

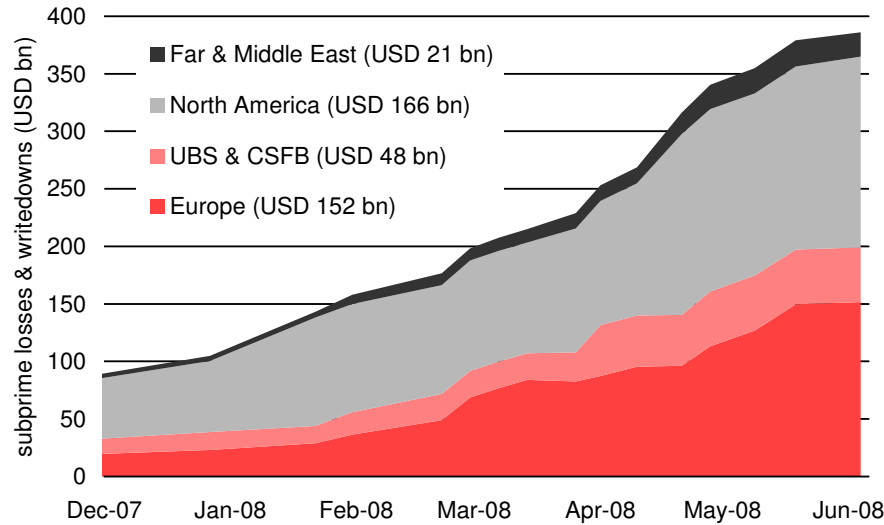
Current State of the Subprime Crisis

– From tainted loans to a global economic meltdown –

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London, Risk Management Breakfast, 06 June 2008

The Subprime Summary



Global Bank	Region	Losses & writedowns (USD bn)
Citigroup	North America	42.9
UBS	Switzerland	38.2
Merrill Lynch	North America	37.0
HSBC	Europe	19.5
IKB Deutsche	Europe	16.0
Royal Bank of Scotland	Europe	15.2
Bank of America	North America	14.9
Morgan Stanley	North America	12.6
JPMorgan Chase	North America	9.7
Credit Suisse	Switzerland	9.5
Other banks globally		170.7
Total		386.2

Source: Bloomberg, UniCredit Global Research

- According to Bloomberg, subprime-related bank losses & write downs add up to **USD 386 bn** (4 June 2008)
- Subprime-related losses in the banking sector amount to:
 - 0.8% of global GDP (USD 50 tn)
 - 1.2% of global stock market capitalization (USD 32 tn)
 - 30% of the primary US subprime loan exposure
- However, overall loss expectations are significantly higher
 - IMF expects about **USD 1 tn** direct losses (~2% global GDP)
 - Second round effect will cost at least another USD 1 tn
 - Global stock market capitalization declined by about USD 4.5-7.5 tn (current peak-to-trough performance) depending on the underlying universe (free-float or all-shares)

AGENDA

- The Impact

IMF'S loss estimate in USD bn (Report of 4 April 2008)

The impact of the crisis

	Estimates of Losses on Unsecuritized U.S. Loans		Breakdown of Losses on Unsecuritized Loans				
	Outstanding	Estimated loss	Banks	Insurance	Pensions/ Savings	GSEs and government	Other (hedge funds, etc.)
Subprime	300	45	20-30	<5	<5	10-15	5-10
Alt-A	600	30	15-20	<5	<5	5-10	<5
Prime	3,800	40	15-20	<5	<5	15-20	<5
Commercial real estate	2,400	30	15-20	<5	<5	<5	<5
Consumer loans	1,400	20	10-15	<5	<5	—	<5
Corporate loans	3,700	50	25-30	<5	<5	—	15-20
Leveraged loans	170	10	5-10	<5	<5	—	<5
Total for loans	12,370	225	100-130	10-20	10-20	30-50	40-00
	Estimates of Mark-to-Market Losses on Related Securities		Breakdown of Losses on Securities				
	Outstanding	Estimated mark- to-market loss	Banks	Insurance	Pensions/ Savings	GSEs and government	Other (hedge funds, etc.)
ABS	1,100	210	85-100	20-35	35-45	20-35	15-20
ABS CDOs	400	240	145-160	35-50	15-25	0-25	20-45
Prime MBS	3,800	0	—	—	—	—	—
CMBS	940	210	85-95	20-35	30-45	20-35	20-45
Consumer ABS	650	0	—	—	—	—	—
High-grade corporate debt	3,000	0	—	—	—	—	—
High-yield corporate debt	600	30	10-15	<5	5-10	—	<5
CLOs	350	30	15-20	<5	<5	—	0-10
Total for securities	10,840	720	340-380	95-110	70-120	—	95-120
Total for loans and securities	23,210	945	440-510	105-130	90-160	40-140	110-200

Sources: Goldman Sachs; JPMorgan Chase & Co.; Lehman Brothers; Markit.com; Merrill Lynch; and IMF staff estimates.

Note: ABS = asset-backed security; CDO = collateralized debt obligation; CLO = collateralized loan obligation; CMBS = commercial mortgage-backed security; GSE = government-sponsored enterprise; MBS = mortgage-backed security.

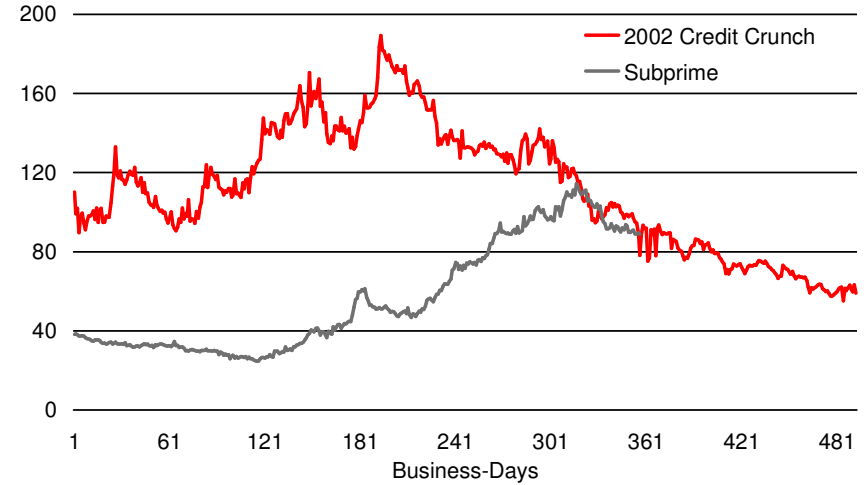
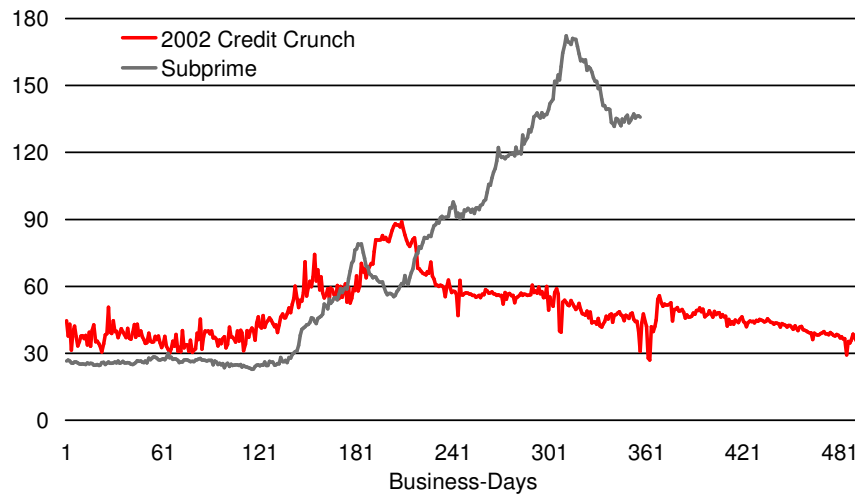
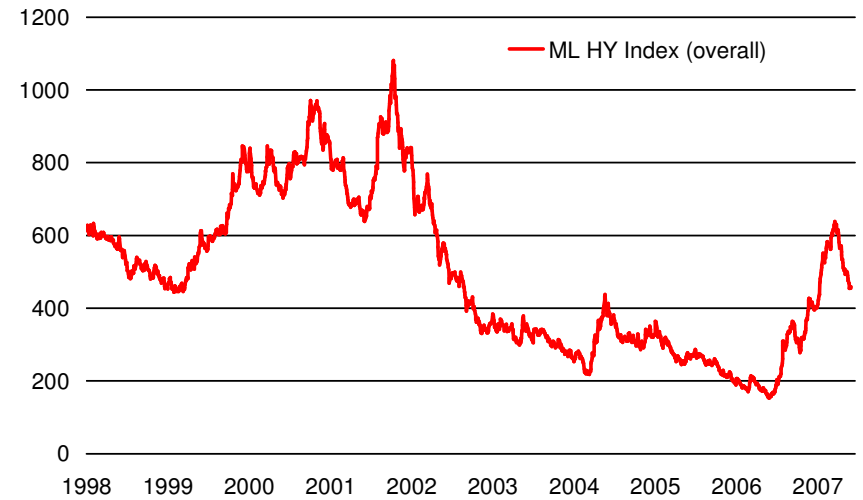
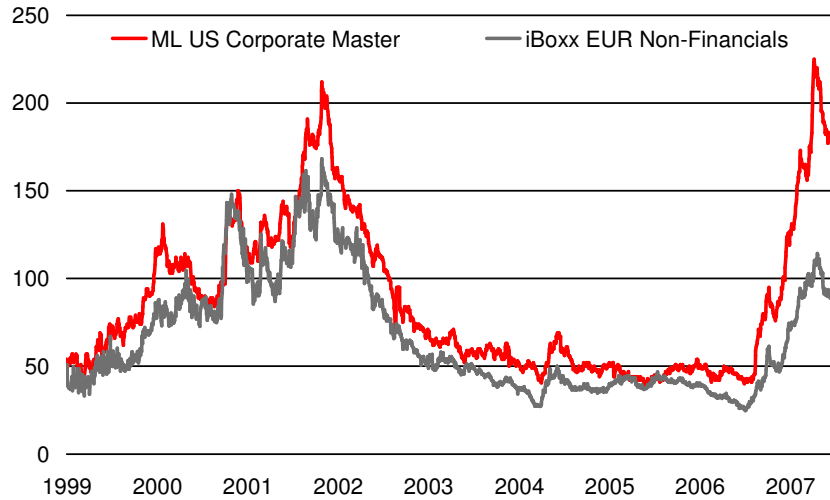
IMF's GFSR April 08: Systemic risks & loss calculation

The impact of the crisis

- **The IMF significantly upward revised its loss forecast from USD 200 bn only six months ago to now almost USD 1 trillion.** This is reflecting the high uncertainty in respect to (i) the severity of the housing slump in the US and (ii) in respect to spillover effects. These are the two key features of the crisis. In combination, these two effects are causing immense long-term effects (incl. costs) of the crisis. With respect to the amount of losses, the IMF compared the subprime meltdown with the Japanese real estate bubble at the beginning of the 1990s. The losses linked to the subprime crisis exceed by far those from the savings & loans crisis (reported in 1986 – 1995) as well as from the Asian crisis (reported in 1998 – 1999).
- **Loss allocation among industries:** The total loss for loans and securities in the banking system is expected to amount to USD 440 – 510 bn, around 50% of the total losses. This means that the insurance industry, pension funds, GSEs and governments, as well as hedge funds are bearing the remaining share of the losses! The figures are far above the loss allocation we have experienced so far. However, at least in respect to hedge funds, the banking sector is not out of the woods yet as banks are closely linked to the hedge fund industry – in the role as prime brokers but also as investors. From a geographical perspective, the majority of expected bank losses are located in the US (~50%). Europe is only slightly behind (~45%), while Asian banks widely escaped (~5%).
- **The market capitalization of banks declined globally by more than USD 700 bn** (March 2008), clearly exceeding that in the insurance industry. However, also the IMF stated that additional knock-on effects (spillover effects) will add to those losses, explicitly mentioning monoliners! That said, the systemic risk component is still more of a concern of monetary authorities, namely counterparty risk in the credit derivatives market. In particular, the IMF mentioned the impact of the crisis on default rates, forecasting an increase of speculative grade default rates in the US to 12.3% in a worst-case scenario (assuming an economic recession)! The IMF is also concerned regarding the hedge fund industry, as haircuts and margins have increased on the back of the ongoing liquidity squeeze in combination with higher risk premiums in the banking industry.

Corporate credit spreads: 2001/02 credit crunch compared to current levels

The impact of the crisis

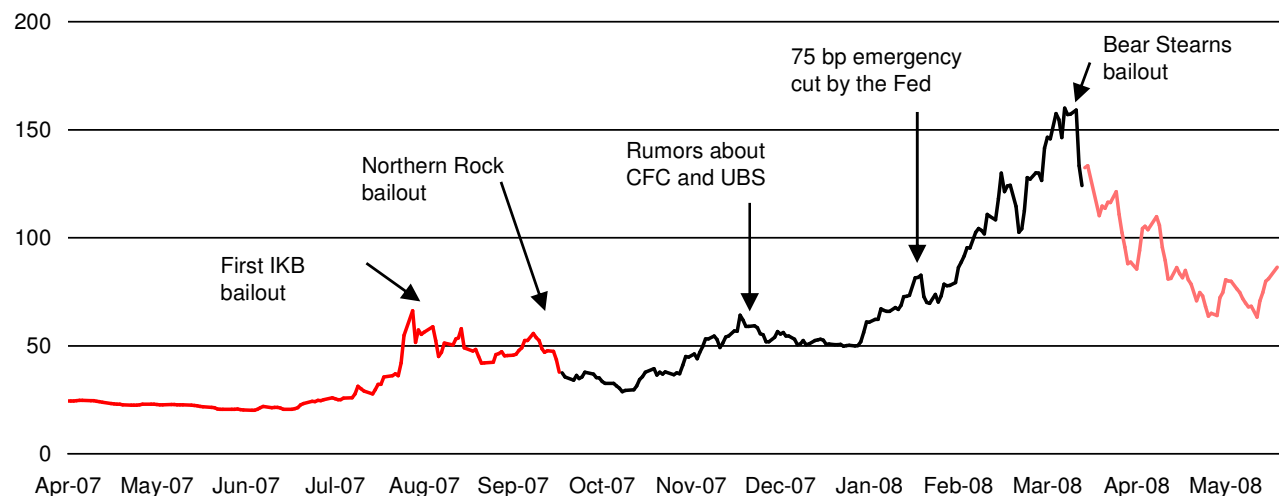


Source: Merrill Lynch, iBoxx, UniCredit Global Research

Where we stand right now

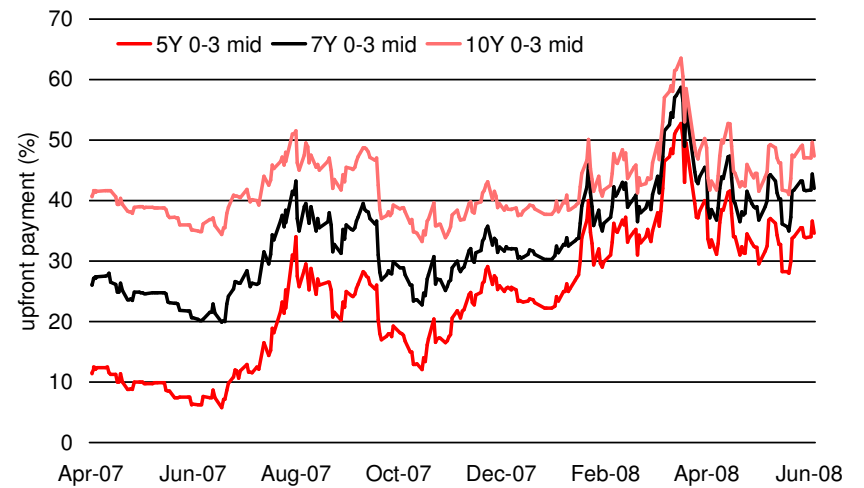
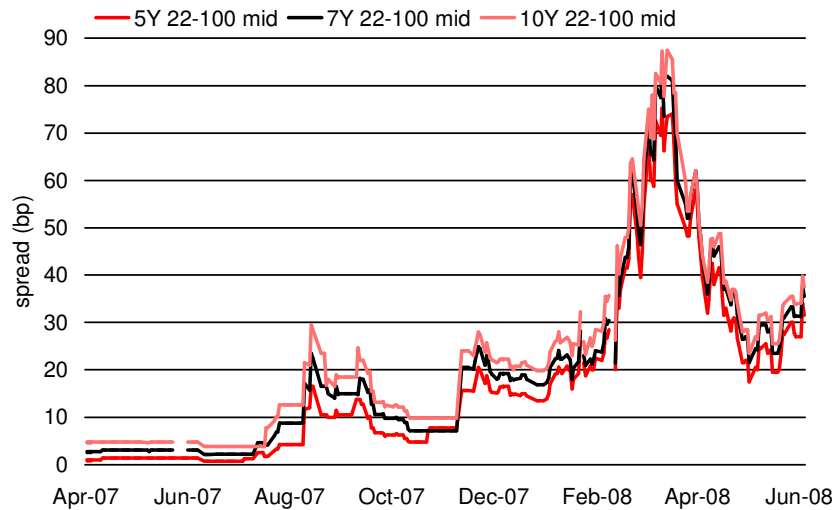
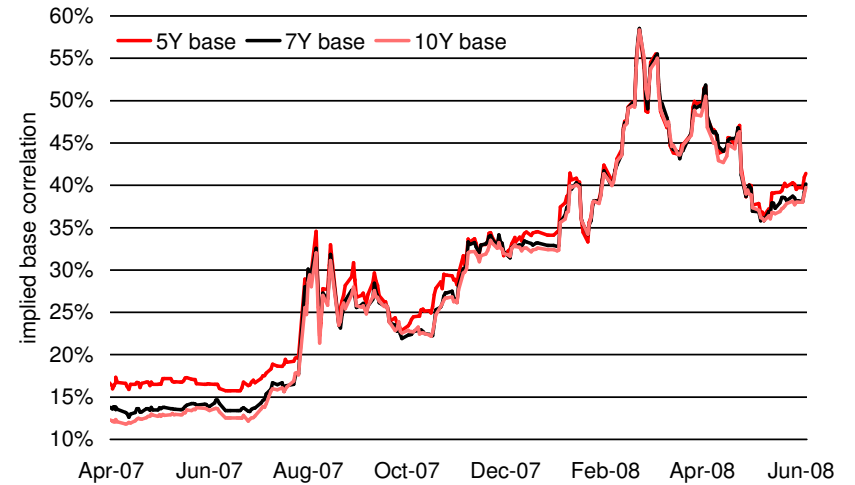
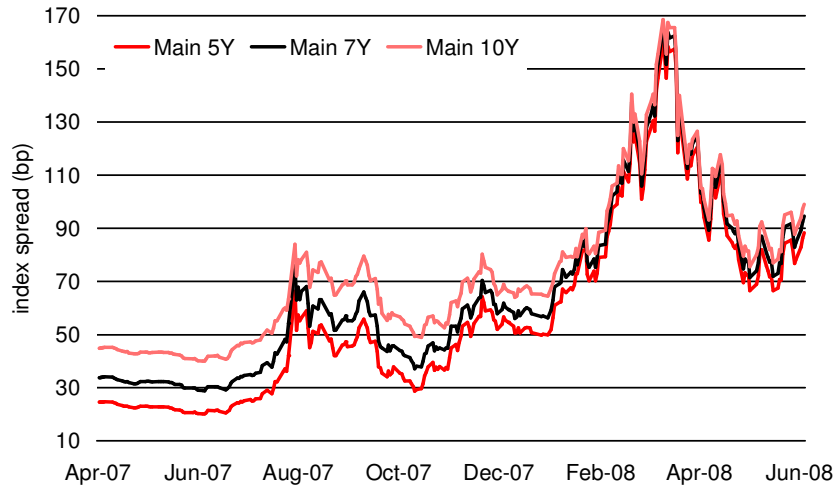
How long can it last?

Major milestones of the subprime crisis so far



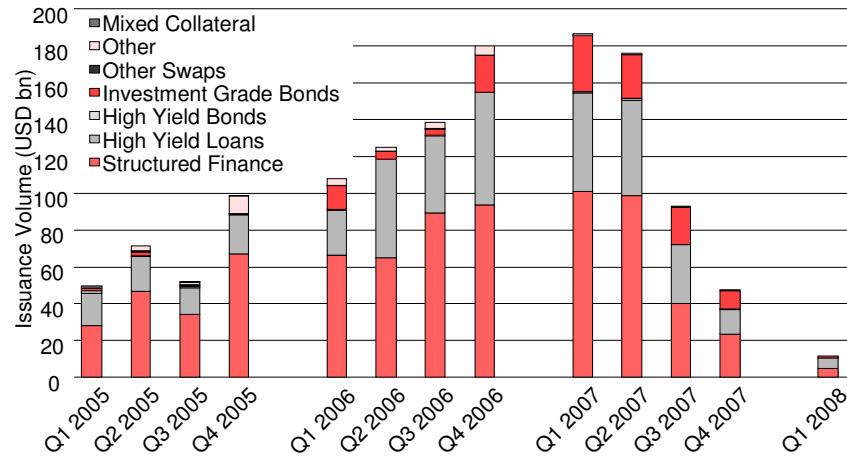
- The first phase of the subprime crisis was characterized by fears that systemic risk could significantly damage the financial system. In summer 2007, credit spreads reached a first peak on increasing concerns that banks will be deeply involved. Thus, the bailouts of IKB and Northern Rock triggered the first recovery phase in global credit markets. More rumors regarding potential losses triggered the second wave of spread widening in autumn 2007, while there was (spread-wise) a stabilization at the end of the year. The major blowout started at the beginning of this year, with spreads peaking in mid-March. The turnaround was driven by the Bear Stearns bailout on March 17 (iTraxx Main intraday at 170 bp).
- Rising confidence that central banks will avoid a failure of a major bank in any case triggered a significant drop in the systemic risk premium. This led to statements that the worst is already behind us, which might be true if we refer to subprime losses only, while economic spillover effects are moving into full swing. We stick to our view that the crisis is not over, but changing its character. It is becoming a real economy problem and hence, we have to focus on how spreads perform during a recession.

CDS Spreads overshooting: Systemic crisis fears and technically driven markets

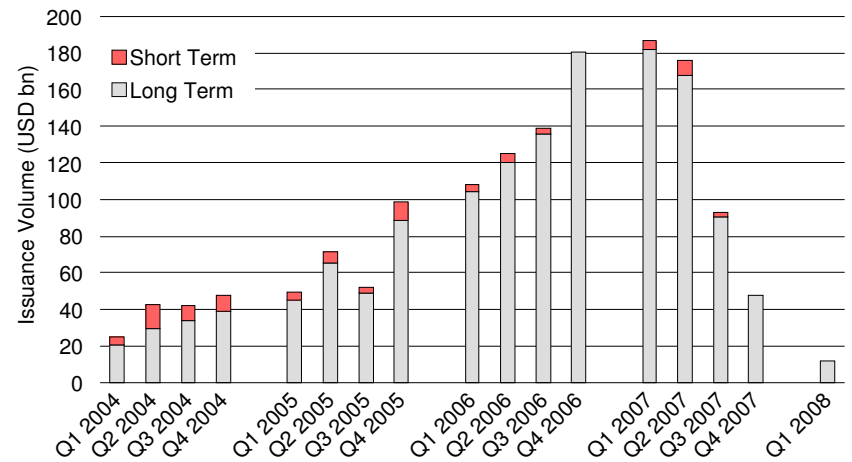
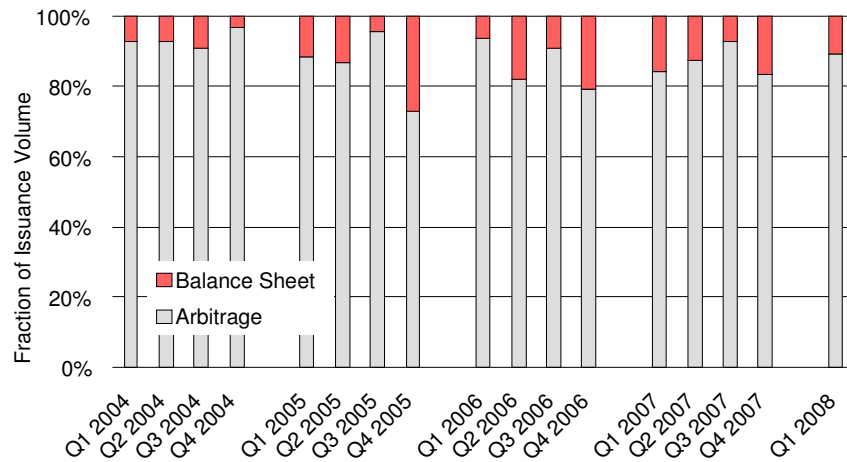
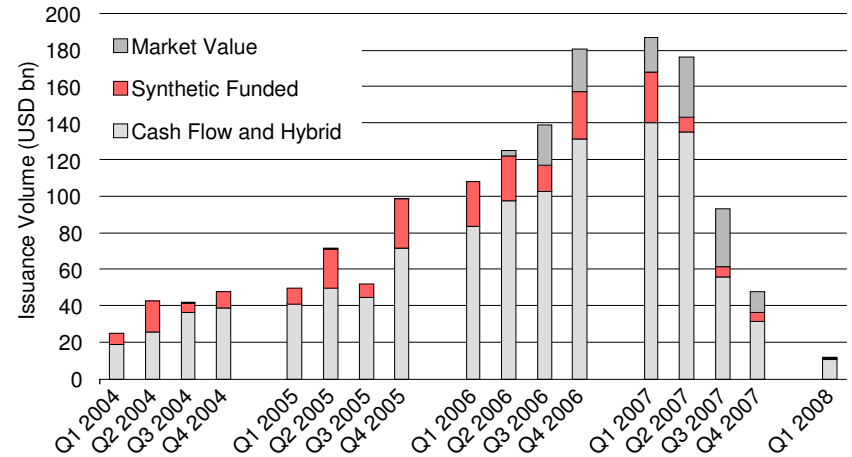


Structured credit bubble: CDO issuance volumes (SIFMA)

By collateral



By type



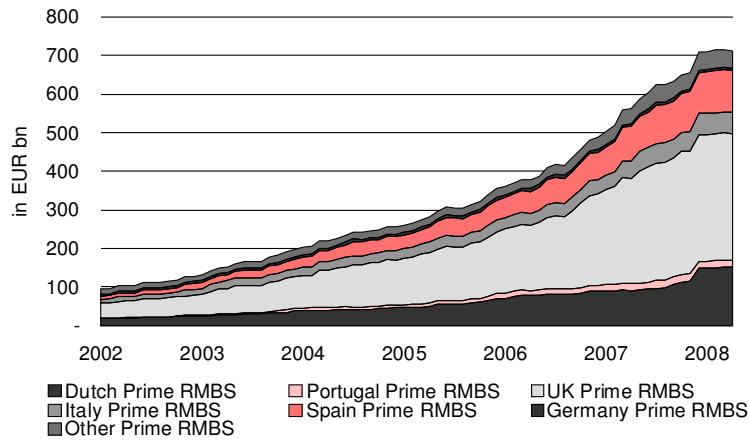
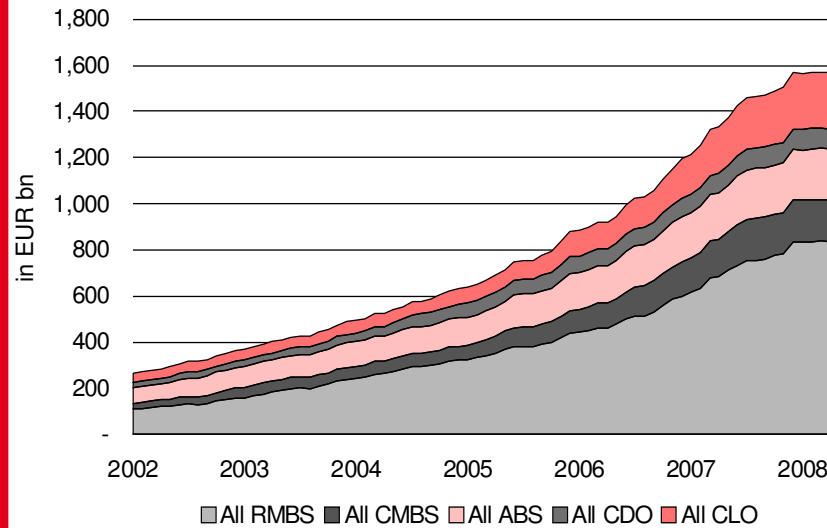
2008 outlook: ABS appetite has changed significantly ...

Demand Side	estimated share of demand 2007 pre-crisis universe	primary issuance volume decline, realistic average view 2008	short term outlook 2007/ 2008	long term outlook
Arbitrage Conduits/ SIVs	20%	-20%	-20%	-15%
Funds/ Asset Managers	30% thereof 7% MM-Funds	-10%	-15%	-7%
Banks	40%	-15%	-20%	improving, depending on spreads
Insurance Companies, others	10%			improving
Total Estimate	100%	-45%	-50%	-[30;40]%

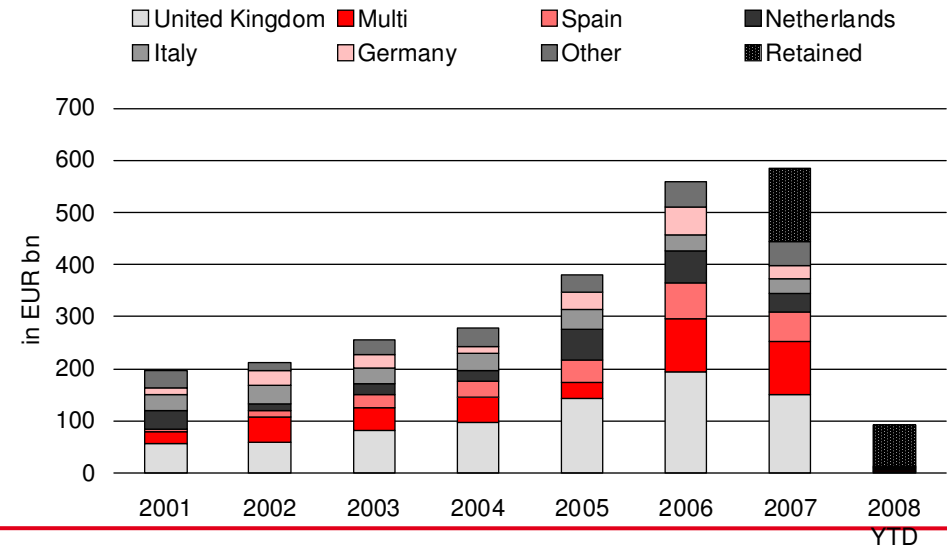
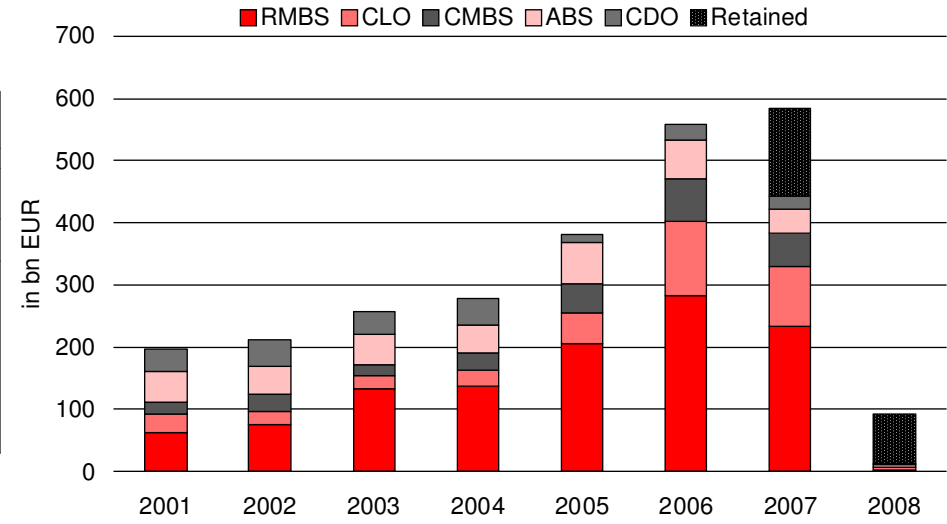
- Current intention of primary issuance: **mainly REPO financing with ECB!**
- Further intention: clearing of warehouses and termout of existing deals...
- Poor issuance expected if spreads stay unchanged!

... triggered a breakdown of European ABS and a meltdown of credit markets in general! Spreads widened continuously!

European Outstanding ABS volumes stagnate:



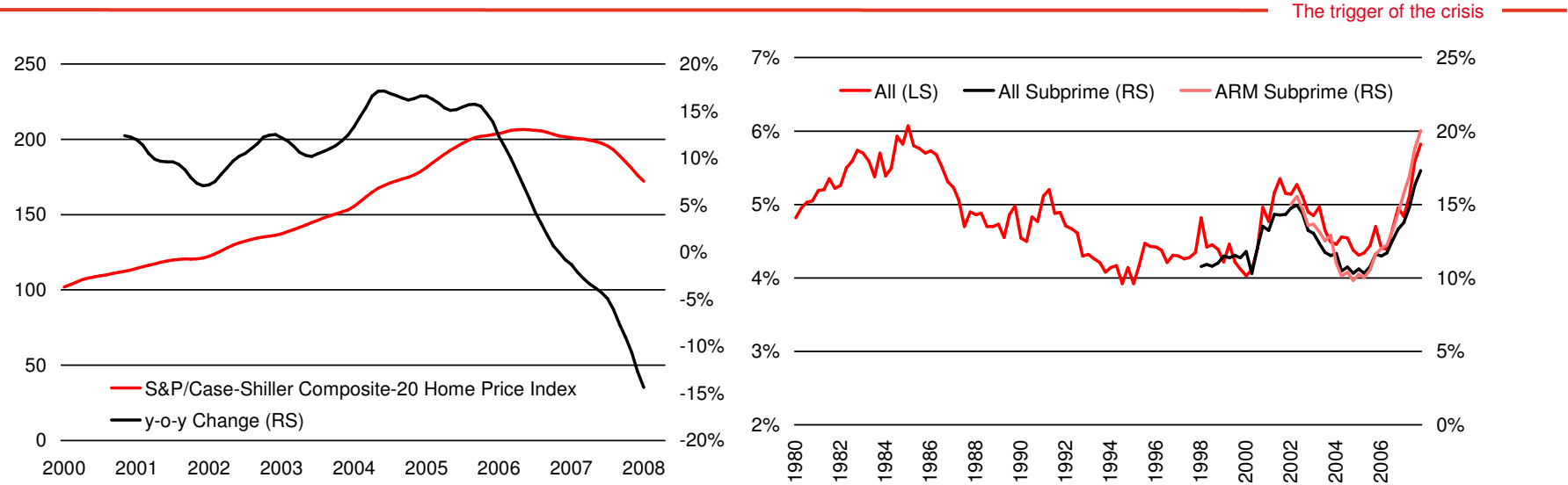
European ABS issuance volumes drop significantly:



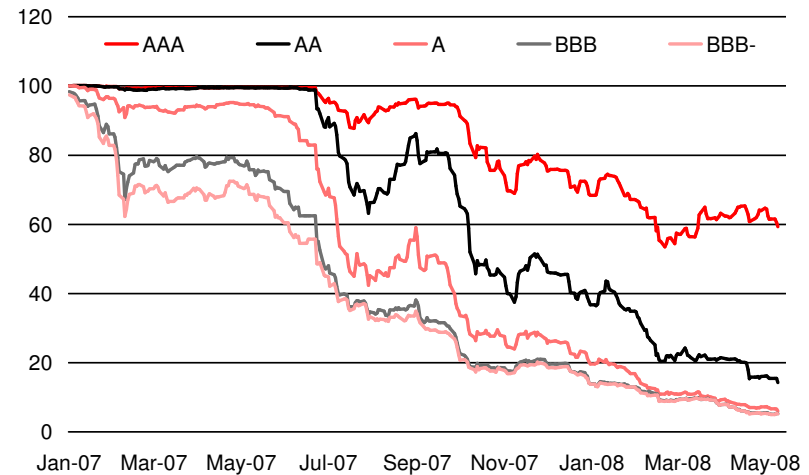
AGENDA

- The Cause

What was the trigger of the crisis? – The US housing market!



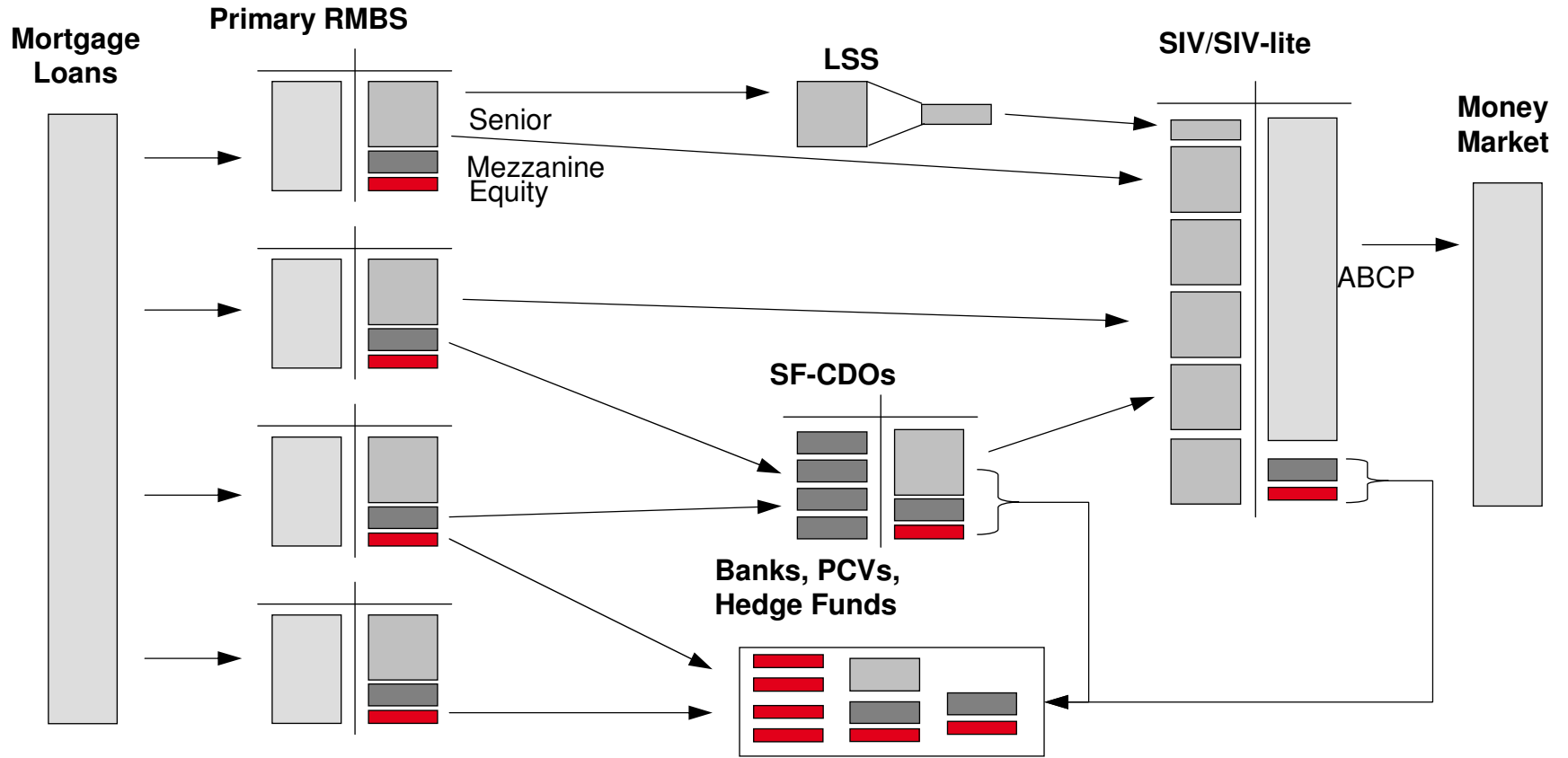
- **Since its peak in July 2006, the US housing market is in free fall.** The Case/Shiller index recently declined with a pace of 14% p.a.
- **Delinquencies and foreclosures in the US are continuously on the rise.** This is not only true for subprime RMBS (and here especially for the so-called adjustable rate mortgages / ARM), but also for Alt-A and prime mortgages
- **Since its pre-crisis tight, spreads on subprime RMBS exploded.** The BBB subindex from the ABX.HE (07 – 1 vintage) dropped to 70% from 100 in February 2007 on the first wave of the subprime turmoil. Now A to BBB trade at 10%, AA at 20% and AAA at 60%.



Source: Bankrate.com, Bloomberg, UniCredit Global Research

What was the cause for the crisis? – Structured^2 Madness!

The cause of the crisis



Refinancing mortgage loans (prime/subprime) in the money market



What was the cause for the crisis? – Too much leverage!

The cause of the crisis

- **Types of leverage**
 - Financial leverage: Use external leverage in order to gear up exposure to a risky asset.
 - Economic leverage: Purchase already leveraged assets, such as subprime mortgages, leveraged loans or equity tranches
- **Usage of leverage**
 - Funded: In a funded strategy investors use the combination of debt and equity to purchase risky assets (just as a bank).
This risk can even be increased by implementing a mismatch in spread duration between assets and liabilities
 - Unfunded: In an unfunded strategy investors sell protection on a higher volume than they provide collateral.
Example: Selling EUR 50 mn protection on the iTraxx in a note with a notional of only EUR 10 mn.
- **Consequence of leverage:** Increasing risk. Although this appears to be a no-brainer, a lot of investors did not realise that leveraged strategies involve significant mark-to-market risks, as leveraged positions typically involve trigger levels (similar to margin calls in future markets).
- **Example leverage ratios for ...**
 - Banks:
 - Unweighted ~20 (Tier1 capital/Total assets)
 - Weighted 12 – 13 (Tier1 capital/Total assets) and 9 –10 (Total capital/Total assets)
 - CPDO: 10 – 15
 - Structured Investment Vehicles (SIV): 15 – 20
 - Leveraged mortgage bond funds (e.g. Carlyle Capital): 20 – 30
 - SIV-lite: 30 – 40 (Sachsen Funding I had a leverage of 70)
 - Monoliners: 150 (up to 220 for an extreme case)

What was the cause for the crisis? – Leverage strategies!

The cause of the crisis

- The central theme for investor in the years before to the crisis was the search for leverage strategies.
- Due to the tight overall spread environment, accompanied by the concern that default rates might re-increase further down the road, investors implemented, investors were looking for strategies that leverage the spread risk but to avoid sensitivity to increasing default rates.
- This was implemented via
 - **compiling portfolios of low yielding assets and leveraging the risk externally**
(e.g. equity tranches of high quality CDOs)
 - **compiling portfolios of high yielding assets and deleveraging the risk externally**
(e.g. senior tranches of high yield CDOs)
 - or hybrid strategies, such as leveraged super senior (LSS), where investors compile lower quality assets in a CDO, take a super senior tranche and leverage them up externally
- **Example Strategies**
 - **CPDO:** Sell 15x the notes' notional amount protection on a portfolio of CDS indices (the risky asset). The leverage factor is variable and depends on the performance of the risky asset ("if you are in trouble – double")
 - **SIV:** Are leveraged open-end funds that buy a diversified portfolio of high quality financial assets (bank senior bonds, AAA-rated ABS and MBS tranches) using a mix of short and medium-term debt. SIV typically involve quite large management operations.
 - **SIV-lites** differ from SIVs as they are closed-end funds build upon leanly managed SPVs. They can be seen as a CDO that is refinanced with short term debt. SIV-lite have typically been invested heavily in the US mortgage market
 - **LSS:** Investors use a highly rated tranche (e.g. 10 – 20%) on an index or a bespoke portfolio and leverage them up externally (e.g. with a leverage from 5 – 10). In order to mitigate the gap risk (the risk that the loss on the leveraged tranche exceeds the collateral volume), investors agree upon unwind trigger. Similar to margin calls, the investors either provides additional collateral or the position will be closed.

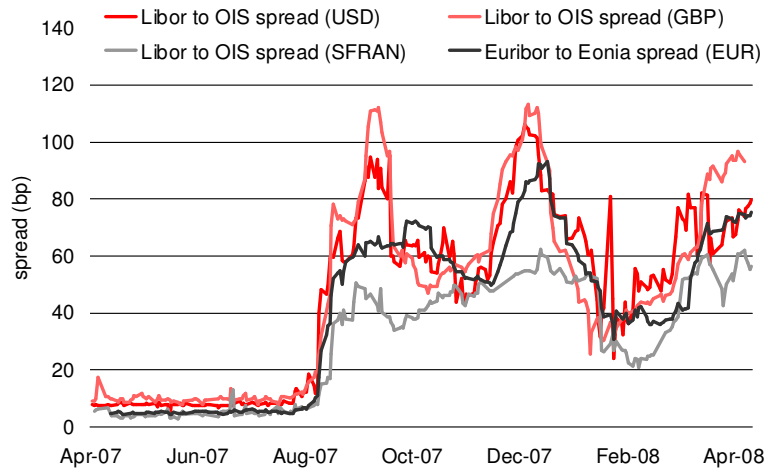
AGENDA

- Providing Liquidity

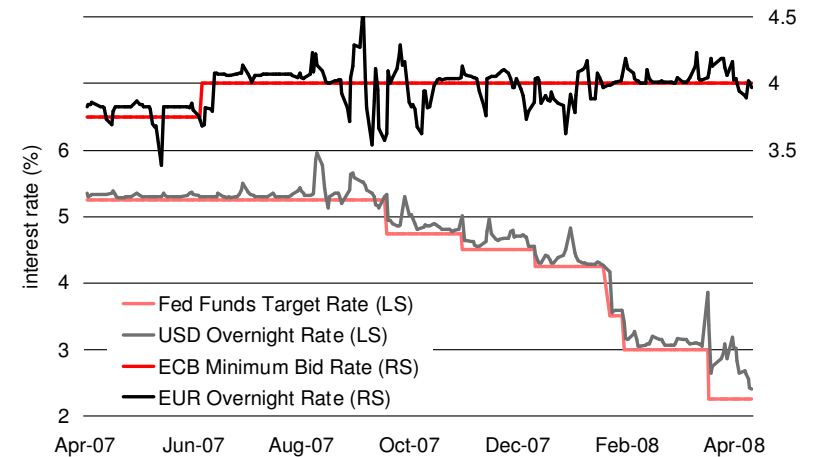
Central banks' roles: Monetary policy and money market spreads

Central bank's role

3-Month spreads in the money market



Overnight rates vs. central bank key policy rates



- During times of normal functioning of capital and money markets, central banks set their short-term interest rate to implement their monetary policy. This action is essentially based on two assumptions: Longer-term money-market rates should be linked to a central bank's short-term rate. The second assumption is that banks that have access to the short-term liquidity facilities of the central banks distribute this liquidity to the wider market, particularly to corporates.
- The spread between one-, two- and three-month inter-banking rates and overnight rates has been closely monitored in the course of the crisis and best elucidates the disruption of the money market. Levels of the spread fluctuate by a few, less than ten, basis points in normal times. The difference between the three-month LIBOR rates and the corresponding (non-funded) rate of the three-month overnight-rate swap is shown below (LS).

Source: Bloomberg; UniCredit Global Research

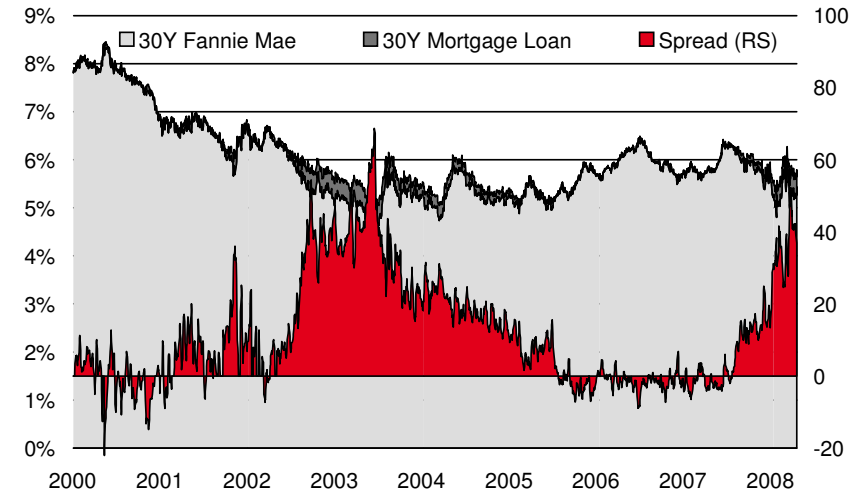
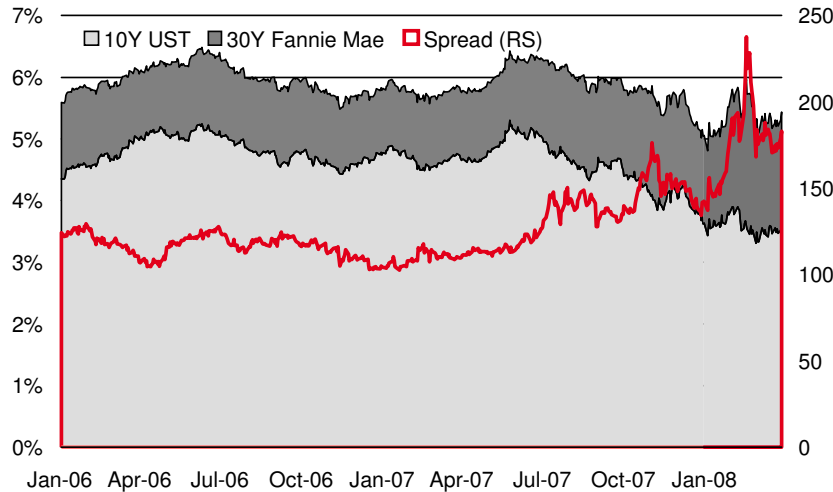
Central banks' roles: Monetary policy and money market spreads

Central bank's role

- **In the course of the crisis, the uncertainty regarding the financial soundness of counterparties increased at banks and investors alike.** One of the consequences was that trading of medium-term unsecured inter-banking funds dried up. Banks, investors and other market participants aimed at lending preferably overnight and borrowing long-term. Volumes in money market funds increased and banks held massive amounts of liquidity in overnight transactions. For banks, the long-term yields rose sharply due to steeply increasing credit spreads in the financial sector. Liquidity in the money market declined simultaneously. Central banks reacted to this challenge by increasing the volume of long-term refinancing.
- **In order to avoid increasing their balance sheet, they slightly reduced lending at shorter maturities.** The ECB even inaugurated a six-month auction in April 2008, which was oversubscribed four times at the first tender. In December, the Fed announced its temporary Term Action Facility that made available four- to five-week funds. In order to provide liquidity not only to commercial banks, the Fed extended the eligible counterparties of its new Term Securities lending Facility to Securities Firms. This was an important measure to fight the breakdown of the usual liquidity distribution channels.
- **Contrary to the Fed, the ECB has so far avoided any rate cut to compensate for increased funding costs in the banking sector.** Its monetary policy being primarily focused on stability of the currency, its focus is much more on monetary policy than on stabilisation of the financial markets and economic conditions.

Macro: US housing market – How to catch a falling knife?

The impact of the crisis



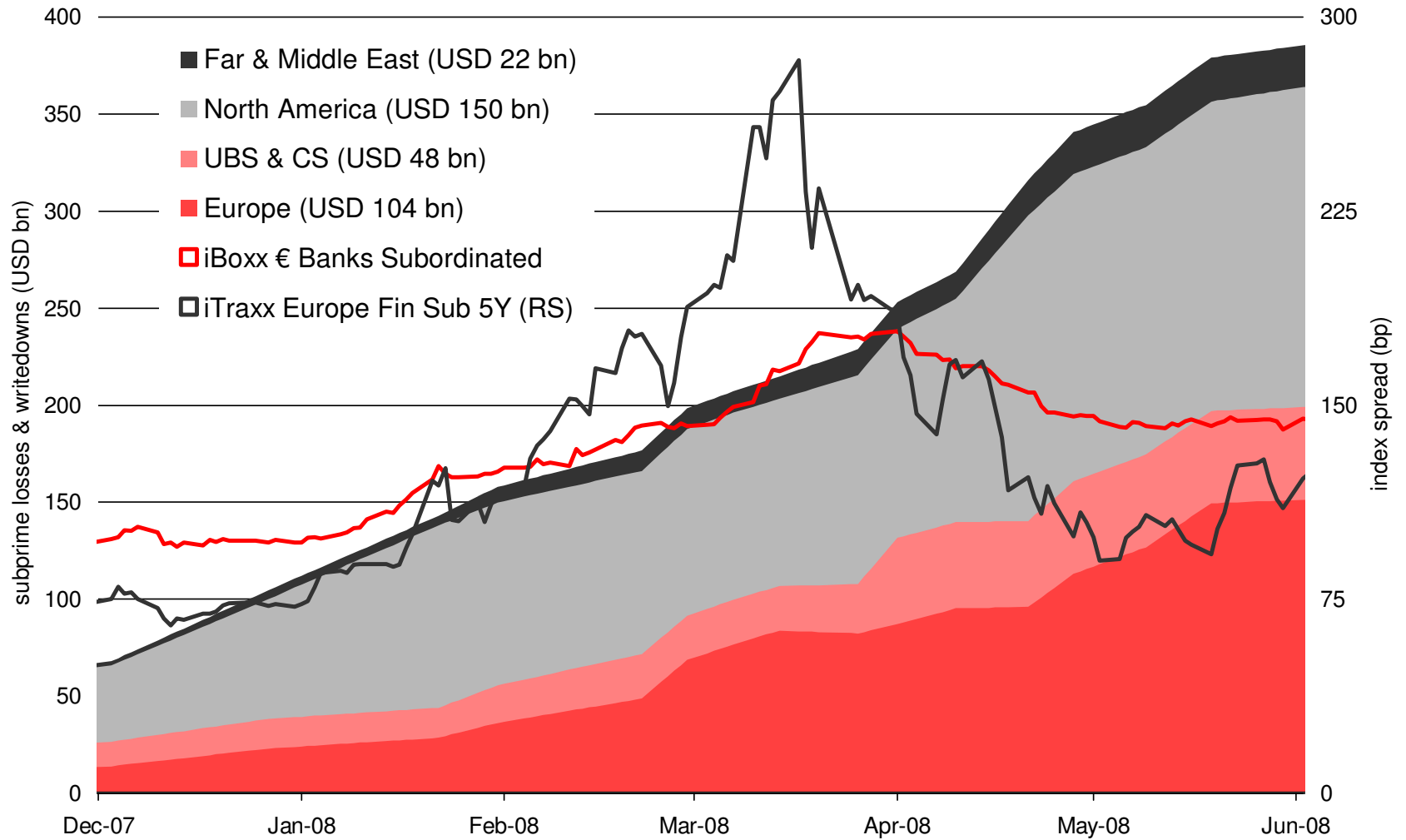
- **The recent release of the Case/Shiller index (y-o-y drop by more than 14%) shows that the housing slump continues.** Moreover, the crash does not show any signs of deceleration: Home prices are posting their strongest declines in over forty years and construction activity is in a free fall.
- **But what is perhaps more worrying is that Fed actions failed to have an impact so far. There is a simple truth: the housing cycle is driven by credit availability.** While one might argue how bad the situation might have been without Fed intervention, it is clear that that the drastic interest rate cuts failed to arrive at the mortgage borrower level. A quick calculation highlights the problem. Since September 2007, the Fed cut interest rates by 3%. This resulted in a curve steepening of about 125 bp. In addition, the credit "angst" triggered higher refinancing costs for mortgage lenders of about 100 bp (see left chart above). And, finally, due to the crisis, banks are demanding a higher premium over their refinancing costs from their borrowers, which account for an additional 50 bp (see right chart above). This means that the 3% rate cut reduced the costs for fixed rate mortgages by only 25 bp.

Source: Bankrate.com, Bloomberg, UniCredit Global Research

AGENDA

- Outlook and tactical view for the credit markets

This is a bear market rally (I)



This is a bear market rally (II)

- We have observed a bear market rally in credit markets during since mid of March. Essentially, we anticipate a significant backlash in credit and equity markets within the next few months. The famous "third leg" will not be technically driven but will be motivated by deteriorating economic conditions and further uncertainty regarding the "usual suspects" (e.g., monoliners). The bullish sentiment since the Fed bailed out Bear Stearns is mainly spurred by the ability of banks to raise money even in these difficult times, rising hope that the severity of 2nd and 3rd round effects was exaggerated (driven by positive statements of US officials), and better-than-expected (nevertheless, deteriorating) company earnings.
- However, April 2008 has been the worst month of the crisis regarding additional subprime-related losses and write-downs within the banking sector. More than USD 80 bn were reported by banks globally in April, in the course of the Q1 earnings release season. This figure does not include all the losses caused only indirectly by the subprime mortgage mess. There is still uncertainty regarding the extent of further mortgage-related losses: estimates differ considerably and the development of fundamentals that determine mortgage-related losses is not clear. One of these factors is the development of the US housing market.

Credit Markets and Recessions (I)

How long can it last?

Credit market performance during past (US) recessions

Recession Cycle	% Decline in Real GDP	% Widening in Spreads	High/Low bp	Duration (Months)	
1960-61	-1.6	63%	54/88	15	
1969-70	-1.1	95%	106/207	18	
1973-75	-3.1	312%	43/177	21	
1980	-2.2	132%	79/183	1	
1981-82	-2.6	79%	142/254	20	
1990-91	-1.3	43%	97/139	3	
2000-01	-0.4	285%	26/100	31	
Median	-2.2	95%		15	
Average	-2	144%		14	
Current cycle:					
iTraxx Main	--	218%	50/159	--	High 17 March 2008, Low 4 January 2008
iBoxx NFI	--	52%	75/114	--	High 3 April 2008, Low 1 January 2008
including 2007:					
iTraxx Main	--	695%	20/159	--	High 17 March 2008, Low 4 June 2007
iBoxx NFI	--	356%	25/114	--	High 3 April 2008, Low 15 June 2007
S&P 500	--	-13.9%	1478/1273	--	High 28 December 07, Low 10 March 08;
Euro Stoxx 50	--	-22.1%	4405/3431	--	High 28 December 07, Low 17 March 08

Source: Bloomberg; Moody's; UniCredit Global Research

Credit Markets and Recessions (II)

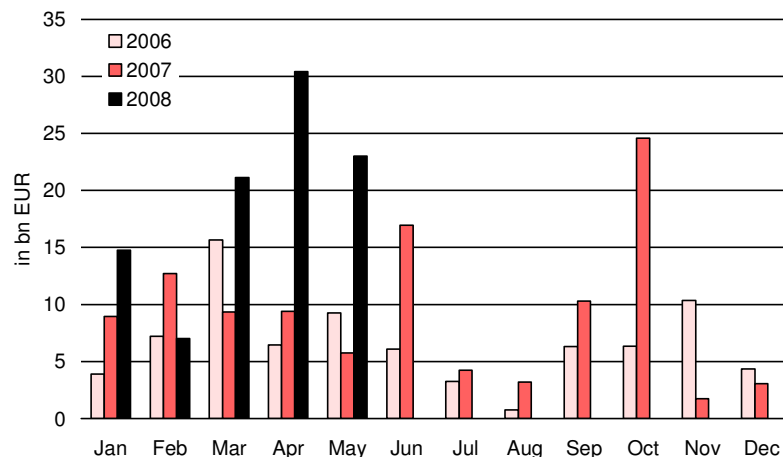
How long can it last?

- **We compare the current situation**, which has most probably already developed into a recession of the US economy (according to NBER officials), **with recessions in the past**, taking credit spreads as an indicator. We use the recession definition of the NBER, while we assume that January 2008 was the first recession month in the US. We use **Moody's spread for the US**, the iBoxx NFI index and also the iTraxx to show the high correlation between the indices, but also overshooting tendencies in synthetic markets.
- **Compared to previous crises, the spread widening looks pretty exaggerated especially** against the background that the severity of the economic downturn in the US is very uncertain. The average spread widening in the US credit market during recession phases is 144%. However, there are some strong reasons for this dramatic widening in 2008 so far:
 - **We are not in a "normal" recession cycle.** The economic downturn is accompanied by a severe credit & banking crisis. This argues for the fact that the amplitude of the recessionary swing might be worse than expected.
 - **Leverage in the system is still very high.** This is especially true for the (structured) credit market. Hence, technical aspects add momentum to spread moves. This is becoming obvious when we look at the synthetic universe, which is clearly leading the cash market in respect to the peak-to-trough swing in 2008! Derivatives add volatility in times of crisis. This is a also well-known fact from other derivatives markets.
 - **Credit spreads reached record lows at the beginning of 2007.** This was clearly undershooting, driven by the famous technical bid which supported markets from 2004 until the beginning of 2007.
 - All in all, **we doubt that we have already seen the widest spread levels**, at least in the cash market. A fully-fledged credit crunch accompanied by a deep recession in the US (the worst-case scenario of the IMF) argues clearly for wider spreads. This is especially true for lower qualities in the US, while we do not think that European credits can withstand negative impulses from this side. The iBoxx NFI peak-to-trough is 52% in 2008 so far. Plotting the spread target of the iBoxx to the average of 144% of previous recessions, we receive a spread level of **183 bps!** This is close to the level we have seen in October 2002, the spread peak in the 2001/2002 crisis.

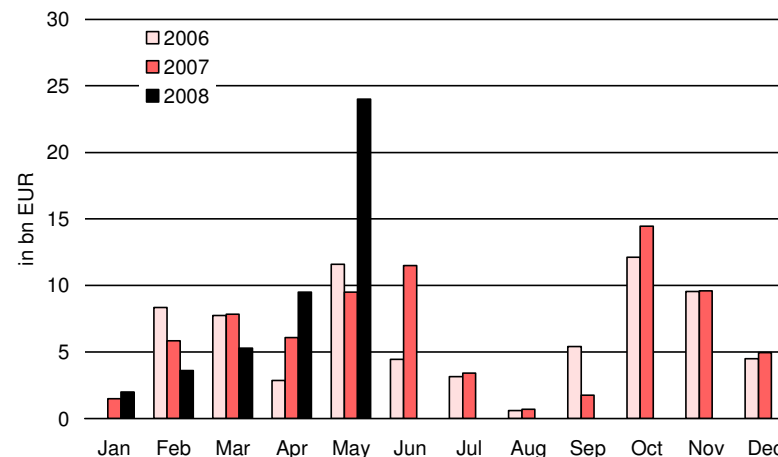
Market Technicals: Supply Shock in April and May!

ACTINOCUTITIS: How to avoid getting burned during a hot summer period

Monthly insertions: iBoxx Financials...



...and iBoxx Non-Financials



Source: iBoxx; UniCredit Global Research

- Factors supporting the dramatic increase in new issuance activity in April and May are obvious. Real money accounts were sitting on tons of cash, while secondary markets are still not offering enough paper to invest a huge amount of excess liquidity at decent spread levels. Especially banks are desperately looking for funding given the negative impact from the subprime meltdown on their balance sheets. Non-financials, which still show pretty healthy balance sheets, exploited this window of opportunity to refinance at relatively low costs. The increase of the all-in funding costs for better qualities (HG) was fairly limited as the yield decline offset some of the spread widening. Rising demand met rising supply!
- We do not expect this window to remain open for a long time. Especially during the summer lull, issuance activity will be limited. Consequently, issuance volumes in non-financials are expected to decline to levels we saw last year. The picture is a bit different when we look at financials. Ongoing funding needs argue for a more moderate decline in issuance activity than is the case with non-financials, which is reflected in our adjusted forecast.

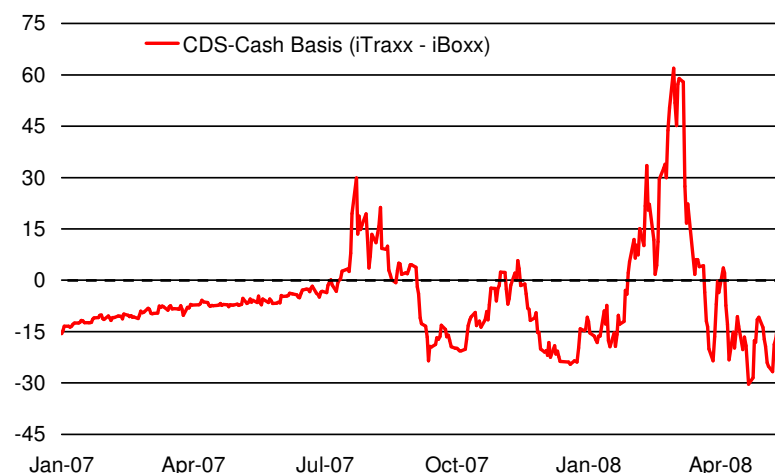
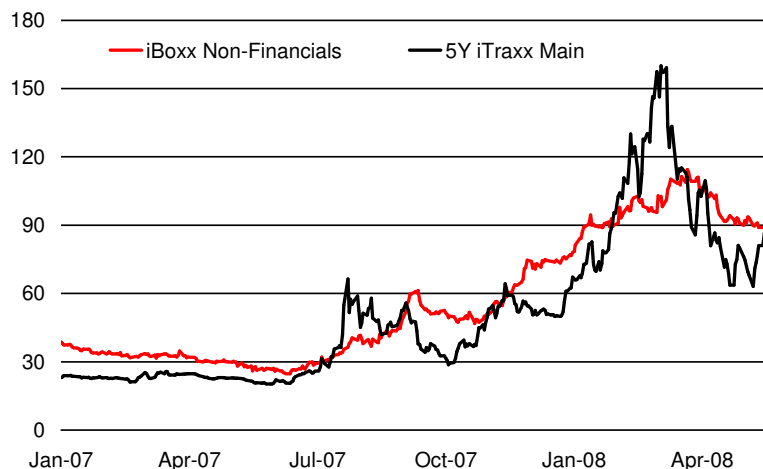
Waiting for the "infamous" third leg

ACTINOCUTITIS: How to avoid getting burned during a hot summer period

- The "bulls among the bears" argue for a boring summer period before the next widening leg hits the market in Q3 as investors will start to anticipate that spillover effects are worse than expected. The "bears among the bears" think that markets are pretty vulnerable during the summer given the traditional lack of liquidity at this time. A major argument why many optimists see the current spread valuation in the Main as highly attractive is that even if the economic slowdown in the US is probably worse than previously anticipated, European default rates in the high grade universe will stay far below the levels we have seen in 2001 and 2002. We definitely share the view that it is a long way to go until rising default rates in the US HY universe will hit the solid European IG arena default-wise. However, we do not think that the European credit market is able to withstand negative shockwaves from the US market from a pure m-t-m perspective.
- What is certain is that credit markets have been driven by sentiment over the last several weeks. Who cares about defaults in such a scenario? We think that this trading pattern will continue to dominate credit spreads during the summer lull, with negative headlines hitting both credit and stock markets similarly. In any case, we think that the high volatility regime will persist. Volatility is driven by the fact that leverage in the system is still very high. And leverage is also linked to the liquidity available in the market. As a reaction to the crisis, central banks flooded the market with liquidity. Our concern is not only that these actions will cause the next bubble in the medium term, but also that volatility will remain at elevated levels in the short term. Double-digit daily spread moves in the Main will remain a pretty normal phenomenon in 2008!
- What might be the impulse for the next widening wave? As we think that the crisis is currently in a transition phase, moving from the financial industry to the real economy, disappointments from the macro front, i.e. rising doubt that the amplitude of spillover effects will be limited to the global economy, is the most likely impulse provider for credits. Inflation worries are the most obvious threat in the short term.

Tactical View: No summer lull expected

ACTINOCUTITIS: How to avoid getting burned during a hot summer period



Source: Bloomberg, iBoxx, UniCredit Global Research

- Spread volatility remained very high in the synthetic universe which we see as an indication that "fast money" is still dominating. The Main hit the 62 bp level mid-May but widened significantly in the second half of May, reaching a spread peak of 93 bp on an intraday basis. The over/undershooting phenomenon in the synthetic universe continued as the reaction in the cash market was much smoother. This was primarily driven by the strong demand for new issues, which had a positive effect on secondary spreads, although liquidity is still fairly low in the cash market. There are rising signs that real money accounts have already reduced their liquidity overhang drastically during the last several weeks by investing into primary markets, which argues for diminishing support for cash spreads from this side.
- All in all, we expect the basis to remain very volatile, however, closely linked to the market direction. This reduced the efficiency of hedges from a pure theoretical perspective, while it offers some attractive opportunities. The basis still looks pretty cheap right now. If you share our view that the next blowout is just a question of time, the basis benefits from the overshooting character of synthetics. If you believe in the end of the crisis, the basis should also move back to neutral. We continue to think that the timing for protecting cash portfolios with synthetic indices is still attractive: increase hedge exposure right now!

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AGENDA

- Backup: The Q&A Session

The Q&A Session: 1. The Fed is successfully fighting the crisis

Bulls vs. Bears: Who got it right?

- **The argument:** The Fed is willing to fight the crisis at any cost and with all weapons available. There will be no failure of a major institution. The stimulating impulse from monetary easing will start to materialize soon.
- **The rationale:** The Fed has been pretty innovative during the last several months. They cut interest rates by 3.25% and provided markets with additional liquidity in a conventional way in record size, but also introduced some new tools, e.g. TSLFs. The Fed will definitely react to any further stress the same way it did before! The Fed is willing to fight the crisis at any cost. This will mitigate the systemic shock of the subprime meltdown. The only remaining problem is the still distorted money market. This is, however, already addressed and will be solved soon. Then the stimulating impulses from an eased monetary policy will start to materialize. Moreover, the Fed clearly showed that it is willing to bail out major players to prevent the financial segment from a systemic shock. Senior bond holders should be safe in any case, while shareholders have to pay the bill. Strong stock markets, however, reflect the fact that shareholders are still happy!
- **Our view:** The concerted action of global central banks with the Fed being in the driving seat is the logical reaction to the crisis since the experiences made in the aftermaths of the 1929 recession. Since then, flooding the market with liquidity is the appropriate answer to crises in the financial system. However, this is combating the symptoms rather than the real cause of the crisis. Excess liquidity central banks provided in the aftermath of 9/11 and "Enronities" was a prerequisite of the emergence of the structured credit bubble. Fighting a crisis which was driven by excess liquidity with additional liquidity sounds strange. We see the risk that other bubbles will emerge in the medium term. The bailout of Bear Stearns (by providing a guarantee on a default-risky CMBS portfolio) stabilized sentiment in the short term. We doubt that this is the right measure in the medium term as moral hazard is a real threat. As Bear Stearns was not a member of the inner circle of the US banking system, there are other players that now have the same right to be bailed out if need be (e.g., the monoliners). (See also argument #10).

2. Recapitalization works!

Bulls vs. Bears: Who got it right?

- **The argument:** The recapitalization of the banking industry does work. Financial institutions are able to raise fresh capital even in the current critical environment.
- **The rationale:** The credit bears price in a meltdown of the global financial system. However, the subprime crisis did not trigger a broader systemic crisis. Moreover, the crisis did not spread across the whole financials industry, but was quite concentrated on a few names with huge losses (Citi, UBS, and Merrill Lynch), which, however, could raise sufficient capital in order to stabilize their balance sheets. Citigroup reported write-downs and losses that amount to USD 40.9 bn, while they raised additional capital totaling USD 44.1 bn. For UBS the figures amount to USD 38.2 bn in losses and write-downs and USD 28.2 bn in recapitalization, while for Merrill Lynch the respective figures are USD 31.7 bn (write-downs & losses) and USD 17.9 bn (fresh capital). But also for most of the smaller subprime victims the impact was not of a devastating nature, which also shows that the risk transfer using credit derivatives worked. However, one of the consequences of this recapitalization is that the credit crunch will not be as severe as initially expected, since the capital basis was not eroded so dramatically. Moreover, this massive recapitalization shows that investors are willing to spend money to benefit from cheap entry levels.
- **Our view:** First of all, a credit crisis does not necessarily mean that there has to be a systemic collapse. Things can get pretty ugly for investors even without a systemic shock. So the fact that banks were able to access capital is good news, but it does not mean that there are no more problems. It simply means that the problems are smaller than without fresh capital. Moreover, the amount of reported losses still exceeds the reported losses by far. Taking balance sheet losses into account, there is still a difference between write-downs and new capital of about USD 150 bn (according to Bloomberg data). Assuming a realistic equity leverage of 15x, this would translate into a reduced lending capability of USD 2,250 bn. A pretty substantial amount, which makes up for about 20% of the US mortgage loan volume. Moreover, the fact that investors are putting capital into banks does not necessarily mean that this is motivated by direct economic interests (e.g. strategic issues of sovereign wealth funds, see also argument #8) or that they made money from their bets. Just recall Warburg Pincus, which injected about USD 1 bn into MBIA beginning of December 2007, USD 500 mn of which were purchased at USD 31 per share. Currently, MBIA's share trades below USD 10.

3. There is enough liquidity around

Bulls vs. Bears: Who got it right?

- **The argument:** There is enough liquidity in the system! Money will be put to work again. Especially risky asset classes should benefit from reinvestments.
 - **The rationale:** Especially real money accounts like insurance companies and asset managers are sitting on huge amounts of cash due to very limited investment activities from Q2 2007 until Q1 2008, while money flew in continuously. In addition, some hedge funds and others who survived the subprime crisis pretty well so far, are actively looking for investment opportunities. The latest hype in founding distressed structured credit funds is reflecting this "excess liquidity" for investments. Distressed buyers will limit any significant drop in prices for risky securities, finally also supporting credit and structured credit markets.
 - **Our view:** Following three quarters without any investment activity, it does not come as a surprise that real money accounts are looking for opportunities, which they find particularly in the primary market. These accounts are "forced to invest" to reduce their immense cash holdings. In combination with the companies' view that this might be a window of opportunity to tap the primary market, we would not overestimate the current liquidity flood into new issues. In general, we still believe in the old macro-economic credo that besides rate hikes there are two alternatives to reduce liquidity: inflation and the burst of a bubble. Currently, markets are facing a combination of both.
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4. Loss estimates are exaggerating real-world losses

Bulls vs. Bears: Who got it right?

- **The argument:** Loss estimates are exaggerated as a huge part is referring to m-t-m losses. Pull-to-par will ease the situation over time.
- **The rationale:** Many loss estimates and reported losses are probably exaggerating the true cumulative losses which will occur in the following years. Of course, there are many differing loss estimates. Some, e.g. S&P's loss estimates of March this year regarding only subprime assets, are actual loss projections and do not refer to mark-to-market valuations. Such estimates cannot generally be regarded as exaggerating or understating cumulative losses. Nonetheless, actual losses that will occur in the future may differ from these projections, in a positive but also in a negative sense. The estimates are highly dependent on loss assumptions, which, in turn, depend on delinquency and foreclosure rates and the development of house prices (primarily the US). Other estimates of credit-related losses and write-downs also include valuation losses. The estimate of the IMF is such an example (please refer to the "World Financial Stability Report" of April this year). The IMF uses both projections of actual losses, which are expected to emerge during the next years, as well as losses due to adverse mark-to-market developments. The former are applied to banking book loans and the latter to any derivatives and also to securitizations in particular. Mark-to-market losses should be greater than future expected plus realized losses on RMBS. As actual losses that will occur in the future are not known today, the corresponding uncertainty represents a risk, which must be reflected in market prices. Of course, a risk premium is not a component of loss projections but of market prices. That is the main reason for a difference between actual real-world losses and valuation losses.
- **Our view:** The methodology of the IMF is reasonable. In general, financial instruments for which the IMF uses the valuation approach have to be marked-to-market, which is then reflected in the banks' quarterly earnings releases. These valuation losses are therefore actual losses for the financial institutions, irrespective of the possibility that years later valuation adjustments may lead to profits again, and they definitively erode the capital base today, increasing the risk of a credit crunch! Furthermore, a conservative accounting approach will not just consider the most likely future losses or real-world expectations. The economic impact is hence well captured by mark-to-market valuations. For loans in the banking book, where losses are not derived from mark-to-market, there is additional (credit risk) capital allocated on the balance sheet.

5. Real money accounts act as "distressed buyers"

Bulls vs. Bears: Who got it right?

- **The argument:** Real money accounts put their money to work. The strong primary market activity shows that there is demand for credit risk. Issuers are, in fact, able to tap markets, and investors are not in a bearish mode.
- **The rationale:** The strong primary market activity shows that there is demand for credit risk. In April, about EUR 30 bn new financial bonds could be placed in the market. After the blowout in March, which brought spreads to extreme levels, many investors see current spread levels as an opportunity. The more positive tone did not only affect financials and non-financials. Recently, liquidity also returned to structured credit markets. Moreover, the good reception of the recent new issues shows that 1) issuers are, in fact, able to tap markets, and 2) that real money investors are not in a bearish mode. They buy risky assets.
- **Our view:** Many investors who now return to the markets are forced to invest. They are consequently using opportunities that emerged due to the extreme volatility. This is in fact a constructive sign and it is also positive that a lot of first-time investors, such as retail investors and private banking clients, are entering the market. And it is also good to see that there are also some investors out there which follow a more counter-cyclical investment strategy. However, all these are not good arguments that the crisis is over. The fact that bargain hunters enter the arena simply shows that some investment opportunities emerged, which is quite obvious as the crisis created partly extreme valuations, especially in the structured credit universe and among financials. However, starting to buy the whole market is definitively not their objective, and should also not be the conclusion. Moreover, these activities are far from being a bail-out bid, as the volume that stands behind is far too small. In addition, the flood of new issues was almost completely concentrated on the safe names, safe industries and safe maturity brackets, i.e. the short end of the curve. And here, the problem of the issuance activity becomes apparent. Neither are investors willing to lend for longer durations, nor are institutions happy to lock in the current funding costs for longer time horizons. Another important fact should also not be overlooked: banks have higher funding costs, and not only in senior unsecured debt. Perhaps even more painful are the still high levels in the bulk-funding markets – covered bonds and ABS/RMBS, with the latter essentially still being shut down (despite the recent more positive performance of secondary markets). However, the higher funding costs will be rolled over to clients, which will, in addition to the reduced risk-bearing capabilities, cause at least a credit squeeze, if not a credit crunch.

6. Micro-fundamentals are still good

Bulls vs. Bears: Who got it right?

- **The argument:** The micro-fundamental situation especially of non-financials is still very good – no jump in default rates. Earnings data is already showing signs of weakening, but they it is still far from pointing towards a recession.
- **The rationale:** If the worst recession since the 1920s were to be under way, the impact on the earnings situation of non-financials should be significantly larger. The deteriorated situation will leave some marks, but most of it is already priced in. On the non-financials side, the situation appears to be much less severe than compared to the 2001/02 crisis. This time the problems originated within financials and they will be solved rather soon.
- **Our view:** It is true that the impact of the crisis on corporate balance sheets is still less severe than during 2001/02, but this is due to the nature of the crisis – a financial market crisis. A spillover onto non-financials will take some time (perhaps more time than expected by some credit bears). However, it would be the first time in history that a banking crisis of such magnitude would not spill over onto the real economy. Earnings in critical sectors, such as consumer discretionary are already weakening significantly. In Euroland, there were also warning signs that the impact on corporate earnings could be harder than implied by current stock market valuations. Here, the strong EUR is a problem. On the other hand, the surprisingly positive results of IBM, for example, were caused by exactly the opposite argument – the weak USD. It is clear that the spillover mechanism from a credit towards a corporate earnings recession takes some time. But in the end, when losses materialize, it does not matter what we call the child – consequences of the subprime crisis or "normal" cyclical behavior of economic growth.

7. The Asian Put

Bulls vs. Bears: Who got it right?

- **The argument:** Asian economies are stabilizing the world economy, while the importance of the US declined compared to previous crises. The subprime crisis is ugly, but the impact on European credit markets will be less severe, as discounted in current spread levels.
 - **The rationale:** The strong growth of emerging markets especially in Asia was a major pillar of global economic growth over the last several years. In respect to global GDP contribution, the importance of Asian economies grew significantly since the last financial crisis in 2001/2002. Hence, these economies are able to offset an economic slowdown in the US to a large extent. Especially European economies are increasing their business with Asian economies, while business with the US stagnates. Hence, strong Asian economies directly have a supportive impact on the micro-fundamental side of European companies. Credit metrics of European companies, therefore, are much less sensitive to economic shocks from the US as was the case in previous crises.
 - **Our view:** We know it. The IMF knows it. Nevertheless, the IMF reduced its global growth forecast significantly, not only for 2008 but also for 2009. Asian economies have been broadly spared any housing woes so far. Referring to the geographical distribution of losses, more than 90% are located in the US and in Euroland. Asian economies are a winner of the subprime crisis in respect to their importance for the global economy. However, there will also be a cyclical downturn in Asia. Growth rates of 15% (China) are not sustainable over time, the strong increase in commodity prices will create significant problems, and rising pressure on currency revaluations will probably limit growth more strongly than currently anticipated. In our view, the Asian economies are not strong enough to fully offset a potential meltdown in the US. From a pure credit perspective, default rates should be very insensitive to what is happening in Asia. And finally, they will increase. This will be a burden for credit markets, in any case.
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8. Sovereign wealth funds as a new funding source

Bulls vs. Bears: Who got it right?

- **The argument:** The establishment of sovereign wealth funds is a stabilizing factor. The immense liquidity of these funds is a pretty new development, arguing that the crisis might be less severe than previous ones.
 - **The rationale:** Since the beginning of the subprime crisis, according to Bloomberg, banking institutions have raised USD 263 bn of equity capital and subordinated debt, respectively. This is a remarkable track record as liquidity was frozen in major capital markets at the same time and banking institutions were suffering from heavy losses and uncertain prospects regarding further losses. This fact has repeatedly been acknowledged by officials like Fed Governor Ben Bernanke. In most cases recapitalization has been a rather smooth process, without many negative headlines. Major investors were sovereign wealth funds, in particular from middle and far eastern states. They provided substantial amounts when Citigroup, UBS, Merrill Lynch and other banks with significant double-digit USD bn losses had to find bailout partners. Petrodollar foreign investment assets amounted to more than USD 3 tn. There is more money available to capitalize banks from oil-exporting countries. Furthermore, Asian government funds are expressly looking for further investment opportunities in the financial sector. The oil-price inflation will further improve the liquidity situation as oil profits will rise in oil-exporting countries. Moreover, the fact that strategic investors enter the market does not necessarily mean that these investors are driven by risk & return optimization only. Sovereign wealth funds may put their money into the game due to strategic considerations.
 - **Our view:** Foreign investors may have interests that exceed or deviate from pure investment interests, and their appearance in the market does not necessarily mean that prices for banks are cheap enough. SWF might be willing to pay a "political price". Moreover, strategically important industries, like the banking sector, will not be handed over entirely to foreign wealth funds. That limits their engagement in the European and US banking industry. They are expected to face political resistance if their stake in important banks becomes too influential. As long as this is not the case their dedication is highly welcome, but that may change very fast.
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9. The financial meltdown is a "crowded trade"!

Bulls vs. Bears: Who got it right?

- **The argument:** The technical picture appears quite supportive. A majority of investors is already hedged, limiting spread widening even on the back of negative newsflow.
- **The rationale:** Credit bears unified in March 2008! At the peak of systemic woes, almost everyone was convinced that spread widening will continue, leveraged super senior will experience further selling pressure, and equities are heavily overvalued. Betting on wider spreads was a "crowded trade". From a trading perspective, participating in an already a crowded trade does not make sense at all. On the contrary, the technical picture indeed appears to be quite supportive. Investors (real money accounts, see argument # 5) who enter now did not burn their fingers yet. That's why they might be more resistant in respect to mark-to-market volatility (in case they have to account for m-t-m). From a long-term perspective and assuming a mean-reverting behavior of credit spreads, the current levels look very appealing and should be seen as an opportunity.
- **Our view:** A large part of the credit community was already hedged in March after the dramatic spread blowout since the beginning of the year. Hence, the strong reaction to the Fed's bailout of Bear Stearns was linked to positioning rather than to strategic views of market participants. Synthetic indices are, in any case, characterized by over- and undershooting processes primarily driven by the fact that "fast money" is dominating the indices. We argue that we are seeing undershooting in spread terms right now (also reflected in the fact that the basis is trading deeply in negative territory. This is squeezing the last bear out of the market, clearly arguing that the "crowded trade" argument lost explanatory power over the last few weeks! Moreover, a crowded trade that lost simply means that someone has to book the loss. In this case, odds are high that this loss goes to banks, turning Q2 into another ugly quarter earnings-wise. From a technical perspective, the risk for another downward leg in credits increased recently.

10. Governments are backing central bank actions

Bulls vs. Bears: Who got it right?

- **The argument:** Governments are backing even unprecedented activities of central banks, helping to stabilize the financial system, e.g. the bailouts of Bear Stearns and Northern Rock (and even the rescue plan for IKB).
 - **The rationale:** It was an unprecedented action when the Fed decided in mid-March that the US taxpayer is going to partially cover risks of Bear Stearns' debt portfolios, up to an amount of USD 29 bn. In the Bear Stearns rescue package, JP Morgan is taking the equity piece of a USD 30 bn portfolio of Bear Stearns and the Fed is covering the risk of the remainder, in order to acquire JP Morgan for a concerted rescue plan. The Fed acted without precedent. Quite naturally, after this rescue decision was announced on March 17, the Fed was questioned in the political arena, at least rhetorically. Most surprisingly, the political debate was essentially over after a few days, with most politicians realizing that a more severe systemic risk had to be averted. The implicit government backing of the March Fed action has been a major trigger in the turnaround of the current financial markets crisis. There is a precedent now and in a similar situation financial markets will rightly expect a similar reaction and aid initiative. The rescue of Northern Rock in the UK has been a corresponding government-backed decision. After the Northern Rock aid, it was officially stated that any other bank in the UK that finds itself in a similar situation can expect the UK government will take the same measures that it applied at Northern Rock! That is a very strong statement. A matter of political debate is now that such rescue mandates need a formal framework, but support is expected. The drawback of this implicit subsidy for the financial sector is the threat of increased and excessive regulation. It does not only imply the burden that costs related to financial supervision are mounting at banking institutions but may harm the development of the financial markets themselves.
 - **Our view:** Taxpayer aid cannot be expected without limitation. It has been criticized already that the government is subsidizing the banking sector without providing direct relief and aid to home owners who face foreclosure. The government opposes plans, in particular a recent House bill, to help insolvent home owners. Its rationale is not to reward irresponsible lenders and borrowers at taxpayers' expense. Such rationale is also applicable to financial institutions. In any case, these actions might add to inflationary tendencies.
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Conclusion of the Q&A Session

Bulls vs. Bears: Who got it right?

- **We do not share the view of the "the worst-is-over" camp**, despite the fact that in some asset classes we might have already seen the spread peaks. We still argue that the crisis is currently "changing its character". Initially, it was a systemic shock in the banking system, which is now spilling over onto the real economy. Such a transmission phases is characterized by recovery trends in specific segments and stabilization in others. However, spillover mechanisms have already been established and these effects mean an additional burden for the real economy.
- **Spillover effects argue that the recapitalization is not over yet.** This will be a burden for stock markets and limit the recovery potential of credits. Betting on pull-to-par just means that the deleveraging process will take some time. As long as this process is not finished, banks will not return to a pro-active lending policy. It is true that non-financials are in much better shape than during the 2001/2002 crisis. This is primarily linked to the fact that the course of the crisis is exactly the other way around as was the case during 2001/2002: a real economy problem (US housing slump) is hitting the banking system (write-downs) and will finally be reflected in deteriorating credit metrics of non-financials!
- In a recent research piece, we quoted JPM's CEO Dimon, who warned that **"the current credit market crunch may soon be over, while the US could still face a deep and extended recession"**. That is exactly what we fear the most. The recent "crisis is over" mode in credit markets is primarily based on the view that we have seen the worst in respect to direct subprime losses. The more dramatic threats for the market, however, are spillover effects onto the real economy. This is the reason why we think the crisis is not yet over, it is only changing its character. Dimon also stated that a potential recession may rival the severity of the 1982 contraction, while he also mentioned that tighter credit standards, new rounds of write-downs, capital infusions, and asset sales by banks could last into 2010. He explicitly mentioned the potential threats for the consumer lending business. Dimon was one of the first CEOs of a major player who announced some weeks ago that the worst is already behind us. Now, it becomes clear what he meant. Obviously, it depends on how he defines "the worst". However, we share the view that the crisis is slowly spilling over from banks to non-banks. This might take some time but will finally cause the famous "third leg" of spread widening.

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