads to reduced availability funds to operate and invest
  - Households: reduced credit availability and reduced income from financial assets put downward pressure on income: saving rather than spending
  - Repercussions on GDP growth, investment and unemployment
  - There are thus externalities from financial market meltdown affecting the real economy
- **Fear of a sustained period of difficulties (a 'lost decade'?)**
  - No technology driver in sight to boost productivity
  - Continued deleveraging
  - Future tax increases

Phase III – Real economy shock (cont.)

Repercussions on GDP growth, investment and unemployment







Source: LECG based on Commission's Autumn 2008 Economic Forecast

Market failures, regulation and competition policy

Market failures and systemic risk

- **Too big to fail**
  - Inducing moral hazard
  - Disproportionate political influence
- **Too large to save**
  - Small economies may lack the resources to bail out a large bank (e.g. Iceland)
  - Cross-border externalities (e.g., moral hazard between national regulatory authorities and governments)
- **Increasing the likelihood and amplifying the effects of**
  - Confidence crises and bank runs
  - Collapse of the markets for securitised assets
  - Breakdown of interbank-lending market and drying up of liquidity

The challenge to regulation

- **Shortcomings of system will have to be addressed by new regulation**
- **A fundamental overhaul, as gradual improvements will not do**
  - This view is echoed, e.g., in the promise of a 'regulation revolution' by Lord Turner (chairman of the UK's FSA); see *Financial Times* 26 Feb 2009
  - Rejection of 'light-touch' policy
- **Shift from micro-prudential to macro-prudential, i.e. systemic, regulation**
- **Need to address a wide range of conflicts of interest**

What role for competition policy?

- **State aid control**
  - State aid in times of a systemic collapse (‘rescue’)
  - However, state aid should avoid contributing to moral hazard (‘restructuring’)
    - Too much focus on the good-bank vs. bad-bank dichotomy in recapitalisation?
    - Not enough focus on restructuring such that banks are not too big to fail?

- **Merger policy**
  - Prevent the formation of inefficient ‘national champions’
  - Take into account systemic considerations at the ‘efficiency assessment’ stage of merger procedures
  - Specific guidelines for mergers involving financial institutions?

Conclusion

Conclusion

- **The collapse of the US housing market has led to a period of sustained difficulties, impacting both the financial and the real economy**
- **The ensuing meltdown in the financial system calls for a radical overhaul of regulation, with a greater focus on systemic risk**
- **Flexible rescue aid measures to limit the distortions in the financial sector and the real economy required**
  - Guarantees to overcome confidence crisis
  - Recapitalisation measures to stimulate interbank lending
- **However, rules need to be designed to avoid the creation of new moral-hazard and systemic-risk problems in the future**

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Background materials

Overview of events

Real market | **Interbank market** | **Capital market**

Increase securitization

Development of subprime credit

Growth of risk

Downturn housing prices

Defaults subprime credit

Confidence crisis

Liquidity crisis: little interbank lending

Banks in difficulty

Depreciation of shares

Financial crisis

Aggravation confidence crisis

Slowdown economy

Bankruptcy financial institutions

Enormous stock market losses

Recession

Timeline of the financial crisis

04 05 06 2007 2008 2009

2004-6: US interest rate rises from 1% to 5.35%

2006: defaults on subprime loans

04/07: sub-prime market collapse has worldwide impact

08/07: stop to interbank lending; ECB liquidity; FED intervention

09-10/08: Northern Rock in trouble; UK bank run; major US bank losses; contraction UK mortgage market

12/07: FED coordination of CB intervention; FED emergency cut rate; stock market biggest fall since 09/11/01

02-03/08: G7 estimation of worldwide crisis losses; Northern Rock temp nationalised; FED intervention of $200bln

04/08: BoE announces £50bln rescue plan; historic drop in availability of new mortgages

09/08: TBTF US bail out of Fannie Mae and Freddie Mac; other US banks in trouble; US rescue plan of $700bln not approved > confidence shock; first (partly) nationalisations and bailouts of EU banks

10-11/08: approved US rescue plan of $700bln; stock market falls; worldwide CB intervention; G7 plan to unfreeze credit markets; EU and worldwide state guarantee and recapitalisation schemes; effects on Asia

12/08: credit squeeze by banks leads to real economy effects; acknowledgement of recession

01-02/09 countries act with measures aimed at real economy; continuation of support schemes and individual aid measures for banks; EC uses fast track procedure for aid measures

Deleveraging of banks in Phase II

- **The forceful deleveraging witnessed in recent months reverts the sustained expansion of banks' balance sheets prior to the crisis**
- **The 'modern' banking model, and the requirement of marking to market, makes banks' abilities to refinance more sensitive to changes in asset values**
- **The high degree of interconnectedness between banks and other financial institutions amplifies and accelerates balance-sheet expansions and contractions**
- **Decrease in asset prices decreases the size of the balance sheet ('marking-to-market')**
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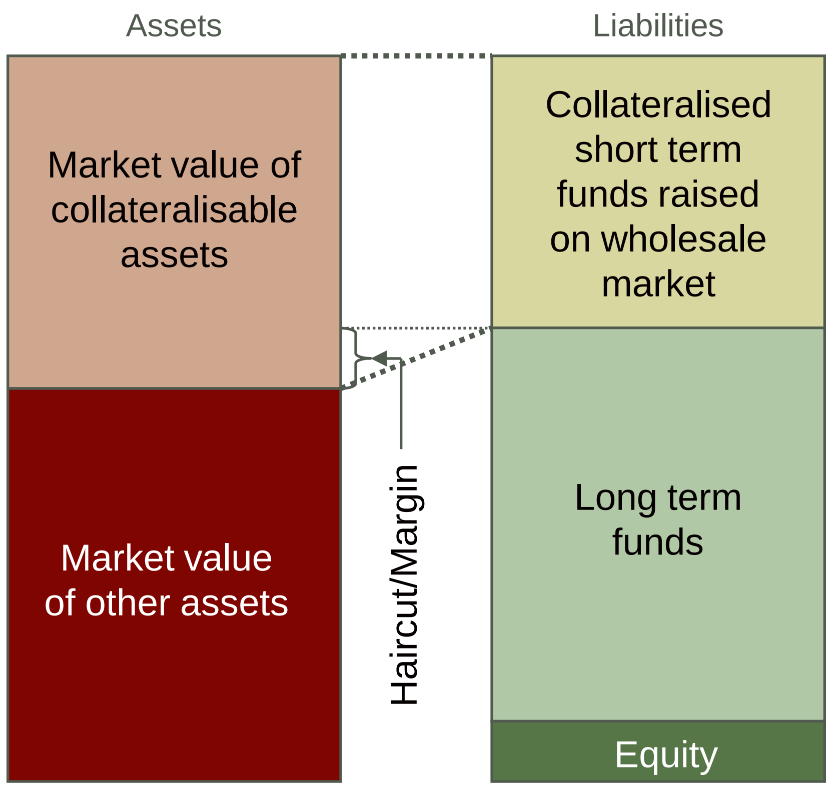
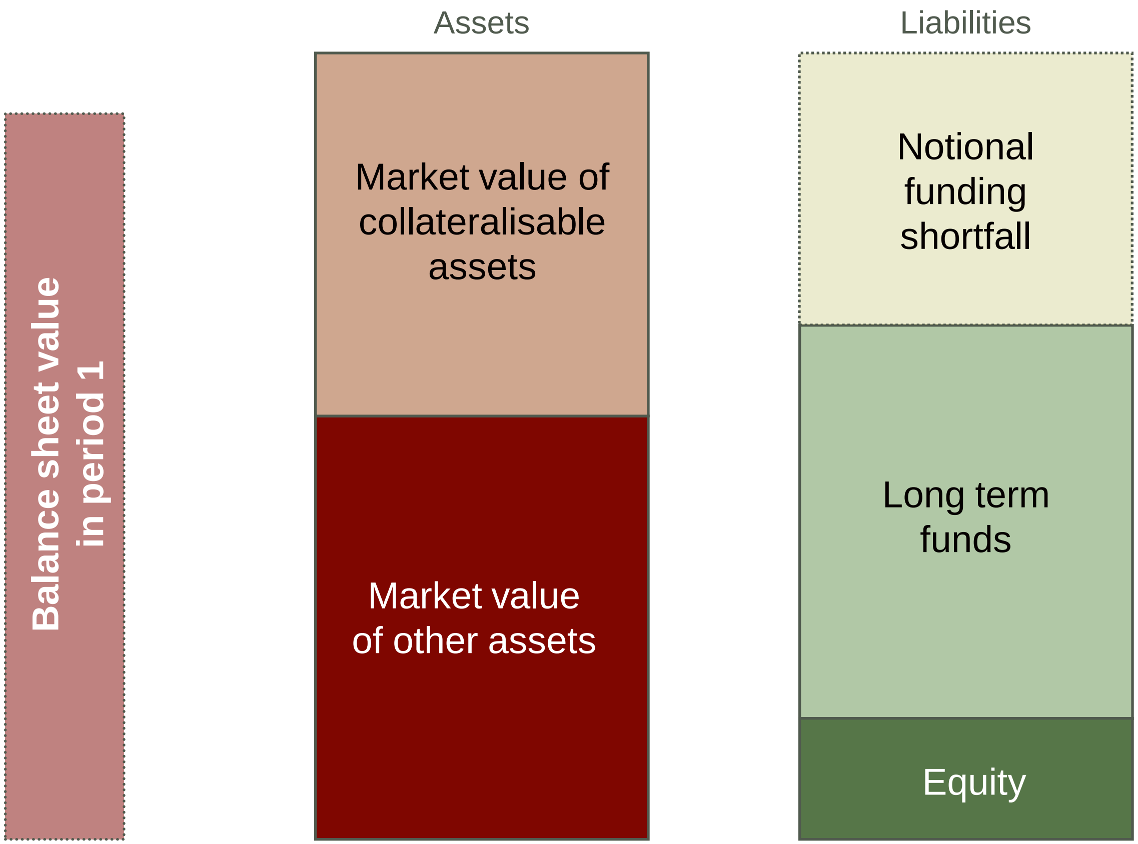
- **The decrease in the value of assets held by banks means a decrease in the value of the collateral against which they fund themselves; this implies lower funding and hence a diminished ability to lend**

Expansion – Period 1



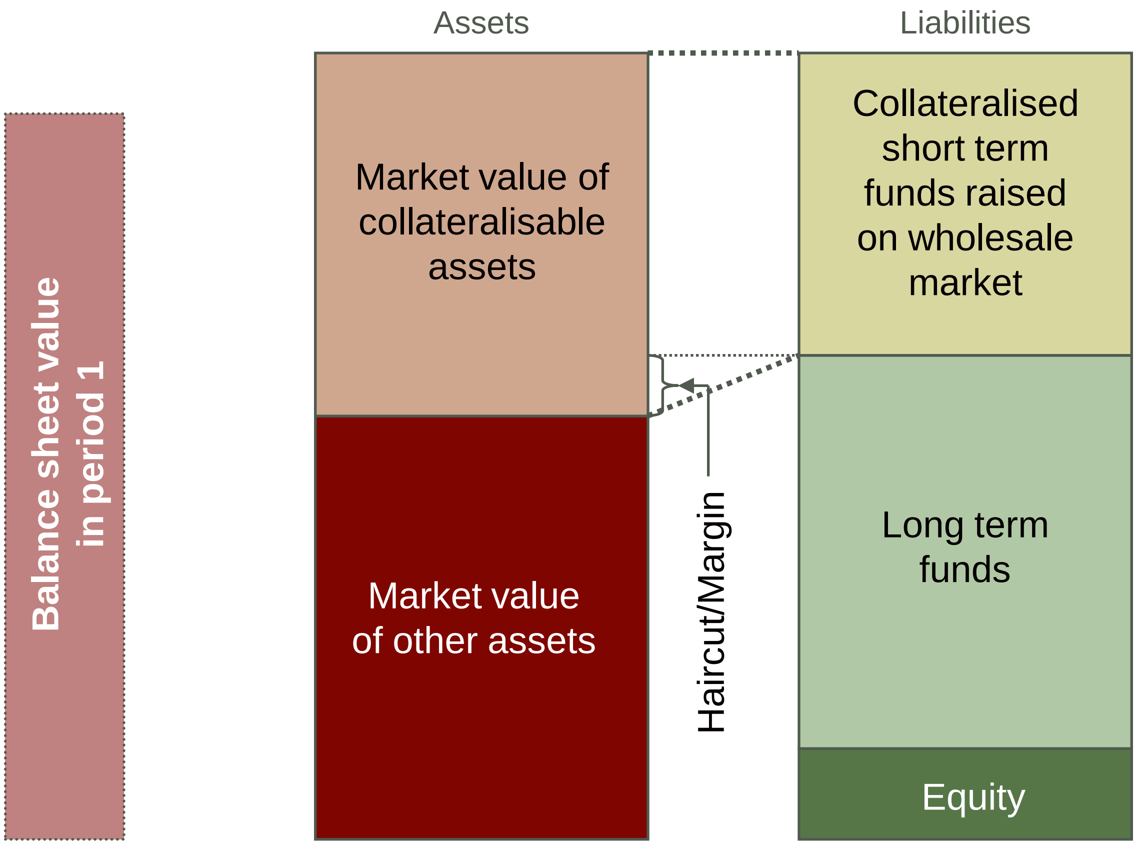
- **The haircut (or margin) is the difference between the market value of collateral and the short-term funds the bank can raise against it**
- **The gap has to be covered by additional long-term funds and/or equity**

Expansion – ‘*interim*’



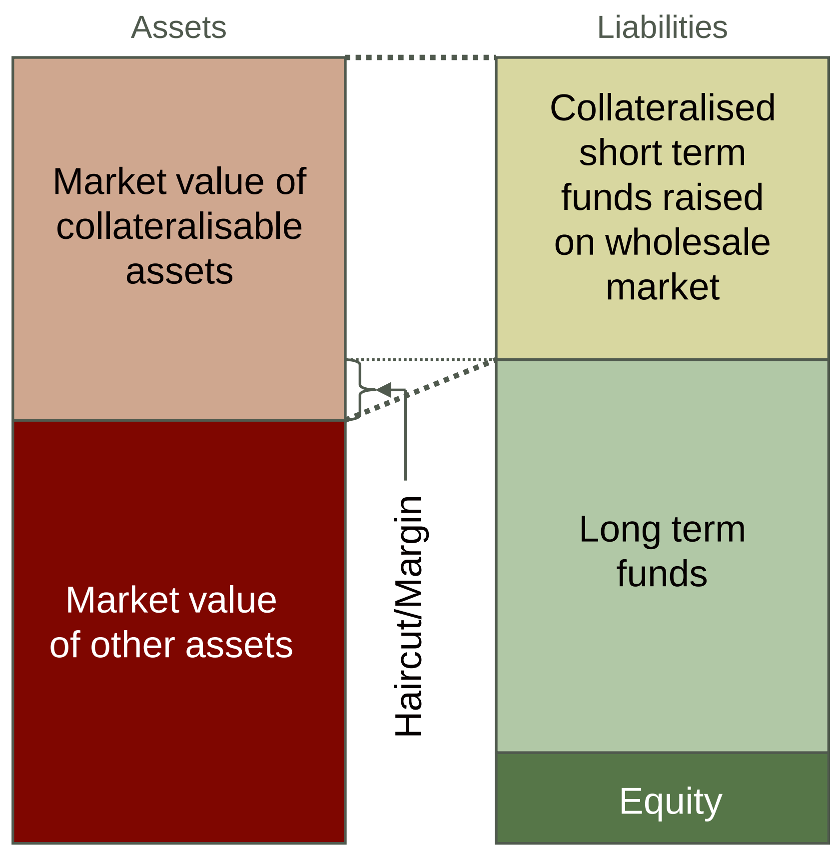
- **Increase in asset prices increases the size of the balance sheet**
- **On the liability side this is reflected as an increase in equity**
- **There exists a notional funding shortfall equal to the size of the short-term wholesale funding**

Expansion – Period 2



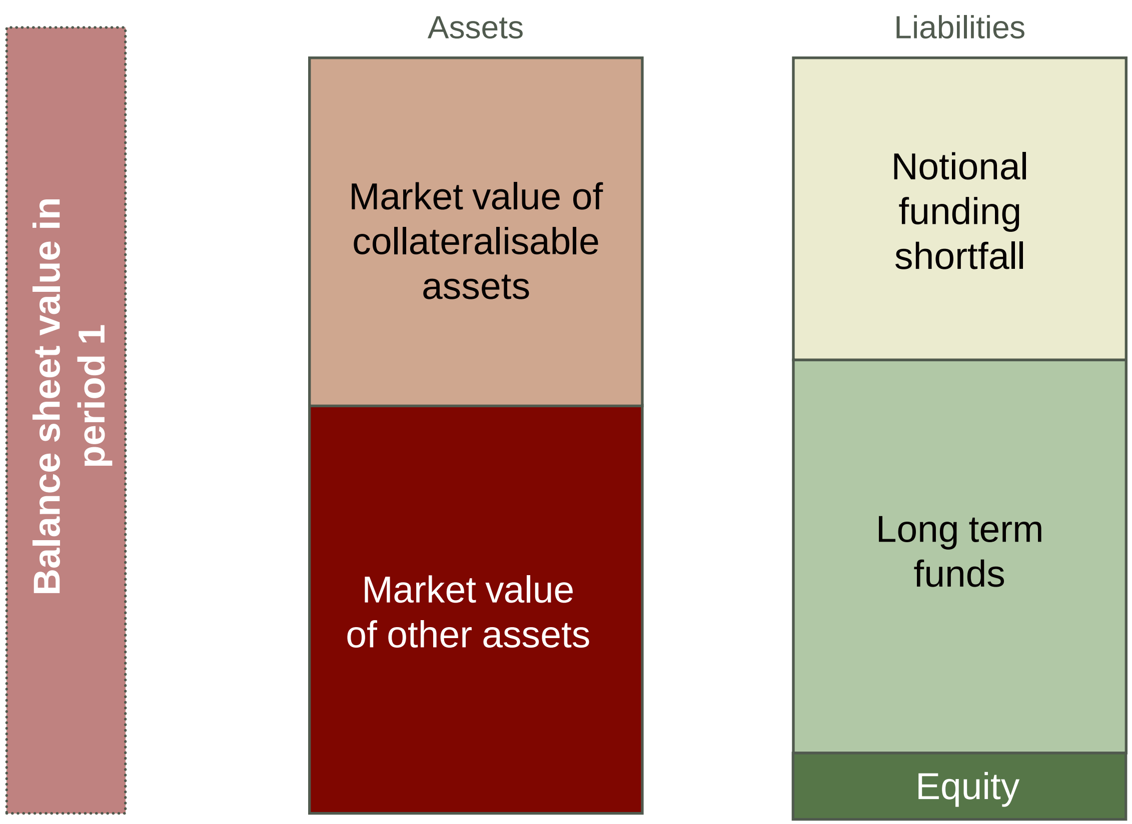
- **Collateralised short-term funds are bigger than in Period 1 (relative size of the haircut unchanged)**
- **Equity also increases, but by less than the increase in the size of the balance sheet (increase in leverage)**

Contraction - Period 1



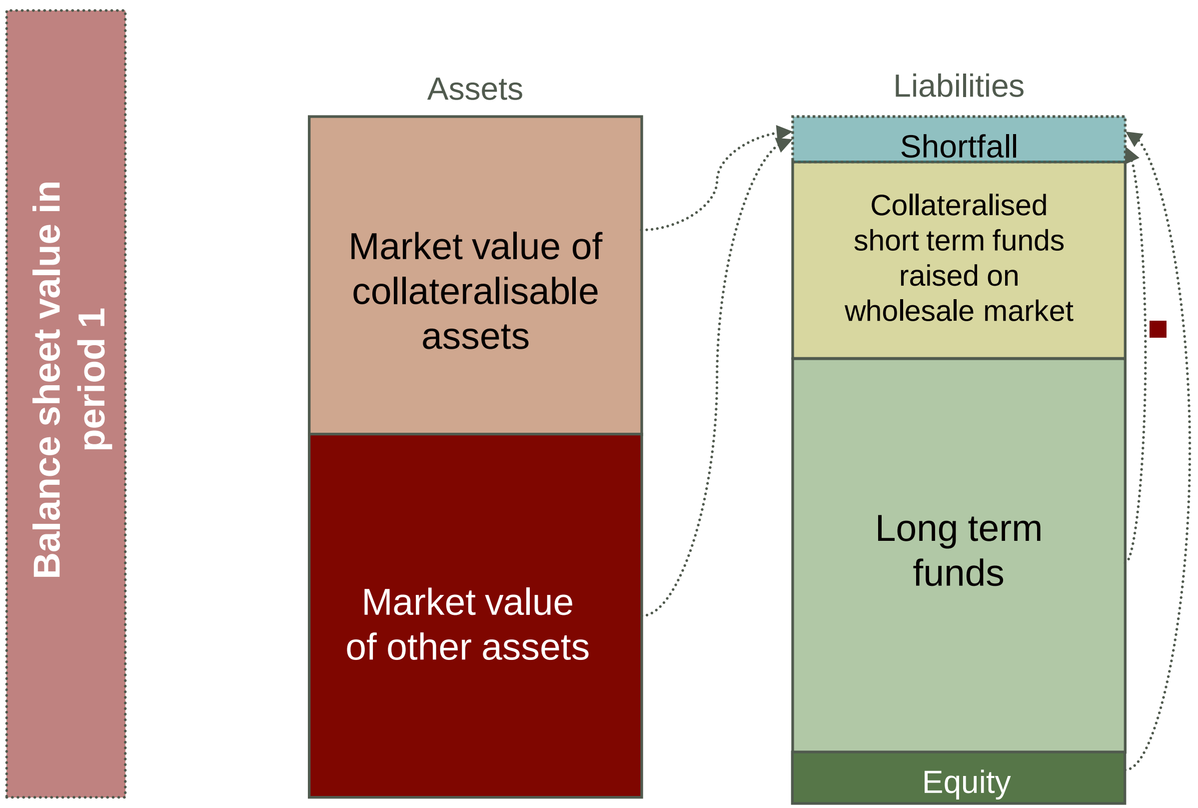
- **The 'starting point' is depicted as the situation in Period 2 of the expansive scenario ('the peak')**
- **Some exogenous event (e.g., onset of the subprime crisis) disrupts the process of further expansion**

Contraction – *'interim' (a)*



- **Decrease in asset prices decreases the size of the balance sheet ('marking-to-market')**
- **On the liability side this is reflected as a decrease in equity**
- **There exists a notional funding shortfall equal to the size of the short-term wholesale funding**

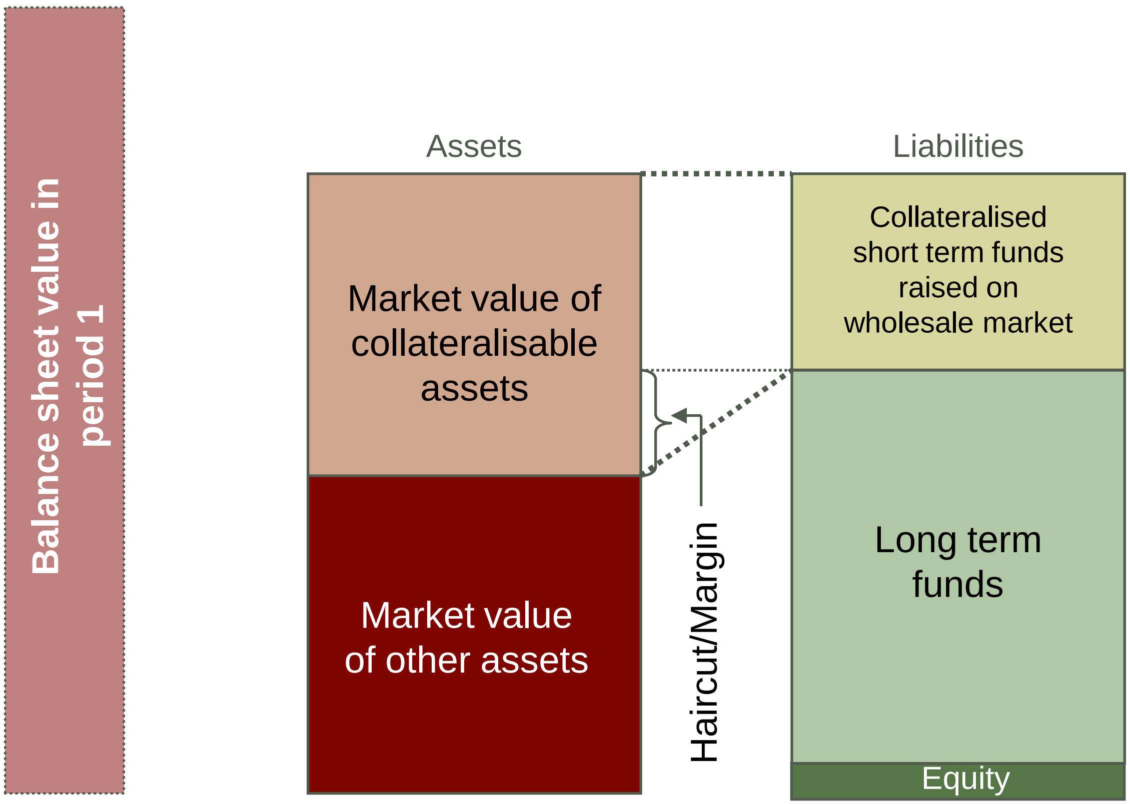
Contraction – *'interim' (b)*



- **Collateralised short term funds shrink due to (i) lower value of collateral and (ii) larger haircut*; some funding shortfall remains**
- **Shortfall can be absorbed by expansion on the liabilities (potentially difficult) or by asset sales**

***** The haircut (or margin) increases because of (i) unwillingness of other banks to lend (perception of increased risk) or (ii) inability to lend, due to own contraction in balance sheets

Contraction – Period 2



- **Raising long-term funds or new equity may be difficult/costly, so ('fire') sales of assets may be necessary**
- **As a consequence, and due to continued decline in asset prices, there is a further contraction of the balance sheet and of equity (some assets may be quite illiquid, i.e. sell at a hefty discount)**

State aid measures

Commission guidance

Main types of intervention

Real economy measures

Commission's guidance on state aid measures in current financial crisis *(13-10-08)*

- Normally: Rescue and Restructuring aid on basis of Art.87(3)(c) for individual cases
- **Article 87(3)(b)**
  - *'to remedy a serious disturbance in the economy of a Member State'* (Para.7)
  - No 'matter of principle' for state aid compatibility in times of crisis (Para.11): balancing of economic stability and competitive distortions
  - Not on an 'open-ended basis' (Para.12), so time limitation and reviews
  - Differentiation between illiquid but sound financial institutions versus financial institutions characterised by endogenous problems (Para.14) which is reflected in need for behavioural rules or restructuring requirements
  - Need for minimization of competitive distortions (Para.15)
    - Well-targeted
    - Proportional
    - Minimizing negative spill-over effects

Main types of state intervention

- **Guarantee scheme**
  - Restore (investor) confidence in financial institutions and encourage interbank lending
  - Deposit guarantees + Guarantees on other types of bank liabilities
  - Usually covering new short and medium term non-subordinated debt with a maturity of maximum three years
  - Remuneration of guarantee based on CDS-spreads (ECB recommendation 2008)
- **Recapitalisation scheme**
  - Limit negative externalities (systemic risk) of problems in banking sector by increasing liquidity
  - Governments buy preferred shares, special type of securities, or subordinated debt from banks
  - Proper remuneration of state's capital injection? (no mark-to-market)
- **Winding up company or nationalisation**
  - Limited use sofar: Roskilde Bank, Fortis
- **Other forms of liquidity assistance by CB**

Main types of state intervention

State intervention	Addressed market failure(s)
Guarantee (scheme)	-Limit indirect contagion, i.e. preventing confidence shock (consumers, investors) and bank run -Limit systemic risk by encouraging interbank lending and loans to real economy
Recapitalisation (scheme)	-Limit indirect contagion by maintaining market's confidence -Limit direct contagion, as interbank lending is stimulated by increased liquidity -Limit systemic risk by continued provision of loans to real economy
Winding up company or nationalisation	Limit direct contagion and systemic risk

Real economy measures

- **Commission adopts Temporary framework for state aid to boost real economy (17-12-08) in line with European Economic Recovery Plan (26-11-08): ‘the time to act is now’**
  - Need for European coordination to ensure a level playing field and to prevent subsidy races
  - Need for temporary measures
- **New measures in light of crisis (until end 2010)**
  - Limited aid to businesses in difficulty (max EUR 500,000 per firm)
  - Subsidised loan guarantees to reduce risk aversion by banks to firms
  - Subsidised interest rates to facilitate access to finance
- **Introduced measures**
  - Portugal: aid up to EUR 500,000 per firm
  - France: aid up to EUR 500,000 per firm, reduced interest rates
  - Germany: more flexible risk-capital investments until 2010, funding eligibility for mid-sized enterprises for R&D activities
  - United Kingdom: aid up to EUR 500,000 per firm

Analysing Commission's state aid framework

Authorisation procedure

Authorisation procedure

- **Market Economy Investor Principle (MEIP) - test**
  - MEIP test de facto not passed due to exceptional nature of market situation
  - However, aid by independent CB or via open and unconditional tender is almost automatically categorized as ‘no aid’ *[Gerard article in Concurrences]*
  - Impossibility to apply ‘mark-to-market’ method leads to impossibility to asses normal market returns and to apply MEIP test

Authorisation procedure (cont.)

- **From Article 87(3)(c)…**
  - Restrictive use of art.87(3)(b); rescue and restructuring aid under art.87(3)(c)
  - E.g. Bankgesellschaft Berlin ('04), Bank Burgenland ('04) and BAWAG('07), but also more recent Northern Rock and Roskilde Bank (rescue aid) were assessed under Art.87(3)(c)
  - Bank failures considered as individual cases (despite acknowledgement of crisis impact in Northern Rock and Roskilde)
- **…to Article 87(3)(b)**
  - Currently, all measures are approved in light of art.87(3)(b)
  - Are all banks Too Big To Fail (TBTF) such that they add to 'serious disturbance in the economy'?
- **'Open window': risk of broadening restrictive EU state aid regulation?**

Authorisation procedure (cont.)

- **Impact on behavioural restrictions**
  - Restricting competition?
    - by restricting advertising and mass marketing
    - by possible limitation of capital ratio and/or market share
    - by limitation of aggregate growth in balance sheet volume
  - Creation of moral hazard and adverse selection
    - Excessive risk taking due to state guarantee
    - State guarantee as signal to risky clients
    - Insufficient effectiveness of restrictions on advertising
    - Self fulfilling prophecy from guarantee to recapitalisation?
  - State participation as ‘rationale’ for coordinated behaviour after crisis?
    - Same behavioural obligations
    - Granting of credit
    - Cartel-like behaviour

What’s next?

Which are the 'bad banks'?

- **Commission's guidance on recapitalisation measures, para.12:**

  "distinction between fundamentally sound, well-performing banks on one hand and distressed, less-performing banks on the other"

  "The exit of inefficient firms is a normal part of the operation of the market" (Para.4 of 'Rescue and restructuring aid guidelines')

- **Problematic distinction between good and bad banks in times of crisis**
  - Opacity of assets
  - Higher degree of leverage
  - Solvency not exogenous to liquidity (asset price collapse)
  - Still unfolding crisis
  - Inability to assess degree of excessive risk taking
  - Backward-looking approach
    - Pre-crisis CDS spreads and ratings? (Commission recapitalisation guidance)
    - Turning point e.g. Lehman-collapse (D.Gerard, Concurrences, 2009)

Which are the ‘bad banks’? (cont.)

- **Possibly counterproductive distinction between ‘good’ and ‘bad’ banks**
  - What to do in case of big bad bank with high systemic risk or a small good bank with low systemic risk?
  - Priority of aid to solvent banks or to banks with high degree of systemic risk?
  - When does an individual failure lead to systemic risk?
  - Aid to insolvent banks which are systematically important is an inappropriate signal and creates moral hazard (compare TBTF)
    - Need for adequate regulation!

Which are the ‘bad banks’? (cont.)

- **Indications for excessive risk taking??**
  - Comparison of growth rate of balance sheet
  - Remuneration schemes
  - Change of business model
  - Reliance on ‘innovative’ products, expansion into new business lines
  - Exposure to subprime
  - Degree of leverage, rating of assets
  - Capital buffers (beyond Basel requirements)
  - Degree of wholesale market funding

Which are the ‘bad banks’? (cont.)

- **Wholesale-market funding as indicator of excessive risk?? I.e. should banks abandon wholesale-market funding?**
- **Pro**
  - Wholesale-market funding as alternative or supplement to traditional deposit funding, especially in times of slow deposit growth
  - Wholesale funding allows for lower costs
  - Wholesale funding facilitates ability to meet (un)foreseen liquidity and funding needs
- **Con**
  - Relatively high degree of wholesale funding indicates inability (or lack of desire) to raise local market deposits
  - Wholesale funding can increase liquidity risk due to sensitivity of funding providers to changes in credit risk profile of bank and interest rate environment
  - Active and effective risk management can overcome additional risk
  - Distinction between reliance and overreliance (e.g. Northern Rock)

State aid interventions per Member state

State aid interventions per Member state

Member State	Guarantee	Recapitalisation	Winding-up or other
Austria	-Interbankmarktstärkungsgesetz' cap at €75 bln. New and existing wholesale debt, also assets -Finanzmarktstabilitätsgesetz, cap at €15 bln	Finanzmarktstabilitätsgesetz, cap at €15 bln	
Belgium	-Fortis short and medium term wholesale debt for 6 months -Dexia's new short and medium term debt	-Capital injection and liquidity assistance to Fortis -Capital injection (€3.5 bln) in KBC Group -Capital injection (€1.5 bln) to Ethias Group	

State aid interventions per Member state

Member State	Guarantee	Recapitalisation	Winding-up or other
Denmark	Financial Stability Act 2008 in addition to Danish Deposit Guarantee Scheme, excludes covered bonds and subordinated debt	-Emergency liquidity assistance (€225 mln) from Swedish CB which led to nationalisation of Carnegie Bank -Recapitalisation scheme for hybrid capital, cap at €13.5 bln	-Setup of winding up company -Liquidation of Roskilde Bank, purchased by Danish CB and Danish banking association
Finland	-New short and medium term debt for 6 months, cap at €50 bln -Private sector arrangement for depositors of insolvent Kaupthing Bank		

State aid interventions per Member state

Member State	Guarantee	Recapitalisation	Winding-up or other
France	-SRAEC to issue state guarantees to make loans to credit institutions, cap at €265 bln -Dexia's new short and medium term debt	-Capital injection in 'fundamentally sound' banks, cap at €21 bln -Capital injection and liquidity assistance to Fortis	
Germany	-€400 bln for new debt instruments -Guarantee on sale of Sachsen LB to LBBW by Land of Saxony -Loan guarantee to Hypo Real Estate Holding, at €35 bln -To NordLB by Lower Saxony and Saxony-Anhalt Länder -To IKB on new short and medium term debt, cap at €5 bln -To SdB, at €6.7 bln	-Liquidity facility to Sachsen LB -Capital injections and liquidity facility to IKB (€9 bln) -Fund of €80 bln for recapitalisation and asset swap purposes (cap at €10 bln per institution) -Capital injection of €10 bln to BayernLB by Bavaria state + risk shield of €4.8 bln to cover assets-backed securities portfolio	-Reduced interest rate loans up to €50 mln for mid-size firms -Direct aid up to €500,000 per firm in difficulty -More flexible risk-capital investments

State aid interventions per Member state

Member State	Guarantee	Recapitalisation	Winding-up or other
Greece	New short and medium term debt	Capital injection in exchange for preferential shares	Securities scheme enhancing access to capital
Hungary	New short and medium term debt	Recapitalisation scheme: new capital in exchange for preferential shares	
Ireland	For retail and corporate deposits, interbank deposits, senior unsecured debt, asset covered securities and dated subordinated debt	-'Financial support' foreseen under Credit Institutions Financial Support Act 2008 -Capital injection of €1.5 bln to Anglo-Irish Bank	Loans foreseen under Credit Institutions Financial Support Act 2008
Italy	New short and medium term debt of banks and to third parties lending high-grade assets to banks	-Swap possibility between banks' debt certificates and Treasury bills with perfect match -€15 to €20 bln to subscribe subordinated debt instruments	€40 bln swap facility of government bonds and financial instruments of banks

State aid interventions per Member state

Member State	Guarantee	Recapitalisation	Winding-up or other
Latvia	-JSC Parex Banka's existing and new debt -Broad range of liabilities, cap at 10% of Latvia's GDP		State loans to JSC Parex Banka
Luxembourg	Dexia's new short and medium term debt	Capital injection and liquidity assistance to Fortis	
Netherlands	New senior unsecured debt instruments, cap at €200 bln	-€10 bln capital injection to ING (special securities) -€3 bln capital injection to Aegon (loan) -€750 mln capital injection to SNS Reaal (special securities)	

State aid interventions per Member state

Member State	Guarantee	Recapitalisation	Winding-up or other
Portugal	New short and medium term debt, cap at €20 bln		Direct aid up to €500,000 per firm in difficulty
Slovenia	New short and medium term non-subordinated debt, cap at €12 bln		
Spain	New short and medium term debt, cap at €100 bln	Reverse auctions to purchase AA(A) rated covered bonds or asset backed securities	
Sweden	New short and medium term debt, cap at €150 bln	-Recapitalisation scheme for share or hybrid capital, provided private participation -Liquidity assistance to Carnegie Bank (€225 mln)	Widening of scope of accepted capital by Swedish Riskbank
UK	New short and medium term debt	Committed £50 bln for purchase of preference shares and likes	-Short term liquidity measures -Direct aid up to €500,000 per firm in difficulty -Winding down of Bradford & Bingley

Details for state aid schemes

Details for state aid schemes

Member State	Type of aid	Remuneration	Behavioural restrictions	Meeting clause
Denmark	Guarantee Liquidity facilities Recapitalisation	-'an appropriate premium' -Recapitalisation at rates between 9 to 12%, according to risk profile	Restrictions on expansion of activities -Limit on managers' remuneration -Constraints on dividend policy	Bi-annual review of scheme
Hungary	Guarantee Recapitalisation	Market-orientated fee based on ECB recommendations	-Advertising restrictions -Limitations on management remuneration	Notification of restructuring or liquidation plan when guarantee invoked
UK	Guarantee Capital injection Liquidity facilities	'market-oriented remuneration': -Guarantee fee is per annum rate of 50 basis points plus 100% of the institution's median five-year Credit Default Swap (CDS) spread	-Limitation balance sheet growth (not for financially sound banks) -Limit on managers' remuneration	Restructuring plan from institutions that receive capital injection Bi-annual review of scheme

Details for state aid schemes

Member State	Type of aid	Remuneration	Behavioural restrictions	Meeting clause
Germany	Guarantee Capital injection	'market-oriented remuneration' depending on risk profile and increasing with duration	-limiting beneficiaries' future activities -capping managers' remunerations -limit advertising -maintain a high solvency ratio	Restructuring plan within 6 months after recapitalisation -Renotification after 6 months -Bi-annual review
Sweden	Guarantee Recapitalisation	Market-orientated remuneration based on ECB recommendations	-limit on aggregate growth in balance sheet volume related to guarantee -marketing restrictions -prohibition to base significant expansion on the guarantee (aggregate level) -restrictions related to staff remuneration	Guarantee for less than 6 months Regular report

Details for state aid schemes

Member State	Type of aid	Remuneration	Behavioural restrictions	Meeting clause
Portugal	Guarantee	market-orientated remuneration based on ECB recommendations; Full reimbursement when calling guarantee	-measures to prevent abusive expansion	
Netherlands	Guarantee	guarantee fee based on ECB recommendations	-Cap at expansion of bank -Advertising restrictions	Renotification after 8 months Bi-annual report Viability plan in case guarantee is invoked
France	Guarantee Capital injection	Collateral Premium on top of normal market prices 8% interest on average for capital injections	-measures to prevent abusive expansion -Restrictions on commercial practices -restrictions on staff remuneration	Renotification when guarantee limit has been surpassed (on aggregate or individual basis) Renotification after 6 months

Details for state aid schemes

Member State	Type of aid	Remuneration	Behavioural restrictions	Meeting clause
Spain	Liquidity facilities Guarantee	Re-purchasing at pre-fixed price market-orientated fee for guarantee based on ECB recommendations	-Marketing restrictions -Limitations on expansion	Re-notification after 6 months Notification of restructuring or liquidation plan when guarantee is invoked Bi-annual report
Finland	Guarantee	market-orientated fee based on ECB recommendations	-restrictions on balance sheet growth with regard to national and European averages -limitations on expansion -Marketing restrictions -strict conditions on staff remuneration and bonus payments	Notification of restructuring or liquidation plan when guarantee is invoked Periodical report

Details for state aid schemes

Member State	Type of aid	Remuneration	Behavioural restrictions	Meeting clause
Italy	Guarantee and swap scheme Recapitalisation	market-orientated fee based on ECB recommendations -specific top-ups for certain liabilities or swaps -Recapitalisation: fixed step-up clauses, increases in remuneration linked to dividend payments and a link of the remuneration with the financing cost of the Italian state; + increase with duration	-Advertising restrictions -Limitation balance sheet growth -Limitations management remuneration -Constraints dividend policy	Renotification after 6 months Bi-annual report
Greece	Guarantee Liquidity facilities Recapitalisation	-10% interest on recapitalisation - Guarantee and liquidity fee based on ECB recommendations	-growth restrictions -limitations to manager remuneration	Submission restructuring or liquidation plan when failed or recapitalisation used
Austria	Guarantee Loans and recapitalisations	-remuneration corridor which includes step-up clauses (distressed banks pay more as well)		Renotification after 6 months Bi-annual report

Details for state aid schemes

Member State	Type of aid	Remuneration	Behavioural restrictions	Meeting clause
Slovenia	Guarantee	market-orientated fee based on ECB recommendations	-Marketing restrictions -Limitations expansion -Limitations staff remuneration and bonus payments	Renotification after 6 months Notification of restructuring or liquidity plan if guarantee invoked Periodical report
Latvia	Guarantee	market-orientated fee based on ECB recommendations	-Marketing restrictions -Limitations staff remuneration and bonus payments	Renotification after 6 months Notification of restructuring or liquidity plan if guarantee invoked Periodical report
Ireland	guarantee		-restrictions on commercial conduct -limitation balance-sheet growth	Bi-annual review of scheme

Details for individual state aid measures

Details for individual state aid measures

Member State - bank	Type of aid	Remuneration	Behavioural restrictions	Meeting clause
Latvia – JSC Parex Banka	guarantee + liquidity facility	'significant fees'	-Limitation on balance sheet growth -Marketing restrictions -Limitation to acquire businesses or companies	Renotification after 6 months
Denmark – Roskilde Bank	guarantee + liquidity facility			Submission restructuring or liquidation plan within 6 months
Germany – Hypo Real Estate Holding AG	loan guarantees	Collateral of €42 bln + subsidiary's shares		Restructuring plan within 6 months
Netherlands - ING	recapitalisation	150% of issue price of securities; expected return in excess of 10%	-Limitation on balance sheet growth - Maintenance of a certain solvency ratio	Restructuring plan within 6 months

Details for individual state aid measures

Member State - bank	Type of aid	Remuneration	Behavioural restrictions	Meeting clause
Belgium, France, Luxembourg - Dexia	state guarantee	'low rates based on ECB recommendations'		Submission restructuring or liquidation plan within 6 months
Belgium - Fortis	state guarantee	'a significant guarantee fee, which will increase in proportion to the guaranteed debt'	-Limitation on balance sheet growth -Restrictions on advertisements -Prohibition on predatory pricing in retail deposit market	Renotification after 6 months or in case guarantee is called
Netherlands – SNS Reaal	recapitalisation	150% of issue price of securities, unless repurchase by third party (state receives 100% + accrued interests + repurchase fee); expected return in excess of 10%	Maintenance of a certain solvency ratio	Long term viability plan after 6 months
Germany - SdB	state guarantee			

Details for individual state aid measures

Member State - bank	Type of aid	Remuneration	Behavioural restrictions	Meeting clause
Sweden – Carnegie Bank	liquidity facility		Constraints on bank's expansion	Submission restructuring or liquidation plan by 25 April 2009
Belgium - KBC	recapitalisation	150% of issue price of securities; repayment at 115-150% of issue price when KBC converts securities in ordinary shares, expected return in excess of 8.8%	Maintenance of a certain solvency ratio	
Germany – Bayern LB	capital injection		Passing credit to the real economy	Submission restructuring plan within 6 months (preliminary version after 4 months)
Germany - IKB	state guarantee	'market-orientated remuneration based on ECB recommendations'		

Details for individual state aid measures

Member State - bank	Type of aid	Remuneration	Behavioural restrictions	Meeting clause
Germany - NordLB	state guarantee	'market-orientated remuneration based on ECB recommendations'		Report on implementation of guarantee every 6 months; restructuring plan within 6 months in case guarantee is called
Ireland – Anglo-Irish Bank	recapitalisation	At par during 5 years, after 125% of par; discretionary remuneration of 10% per annum	-prohibition of advertising of the aid -restrictions on the payment of dividends -restrictions on executives' remuneration -nomination of public interest representatives to the bank's board	Submission restructuring or liquidation plan within 6 months

Details for individual state aid measures

Member State - bank	Type of aid	Remuneration	Behavioural restrictions	Meeting clause
Finland – Kaupthing Bank	state guarantee			
Belgium – Ethias group	capital injection	'An appropriate level'		Submission restructuring plan by 20 April 2009