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The views expressed here are not necessarily those of Mellon Capital Management or BNY Mellon Asset Management
Outline

- About BNY Mellon/Mellon Capital
- Causes of the financial crisis
- Implications for financial markets
- Outlook
- Conclusion
About BNY Mellon/Mellon Capital

Bank of New York Mellon
- Headquarter in New York
- 40,000 employees
- 4th largest financial institution in the U.S. by market cap (02/18/2009)
- Custodial services:
  - $20t under custody (Dec. 2008)
  - World’s largest custodian
- Asset Management
  - $980b under management (Dec. 2008)
  - Distributed over a dozen boutique asset management companies

Mellon Capital Management
- Founded in 1983
- Headquarters in San Francisco
- $152b under management (Dec. 2008)
- Mostly institutional clients
- Variety of active and passive strategies
- Founded by innovator in indexing
- 400 employees

Additional information in Disclosure Statements at the end of this presentation
Timeline of the Financial Crisis

Stage 1 - Sowing the seeds for the crisis: 1990s to 2007

- Fannie Mae and Freddie Mac (Government-Sponsored Enterprises)
  - Market share increases to 50% of existing mortgages in 2006 and 80% (!) of new mortgages
  - Federal government “encouraged” more “affordable housing”
- Innovations in securitization: CDO, CDO-squared, etc.
- Low federal funds rate 2001-2005
- Bubble of optimism:
  - Low nominal yields
  - Low risk premia
  - High leverage
  - Mispricing of CDOs

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Timeline of the Financial Crisis

**Stage 2 - Troubles become visible**
- Mounting mortgage defaults starting in 2007
- Bear Stearns rescue in early 2008
- September 2008:
  - Lehman failure
  - Fannie and Freddie taken over
  - AIG in conservatorship
  - Merrill Lynch rescued
  - Money market funds “break the buck”
- Bubble of pessimism:
  - High volatility
  - Unprecedented risk aversion
  - Huge yield spreads
  - Counterparty risk

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Timeline of the Financial Crisis

Stage 3 - Government response: Since late 2008

- No success in reducing uncertainty:
  - Vague TARP program
  - Potential nationalization of banks
  - Uncertainty about “mortgage bankruptcy”
  - Large deficits, looming tax hikes
Collateralized Debt Obligations 101: A Lot Less Tenderloin than We Thought

Mortgage pool:
Historical average: 4% loss

Problem: NINJA loans (no income, no job or assets) cause higher defaults than expected.
There’s much less than 92% Tenderloin in the average cow.

$100m → $92m

1st tranche shielded from first $8m of losses:
AAA rating (Tenderloin)

2nd tranche shielded from first $5m of losses:
BBB rating (Ribs)

Equity (Hamburger)
CDO-Squared: Finding More Tenderloin in the Hamburgers

Equity stake in 20 CDOs: Rating agencies assumed equity shares in CDOs have low or zero correlation.

*Example: 25% expected loss*

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Effects on Financial Markets

- Revision of default probabilities → downgrades of previously AAA rated CDOs and CDOs-squared

- Bubble of pessimism and risk aversion
  - Low or no liquidity for CDOs → prices for CDOs overreacted
  - Contagion to other risky assets
  - “Runs” on money market funds
  - “Toxic assets” weigh on balance sheets. Banks have to “mark to market” to extremely low CDO price
  - Failure of Lehman amplifies risk aversion (counterparty risk)
  - “Toxic assets” are attractive investment for patient, risk-neutral investor, not subject to regulation. But no regulated bank wants to have more toxic assets on its balance sheet

Flight to quality
Illiquidity and risk aversion in practice

- Corporate bonds:
  - Bid-ask spreads ~5bps in normal times
  - 100s of bps (i.e., no market at all) in September and October ‘08
  - Now back to 15-20bps

- Asset-backed securities:
  - Old days: very liquid markets, multiple offers within a minute
  - Now:
    - Takes days to sell.
    - Good analogy: Put up a “For Sale” sign

- Swaps/Forwards:
  - Large concern with counterparty risk

Additional information in Disclosure Statements at the end of this presentation
Flight to Quality in Fixed Income

Bond Yields:
Treasuries vs. Investment Grade Corporate

Source: Datastream and Mellon Capital

Additional information in Disclosure Statements at the end of this presentation
Flight to Quality out of Equity Markets

Price and Earnings Estimate Changes
October 31, 2007 to January 30, 2009

Source: IBES and Mellon Capital

Additional information in Disclosure Statements at the end of this presentation
No Sign of Bubble in 2007, Substantial Undervaluation in 2009

12M Ahead Earnings/Price Relative to 1987–2008 Average

Source: IBES and Mellon Capital
The good news:
In past U.S. recessions, the market recovered 25%+ from the bottom within 12 months…

Source: Datastream and Mellon Capital

Additional information in Disclosure Statements at the end of this presentation
Comparison to Other Recessions

...even though earnings were still declining,...
Comparison to other recessions

...and the macroeconomy showed no signs of recovery.

Source: Bureau of Labor Statistics
Caveat 1: Japan Had Neither Equity Market nor Macroeconomic Recovery for 9 Years!

TOPIX Relative to December 1989 Peak (Return Index)

Source: Datastream

Additional information in Disclosure Statements at the end of this presentation
Caveat 2: Stocks Are Cheap Compared to Treasuries, but not Corporate Bonds

S&P 500 IRR Minus Bond Yields

- Large undervaluation
- Excess return relative to AA rated only average

Source: Datastream and Mellon Capital

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Conclusion

- Housing bubble turned into bubble of pessimism

- Risk premia are declining from record levels
  - Risk aversion in fixed income markets is subsiding but very slowly
  - Liquidity is coming back slowly

- Equity markets seem oversold
  - Investors price in significant probability of disaster scenario
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