10-30-2007

Citi Review of the Current Environment

David Bushnell

Review of the Current Environment

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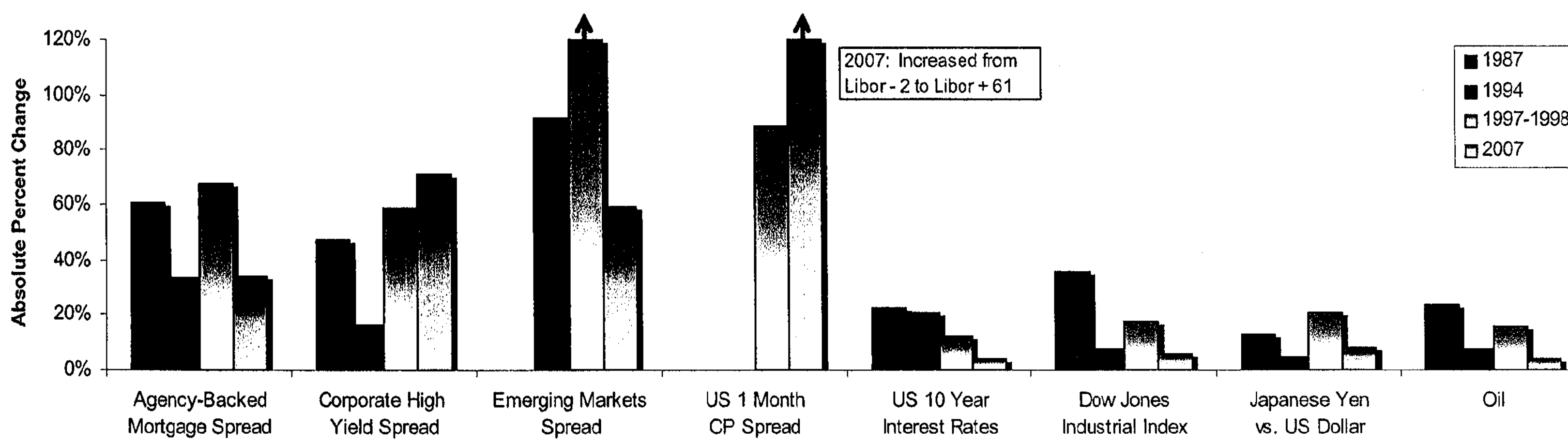
October 30th, 2007

Historical Perspective

- **Over the past several months, markets have experienced a significant dislocation, prompting comparison to other significant market events in the last twenty years.**

- **1987 Stock Market Crash**
- **1994 Bond Market Collapse**
- **1997/1998 Asian Crisis and Long-Term Capital Management Collapse**

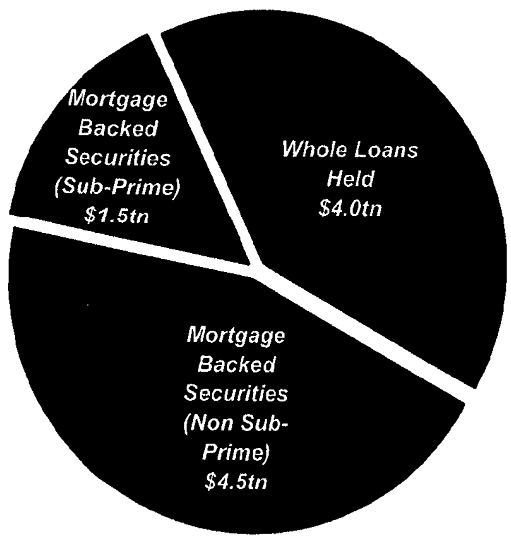
Largest Two-Month Market Movements during Financial Crises



The 2007 market dislocation has some similarities to previous events but is not as widespread and is focused on credit markets, thus far.

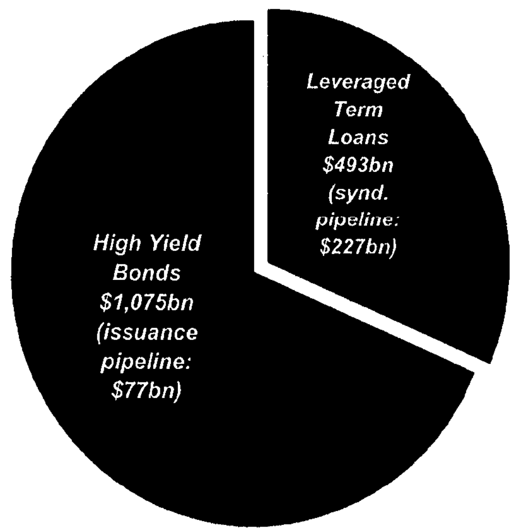
Market Size

U.S. Residential Mortgage Market
$10 Trillion Outstanding



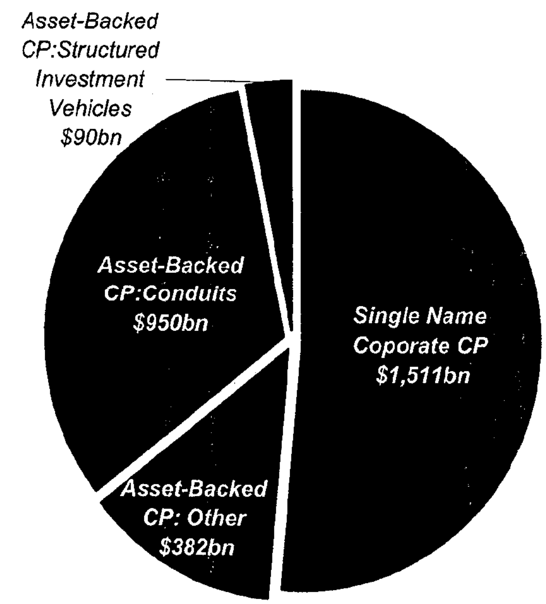
As of March 31, 2007

U.S. Leveraged Finance Market
$1.6 Trillion Outstanding



As of June 30, 2007

Global Commercial Paper Market
$2.9 Trillion Outstanding



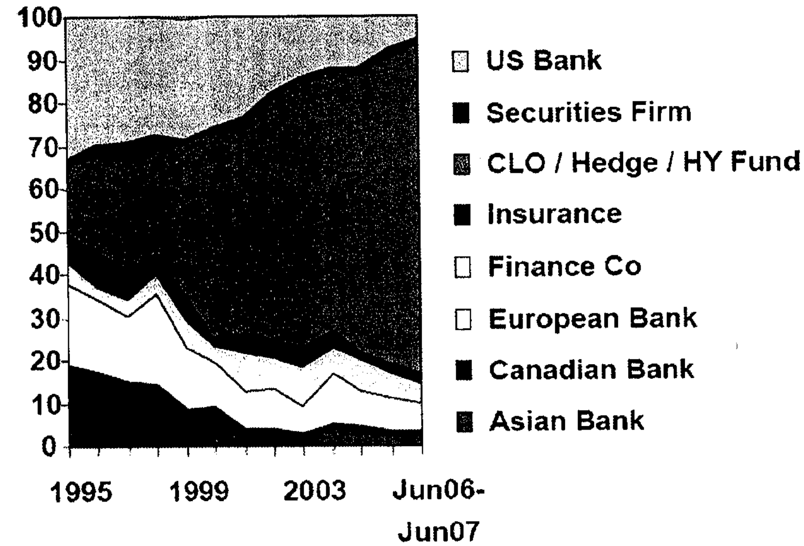
As of June 30, 2007

Leveraged Finance: Background

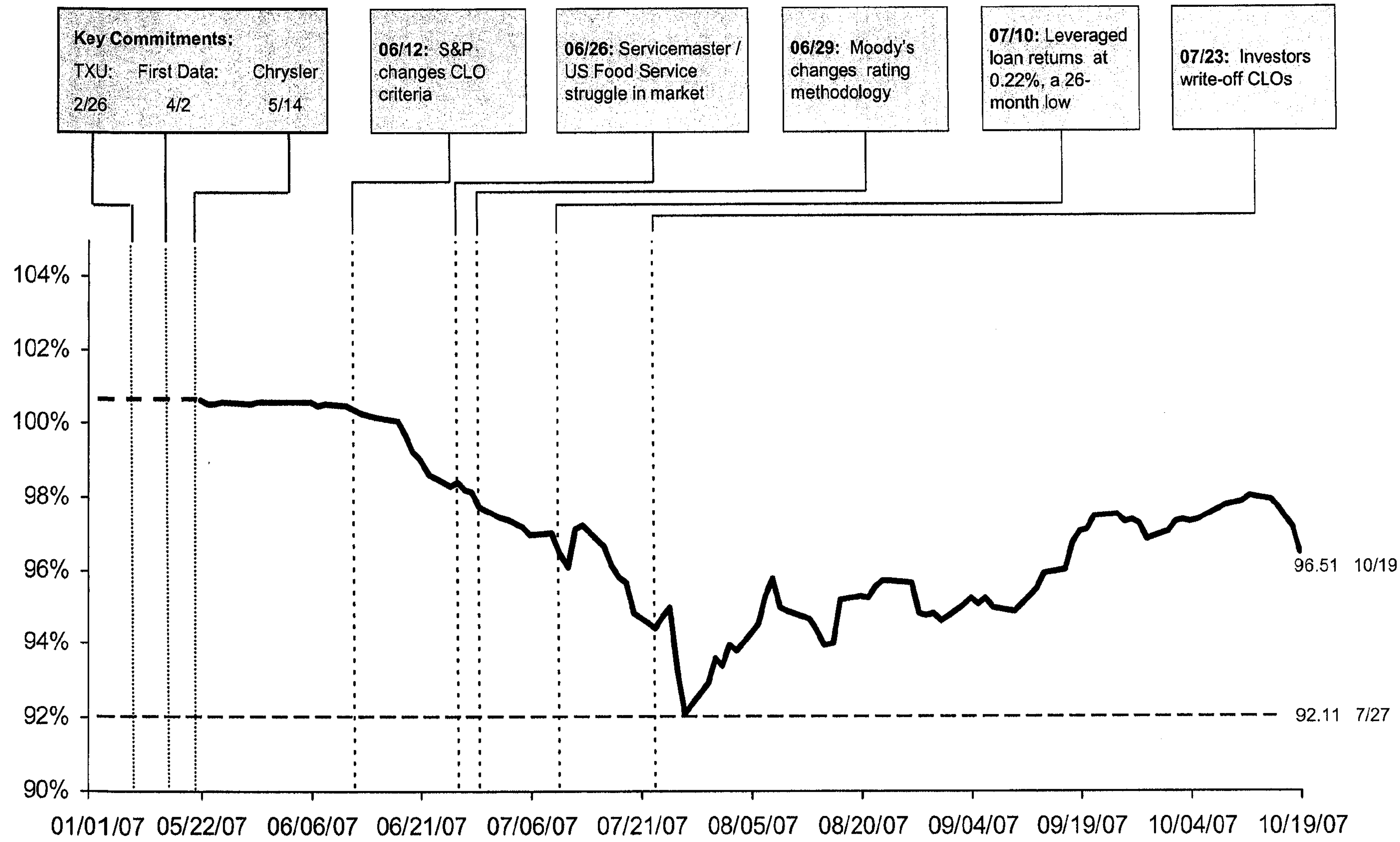
How did Leveraged Finance come about?

- Leveraged buy-outs began in the 1980s
- Since 2000, significant inflow of capital to private equity funds
  - Private equity becomes major source of M&A activity (6% in 2000 to 29% in 2007 YTD)
- Excess liquidity drives demand for higher yields
- Structured credit products created to meet demand from yield-hungry investors. Loan originators decoupled from loan holders.
  - Contributes to loosening of underwriting standards
  - Aggressive competition on covenant and pricing terms
  - Leverage multiples rise substantially
- The top 5 underwriters of high yield bonds and leveraged loans have been Citi, JPMorgan, Credit Suisse, Bank of America and Deutsche Bank.

Leveraged Loan Investor Base



Leveraged Finance Market Events



*Definition of the LCDX - The LCDX Index is a portfolio CDS product composed of 100 Loan Only CDS referencing Syndicated Secured 1st Lien Loans

Leveraged Finance: Outlook

- **Near-Term Implications:**
  - Mark-to-market losses on financing commitments and trading positions
  - Fewer large private equity transactions; Tighter covenants, pricing flex and MAC clauses
  - Increase in size of banks' and broker-dealers' balance sheets

- **Lessons Learned from a Business / Risk Perspective**
  - Business models that rely on distribution of risk to highly-leveraged investors must be tightly monitored and managed.
    - Move Leveraged Finance distribution exposure metrics away from 'outstandings-based' credit risk metrics to spread- and interest rate-based market risk metrics
  - Market, credit and liquidity risks can come together quickly when there is a dislocation in the markets – risk metrics need to encompass this 'convergence' risk.
    - Convergence Risk Management team

- **Outlook**

Conduits / SIVs: Definitions

What is a Multi-Seller Conduit?

- **Off-balance sheet financing vehicle that provides financing to a wide variety of companies**
  - Companies sell assets (auto loans, trade receivables, mortgages, etc.) to conduit
  - Conduit issues Asset-Backed Commercial Paper (ABCP) to investors to achieve lower cost funding
- **ABCP is typically liquidity back-stopped by a commercial bank**

What is a Structured Investment Vehicle ("SIV")?

- **Vehicle that owns a highly rated, diverse pool of debt securities, which is funded through the issuance of Prime-1 CP, Aaa Medium Term Notes and lower rated Capital Notes (Equity)**
- **Creates returns for equity investors by generating a positive spread between the yield on assets and cost of funding**

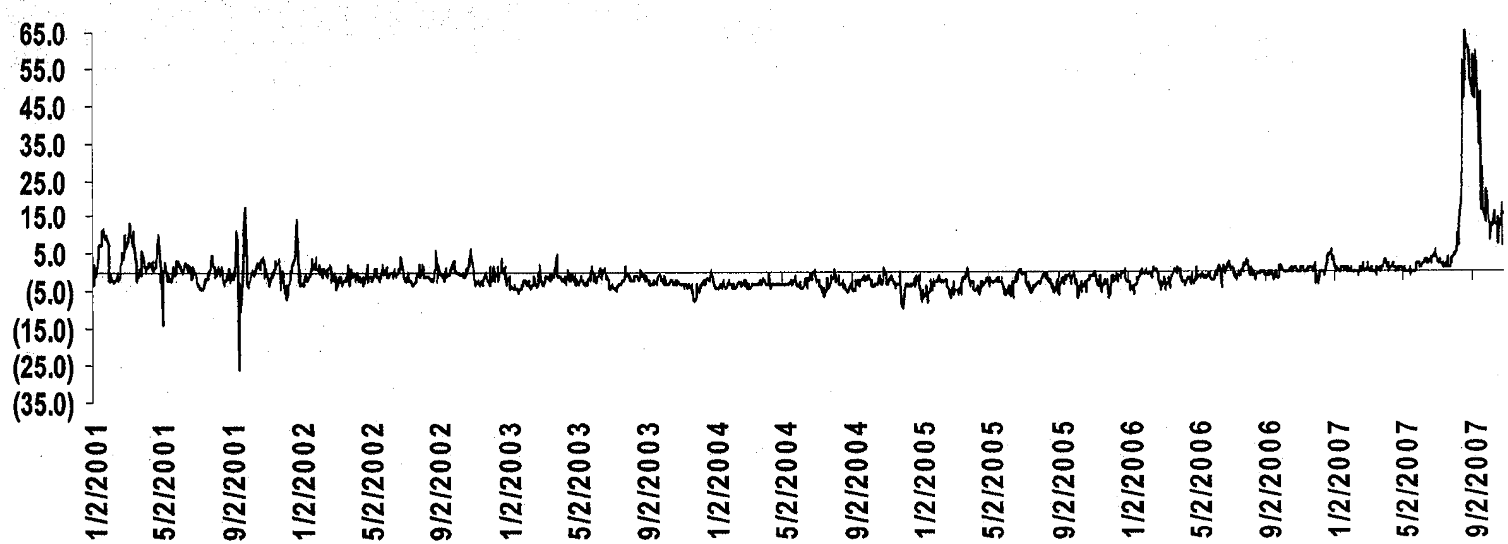
What is Asset-Backed Commercial Paper ("ABCP")?

- **Form of senior secured short-term borrowing offering low cost financing to companies that otherwise could not borrow directly in the CP markets**
  - In contrast to corporate commercial paper, which is directly issued by a single corporation

Commercial Paper Spreads

ABCP cost increases significantly as investors suddenly back away from structured credit products

ABCP vs. 1 Month LIBOR (1)



Example of impact from higher funding costs: downward revaluations of Interest Only ("I/O") strips at credit card companies

(1) Spread of mid (of bid offer) ABCP and 1 month LIBOR sourced from Bloomberg. (Through October 26, 2007.)

ABCP / CP Market Data

Multi-Seller Conduit ABCP (A1+ rated)

- *9/17/07:* *Libor + 15-50bps*
- *10/29/07:* *Libor + 0-10bps*

Structured Investment Vehicles (SIV's)

- *9/17/07:* *No market*
- *10/29/07:* *No market, few one-off trades.*

Extendibles

- *9/17/07:* *No market with few exceptions (see below)*
- *10/29/07:* *No market with few exceptions (see below)*
  - *Two exceptions: Citi Dakota and BoA Emerald credit card programs*

A1/P1 Corporate unsecured CP

- *9/17/07:* *Libor – 25bps*
- *10/29/07:* *Libor – 25bps to -20bps*

Current environment: More liquid markets. Anything that is unrated or not backed by 100% liquidity is not selling, in addition to non-bank sponsored programs.

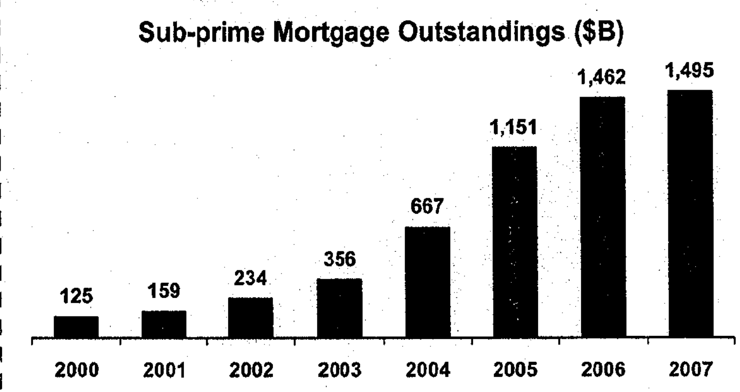
Conduits / SIVs

- **Near-Term Implications**
  - Investors have backed away from conduit-issued CP
  - Liquidity support is being drawn on
  - CP costs increase dramatically
  - SIV market has disappeared
- **Lessons Learned from a Business / Risk Perspective**
  - Market, credit and liquidity risks can come together quickly when there is a dislocation in the markets – risk metrics need to encompass this 'convergence' risk.
    - Convergence Risk Management team
    - Independent Risk Management coverage of contingent liquidity facilities
  - Move credit structuring warehouse exposure away from spread- and interest rate-based market risk metrics to 'outstandings-based' credit risk metrics
    - Orient the Independent Risk Management framework more by risk factor
- **Outlook**

Sub-prime Mortgages: Consumer / Capital Markets

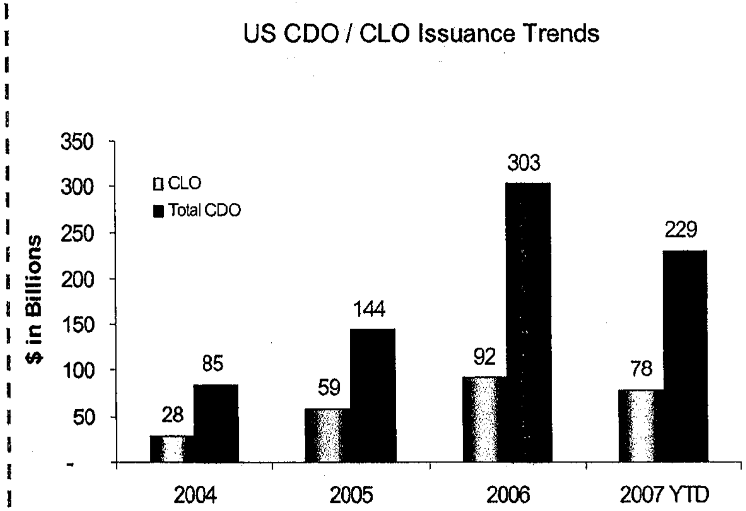
How did sub-prime mortgages come about?

- Unusually low interest rate environment fueled significant home purchase activity
- Lenders funded riskier sub-prime loans, particularly in 2005 and 2006, supported by the presumption of rising home prices

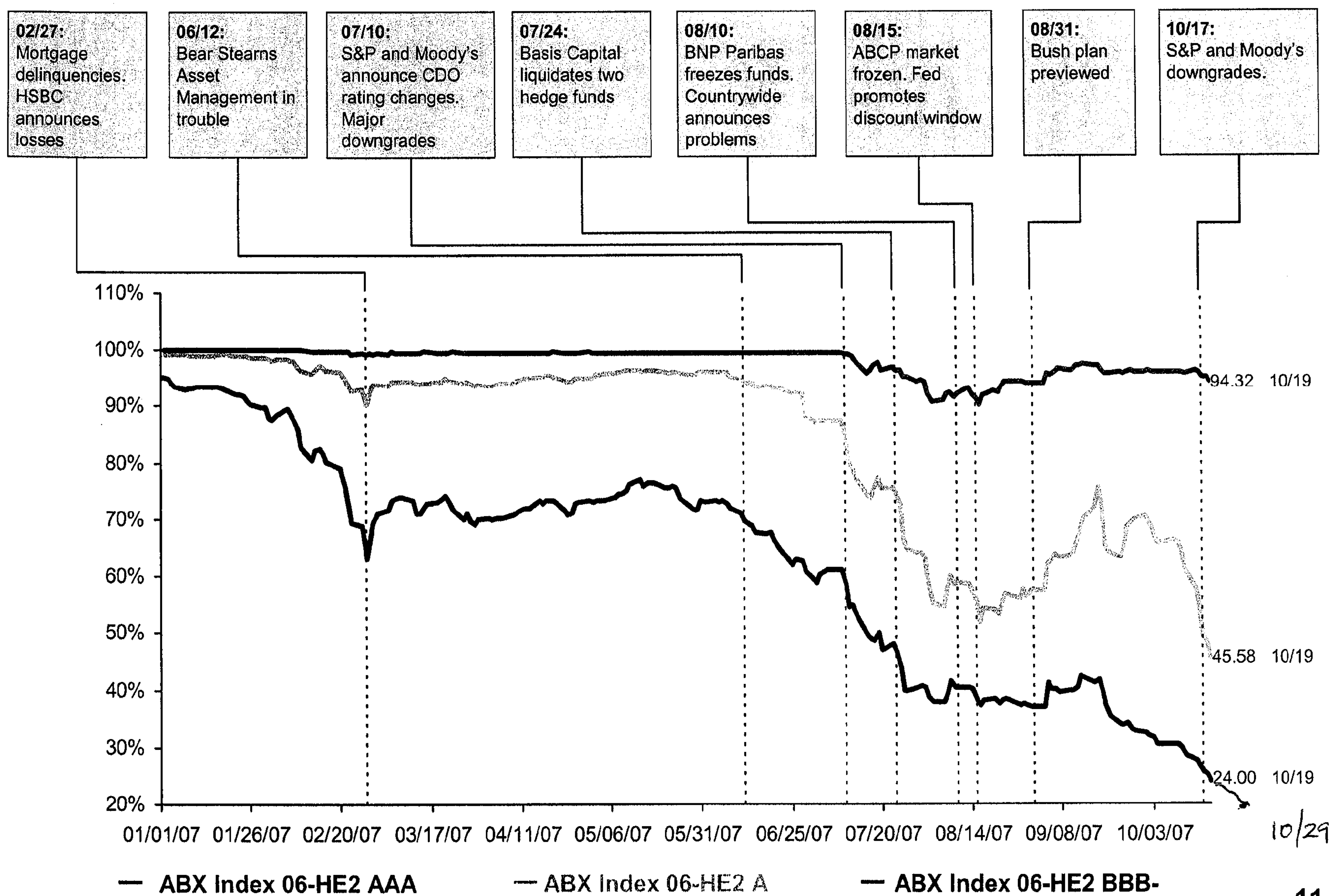


How did CDOs come about?

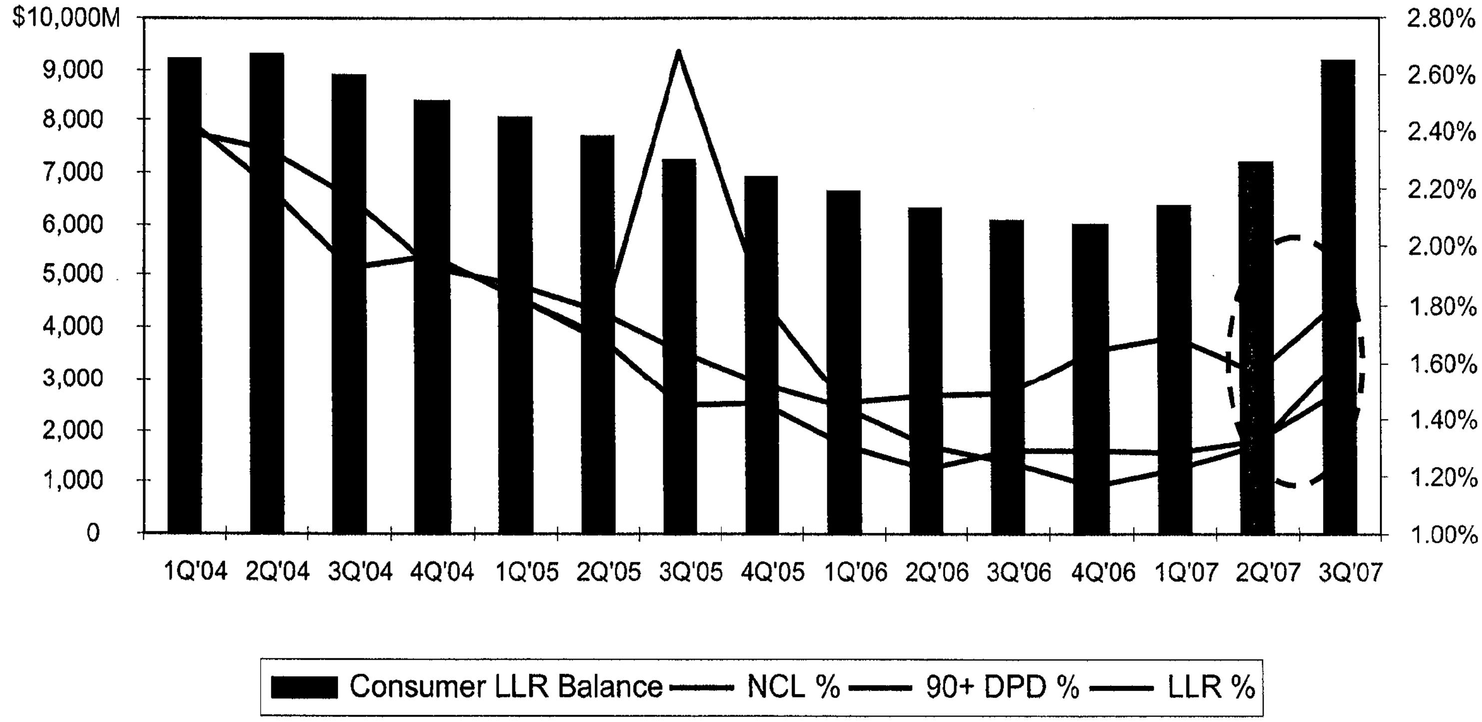
- Excess liquidity over the past few years has driven lower yields on fixed income investments
- Financial intermediaries pooled mortgages and 'tranched' the cash flows into structured securities, offering a range of risk and returns
- CDOs separate the originator from the holder of the mortgage, which has resulted in a decline in loan underwriting standards
- Since 2000, sub-prime as a percentage of the $6 trillion mortgage-backed securities market increased from 4% to 25%



Sub-Prime Market Events

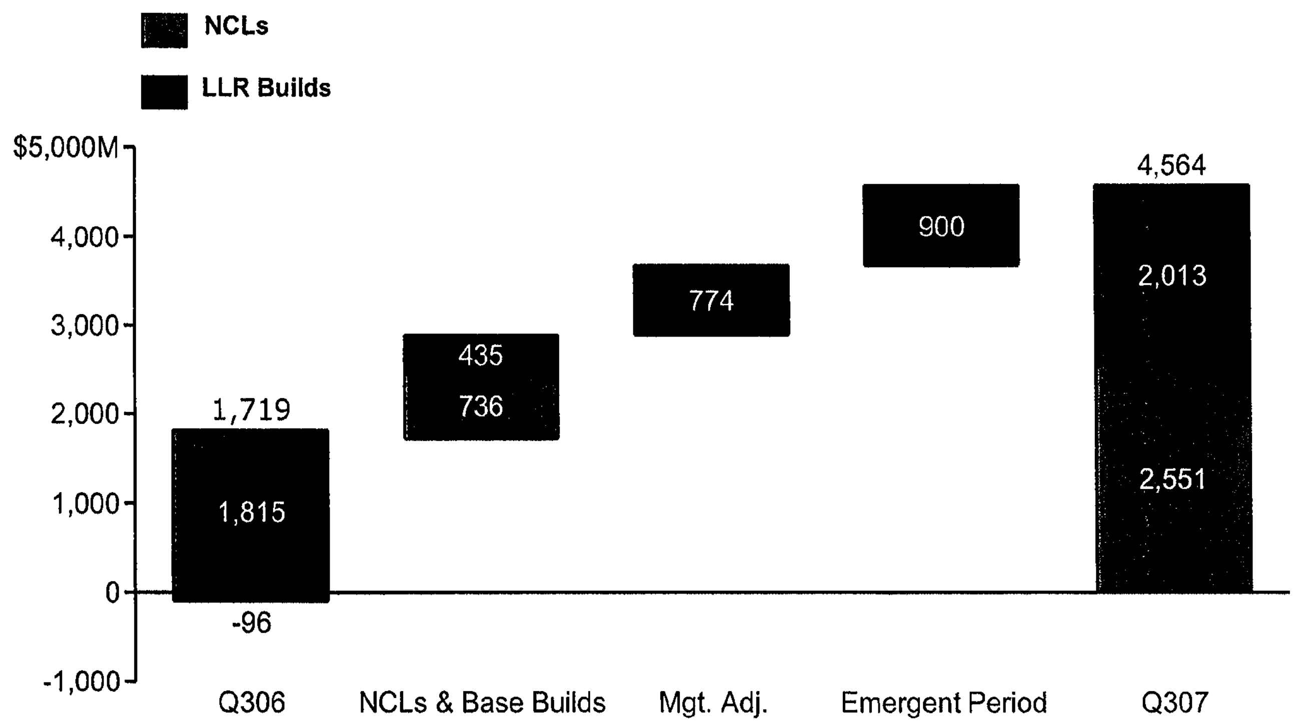


Total Consumer* reserve trends



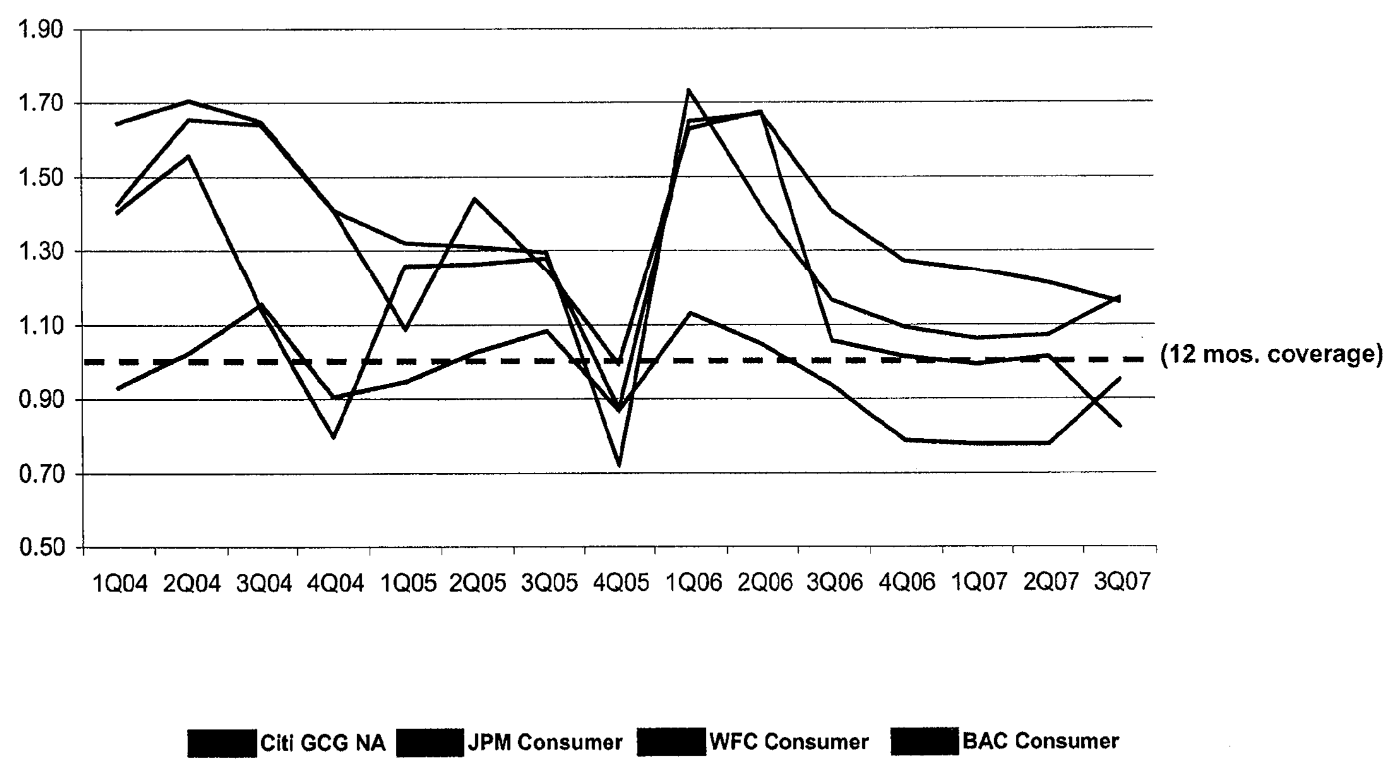
* Disclosed 'Consumer', includes GCG & GWM.

GCG cost of credit: 3Q'07 vs. 3Q'06



Peer Comparison – Reserves/Annualized NCLs

NA Consumer Credit Reserves / NA Consumer Annualized NCLs



Source: Financial Supplement and 10-Q/K

Sub-Prime Mortgages

Near-Term Implications

- Consumer Real Estate: Increased credit costs
- Capital Markets:
  - Mark-to-market losses
  - Lower securitization volume
  - Increase in size of bank and broker balance sheets

Lessons Learned from a Business / Risk Perspective

- Aggregate risk more effectively across Citi.
  - 'Risk Threats & Issues'
  - Orient business and risk management more by underlying risk factor, and less by business or trading desk.
- Retain balance between judgment and methodology in credit reserving practices

Outlook

Lessons Learned

- **Enhance risk management practices in light of increasingly complex products, inter-related markets, and evolving risks.**
  - – Risk aggregation
  - – Risk metrics
  - – Risk management