BARCLAYS CAPITAL

Financial Markets: From Tranquility to Trauma and…Back Again?”

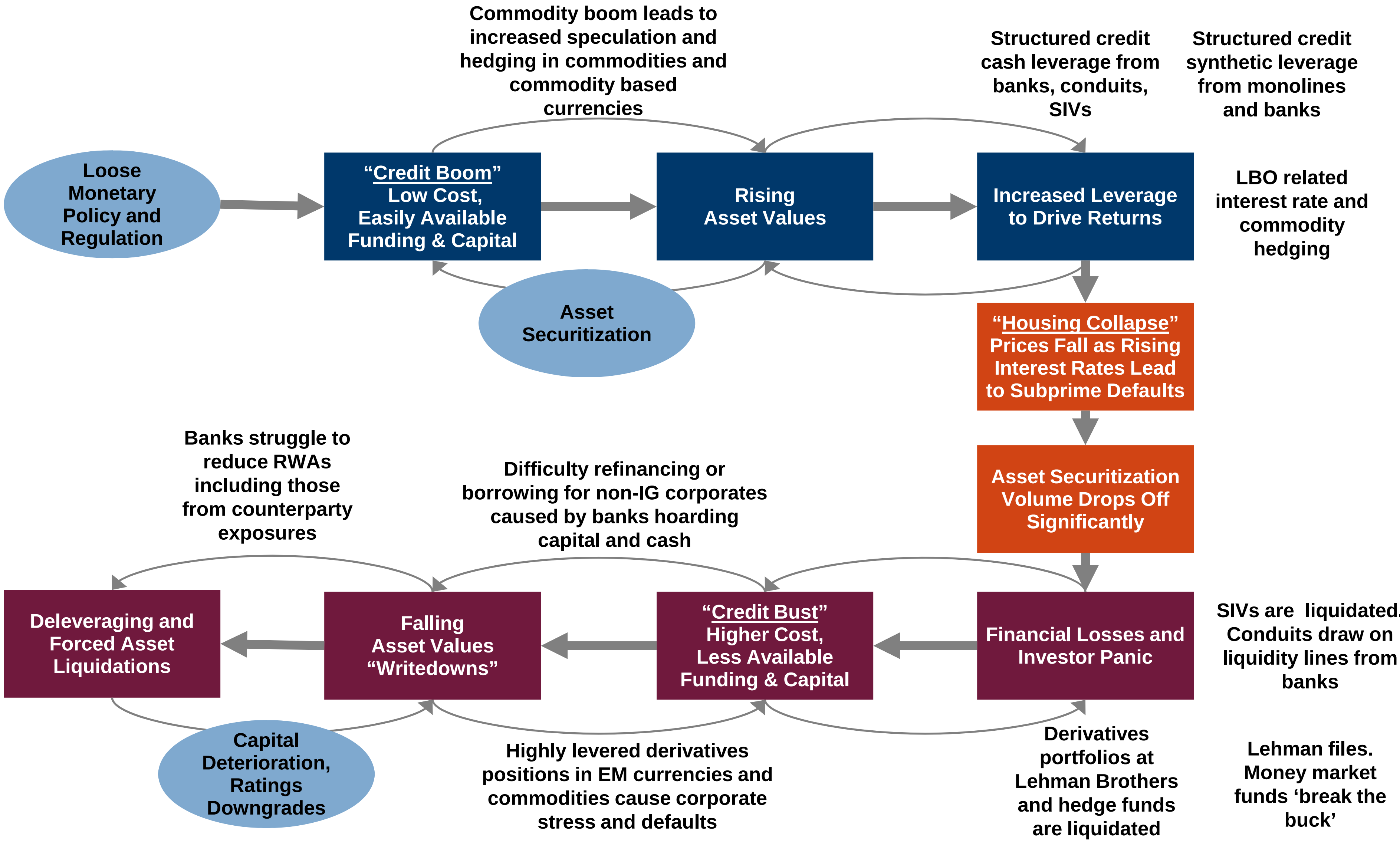
Richmond Fed- Credit Markets Symposium

April 2-3, 2009

Doug Warren

Derivative Counterparty Risk Management

Financial cycle of 2003–2009: Derivative problems



How did:

Loose Monetary Policy and Regulation

Inadequate Risk Management

Asset Securitization

Lead to:

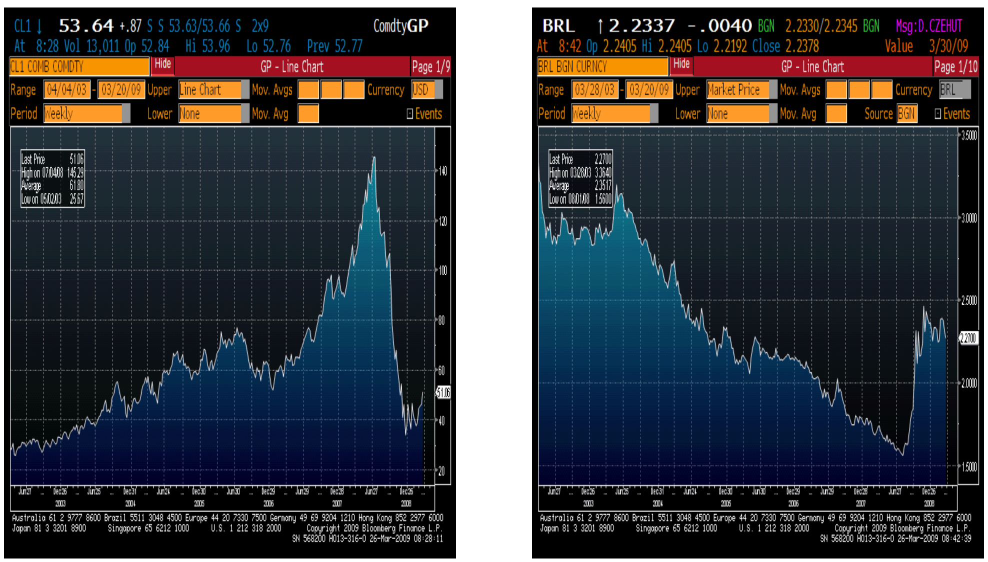
Deleveraging and Forced Asset Liquidations

- How could banks and investors have lost so much money?
- Why was there so much demand for assets that eventually proved to be of significantly lesser value than their original cost?
- Why did the 'originate to distribute' model fail?
- What role did derivatives and synthetic risk taking play in the debacle?
- How do we prevent these issues from recurring without stifling creativity in finance?

Commodity boom leads to increased speculation and hedging in commodities and commodity based currencies

"Credit Boom"
Low Cost, Easily Available Funding and Capital

Rising Asset Values

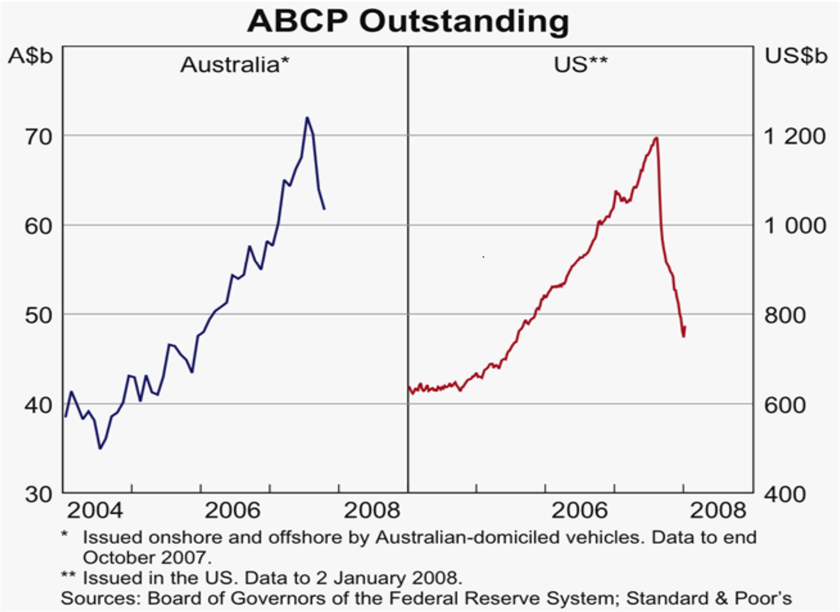


Crude Oil and the Brazilian Real – 2003–2009

- Selling forward by producers / exporters (E&P companies, miners)
- Buying forward by consumers (airlines, utilities)
- Speculation on continued currency and commodity appreciation (Mexico, Brazil)

Structured credit cash leverage from banks, conduits, SIVs

Increased Leverage to Drive Returns

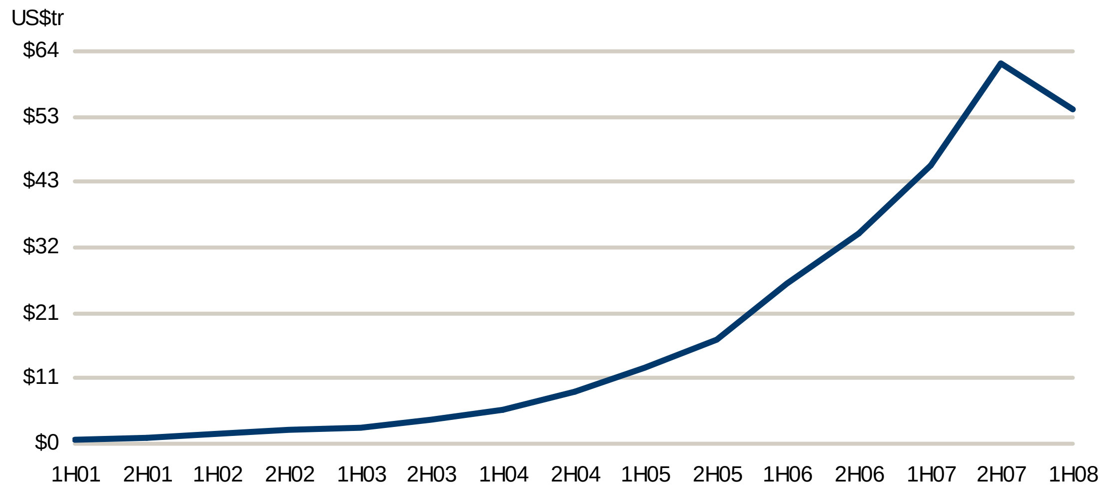


- ABCP conduits and SIVs sold rated (predominantly AAA) securities to banks and money market funds
- Sponsors of the structured credit vehicles included banks, hedge funds and others
- In many cases, liquidity lines were either non-existent or for less than the outstanding securities

Structured credit synthetic leverage from monolines and banks

Increased Leverage to Drive Returns

Credit Default Swap Notional Outstanding



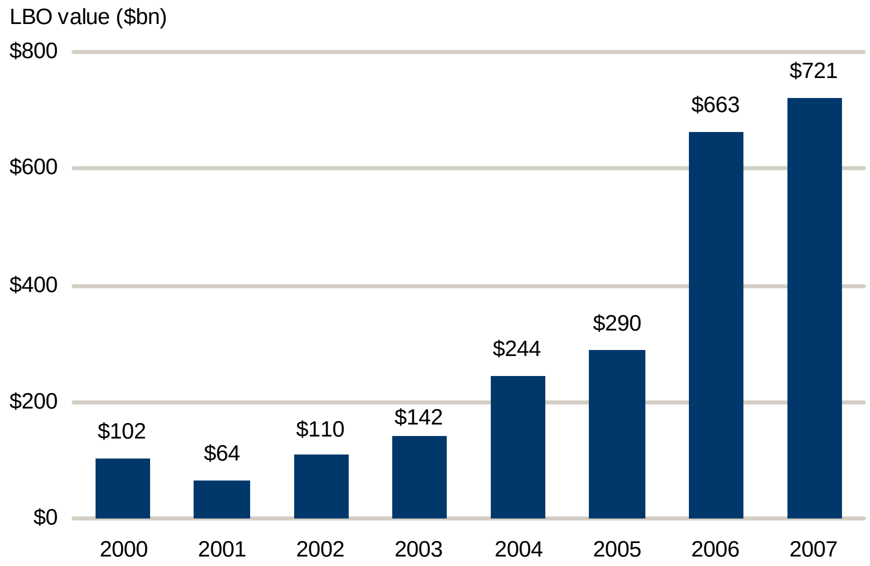
Source: International Swaps and Derivatives Association, Inc.

- Corporate CDS volume was driven by hedging and by corporate synthetic CDOs
- Monolines and insurance company subsidiaries like AIF-FP wrote protection against the senior tranches of ABS CDOs and CLOs to banks who held the tranches on balance sheet in negative basis trades
- Banks also wrote liquidity facilities on ABCP issued by CDOs
- These devices enabled investors to take risk without funding and with minimal capital
- Hung deal inventory, originator warehouses, negative basis trades, and liquidity facilities have caused a large share of the losses at banks

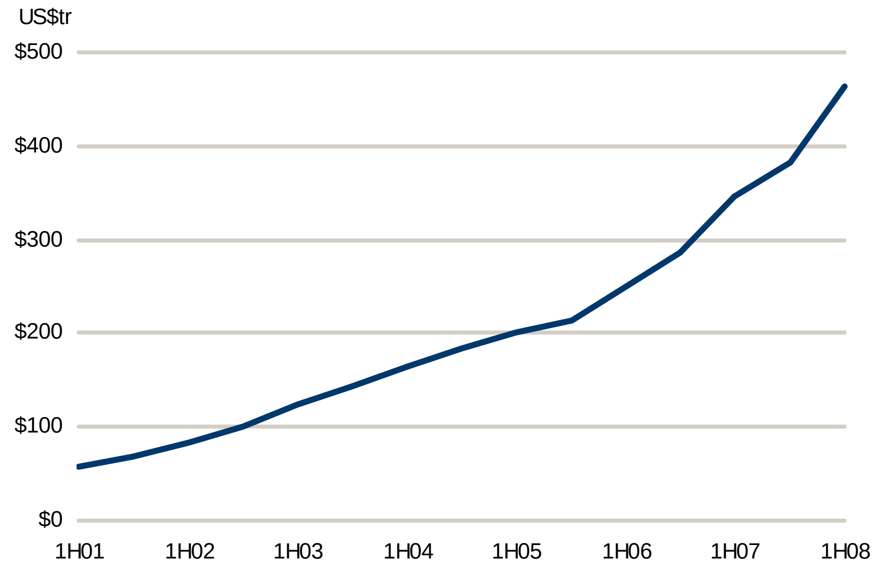
LBO related interest rate and commodity hedging

Increased Leverage to Drive Returns

PE Investment: Deal Value



Interest Rate and Cross Currency Swap Notional Outstanding



Source: International Swaps and Derivatives Association, Inc.

BARCLAYS CAPITAL

Financial losses and investor panic

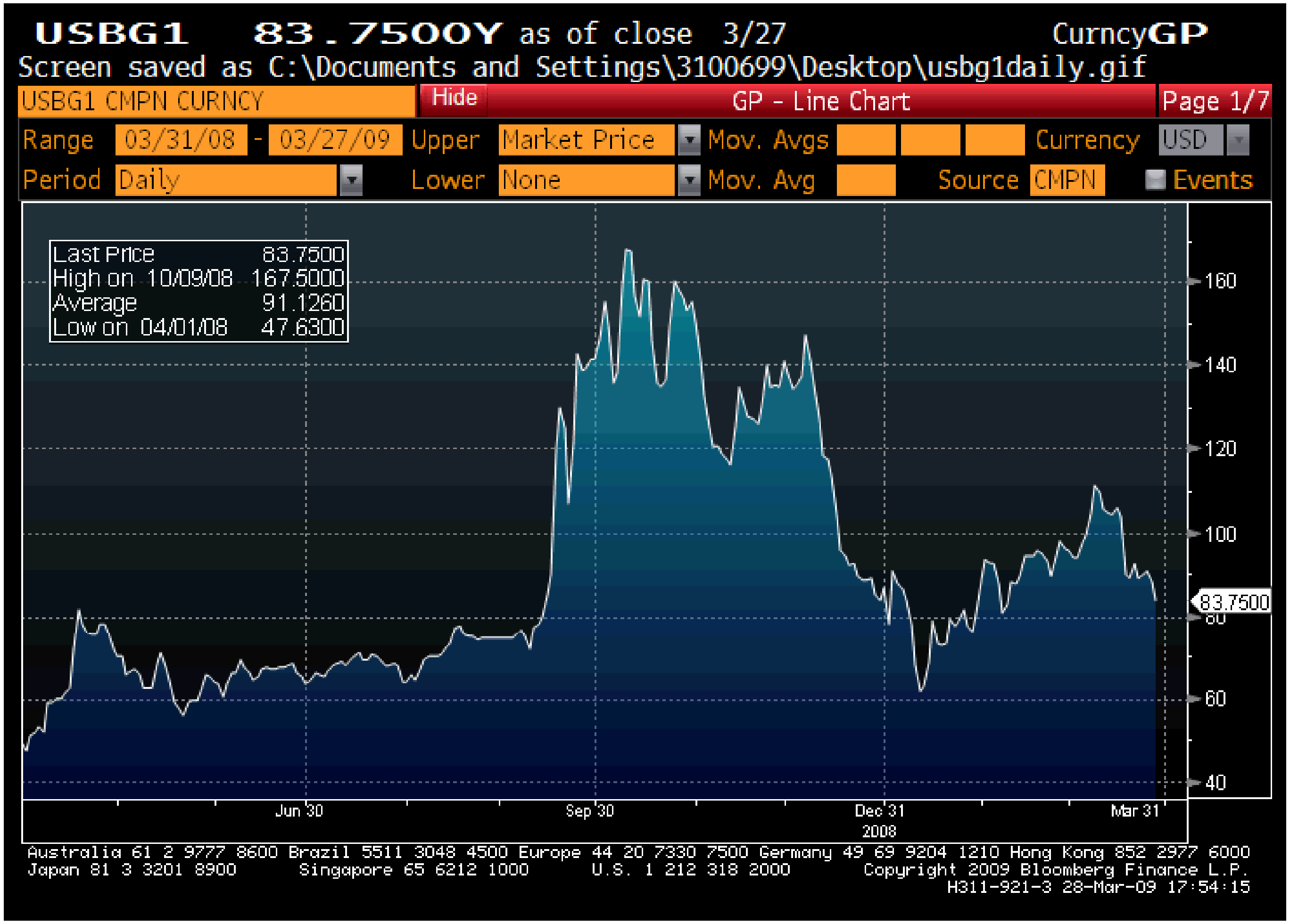
SIVs are liquidated. Conduits draw on liquidity lines from banks

Lehman files. Money market funds ‘break the buck’

Derivatives portfolios at Lehman Brothers and hedge funds are liquidated

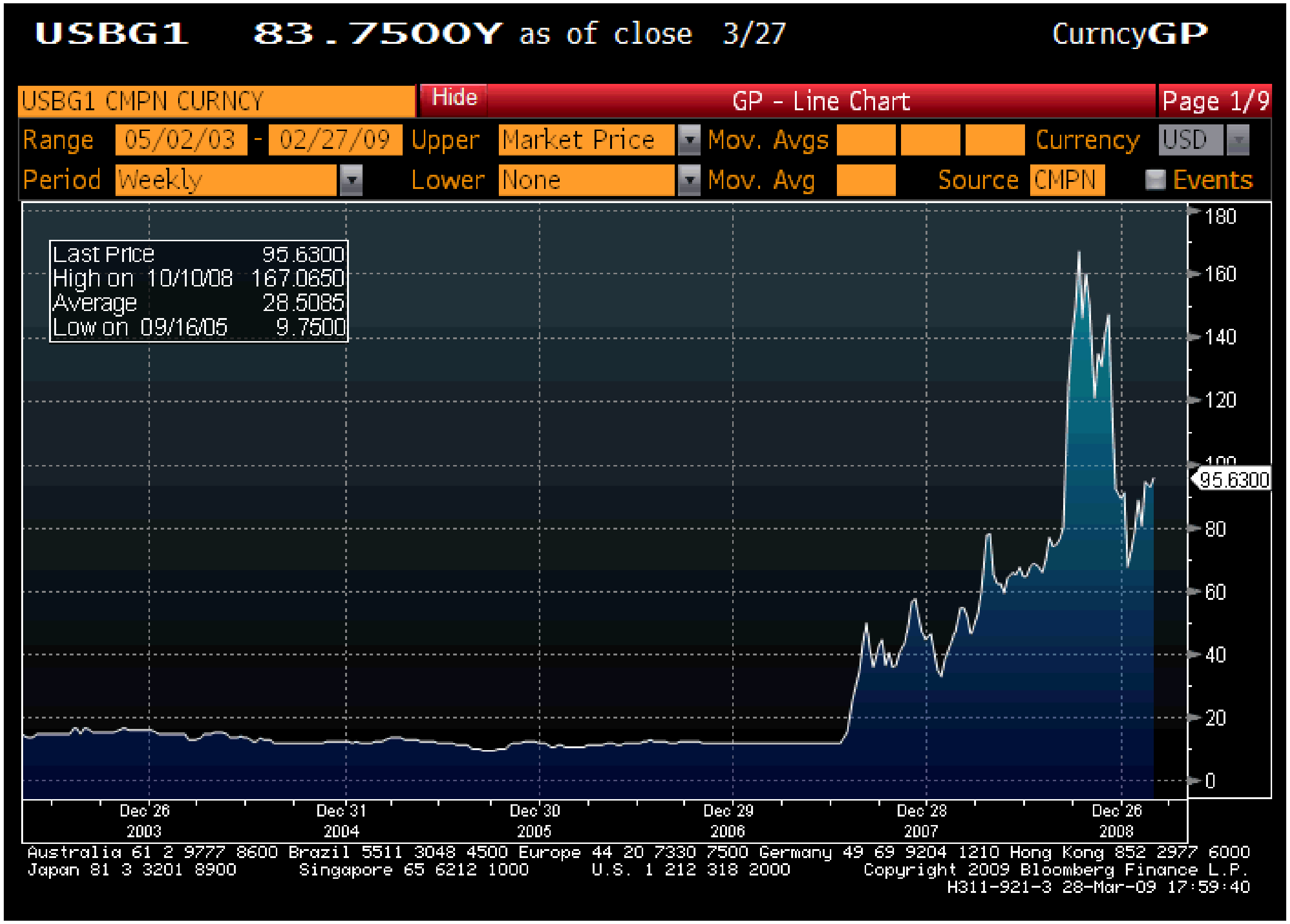
- SIV triggers are hit as prices fall and liquidations amplify losses to asset values
- 365 day (zero capital) liquidity lines are drawn to fund assets with values significantly below par
- Synthetic CDO market collapses following Canadian ABCP debacle (banks had bought senior protection from ABCP conduits levered 10:1)
- Losses on short-term Lehman paper cause distress in money markets; normal funding sources for banks dry up. Unsecured funding markets freeze up
- On the Saturday preceding the Lehman bankruptcy, a meeting at the NY Fed is proposed to sort out Lehman’s derivatives positions: the meeting is never held
- Lehman’s counterparties are left to cope with massive open positions in repo and derivatives

One year Fed Funds vs. 3M LIBOR swap 3/31/08–present

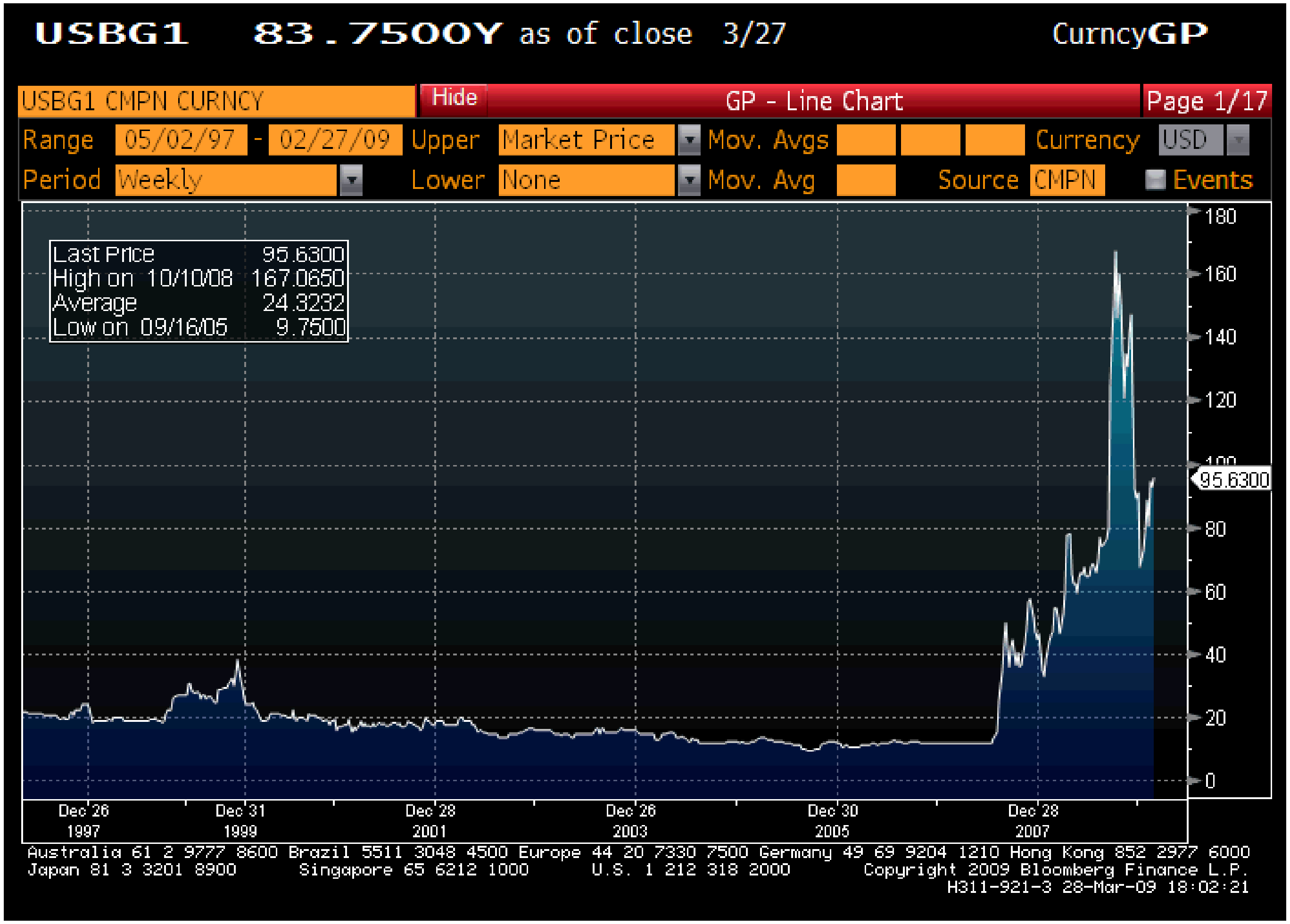


BARCLAYS CAPITAL

One year Fed Funds vs. 3M LIBOR swap
May 2003–present



One year Fed Funds vs. 3M LIBOR swap
May 1997–present



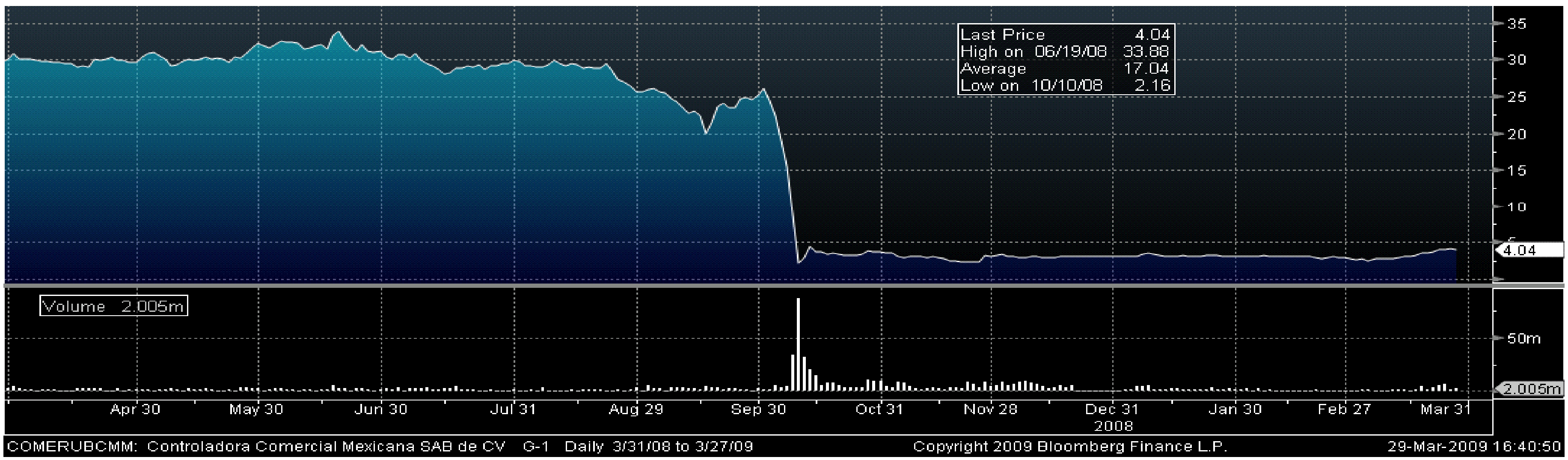
- Just one example of tail risk becoming a realized event

Difficulty refinancing or borrowing for corporates caused by banks hoarding capital and cash

Falling
Asset Values
"Writedowns"

"<u>Credit Bust</u>"
Higher Cost,
Less Available
Funding and Capital

- Highly levered derivatives positions in EM currencies and commodities cause corporate stress and defaults



- What is this chart?

Difficulty refinancing or borrowing for corporates caused by banks hoarding capital and cash

- Controladora Comercial Mexicana S.A. de C.V. is a domestic Mexican retailer that engaged in massive and highly levered long forward positions in MXN
- Collateral calls on derivative positions at a number of Latin American corporates have caused bankruptcy filings and defaults

Root causes

- Indiscriminate buying driven by loose money and faith in ratings
- Belief by banks that they were distributing risk
  - …while actually retaining the tails (negative basis, liquidity lines)
- Model driven products
  - Gaussian copula 'model' produced convexity numbers that were unrelated to market models and ultimately market reality
- Bad timing
  - 'Originate to distribute' banks left holding the bag
  - Over-levered LBOs caught in the downdraft before private equity magic could increase enterprise value and reduce leverage
- Lack of transparency
  - Derivatives portfolios
  - Zero capital liquidity lines
  - Negative basis trades
- Capital requirements
  - Based on Value at Risk
  - Based on historical performance
  - Based on ratings

There was a fundamental misunderstanding of how quick, how drastic and how correlated market movements could be

What is to be done?

- How to recognize dangerous risk concentrations when they are currently viewed as benign?
- How to regulate model usage when a model is accepted by all market participants?
- How to improve transparency in the derivatives markets?
- How to measure capital against complex portfolios with less than obvious risks?

Transparency of Derivatives Positions

- Past lessons from credit derivatives
  - Standardized maturities
  - Novation protocol
    - Positions were freely novated without consent of remaining party
  - Public auction settlements
    - Physical settlement process was opaque and becoming unscalable
    - Auction process has successfully settled multiple large scale credit events including Lehman, Fannie and Freddie
  - DTCC warehouse
    - All positions stored in a single database
  - But when Lehman defaulted, no unwinding was possible; further developments were needed
- Current initiatives in credit derivatives
  - Standardized coupons
  - Hard-wired auctions
  - Third party clearing

Transparency of Derivatives Positions

- Can these innovations be applied to other derivatives markets
  - How much can the market be standardized?
  - How much of the flow in the business is dealer-to-dealer and how much faces clients?
  - How does one party assess the derivatives risk of a potential counterparty in an environment of non-standard trades that are not cleared?
  - In any event, derivatives dealers need more and better information about their corporate and hedge fund client's concentrations in derivatives.
  - Initiatives are in place in Brazil and Mexico to enhance access to information for dealers.

Risk Assessment

- Capital can't be allocated by assuming the worst always happens
- Capital can't be allocated by assuming the best always happens
- Capital has to be allocated based on the actual risk held by an institution
- How do you incorporate market information to determine the probability distribution between best, worst and what lies in between?
- What role do stress tests have in assessing risk?
- One solution is to assign probabilities to different scenarios based on market information and continuously evaluate a portfolio based on its performance over the range of probabilities.
- Market factors for scenarios: currency values, commodity prices, credit spreads, yields and yield differentials, mortgage rates, delinquencies (C&I, mortgages, credit cards, CMBS), etc.
- Portfolio characteristics have to include measurements of overall risk, single risk concentrations, concentrations in similar risks, liquidity, volatility.
- In many cases, these market factors can be linked to macroeconomic factors.
- Have to consider the computational feasibility, so approximations will have to be made to limit the number of factors.

Disclaimer

This document has been prepared by Barclays Capital, the investment banking division of Barclays Bank PLC ("Barclays"), for information purposes only. This document is an indicative summary of the terms and conditions of the securities/transaction described herein and may be amended, superseded or replaced by subsequent summaries. The final terms and conditions of the securities/transaction will be set out in full in the applicable offering document(s) or binding transaction document(s).

This document shall not constitute an underwriting commitment, an offer of financing, an offer to sell, or the solicitation of an offer to buy any securities described herein, which shall be subject to Barclays' internal approvals. No transaction or services related thereto is contemplated without Barclays' subsequent formal agreement. Barclays is acting solely as principal and not as advisor or fiduciary. Accordingly you must independently determine, with your own advisors, the appropriateness for you of the securities/transaction before investing or transacting. Barclays accepts no liability whatsoever for any consequential losses arising from the use of this document or reliance on the information contained herein.

Barclays does not guarantee the accuracy or completeness of information which is contained in this document and which is stated to have been obtained from or is based upon trade and statistical services or other third party sources. Any data on past performance, modelling or back-testing contained herein is no indication as to future performance. No representation is made as to the reasonableness of the assumptions made within or the accuracy or completeness of any modelling or back-testing. All opinions and estimates are given as of the date hereof and are subject to change. The value of any investment may fluctuate as a result of market changes. The information in this document is not intended to predict actual results and no assurances are given with respect thereto.

Barclays, its affiliates and the individuals associated therewith may (in various capacities) have positions or deal in transactions or securities (or related derivatives) identical or similar to those described herein.

IRS Circular 230 Disclosure: Barclays Capital and its affiliates do not provide tax advice. Please note that (i) any discussion of U.S. tax matters contained in this communication (including any attachments) cannot be used by you for the purpose of avoiding tax penalties; (ii) this communication was written to support the promotion or marketing of the matters addressed herein; and (iii) you should seek advice based on your particular circumstances from an independent tax advisor.

BARCLAYS CAPITAL INC., THE UNITED STATES AFFILIATE OF BARCLAYS CAPITAL, THE INVESTMENT BANKING DIVISION OF BARCLAYS BANK PLC, ACCEPTS RESPONSIBILITY FOR THE DISTRIBUTION OF THIS DOCUMENT IN THE UNITED STATES. ANY TRANSACTIONS BY U.S. PERSONS IN ANY SECURITY DISCUSSED HEREIN MUST ONLY BE CARRIED OUT THROUGH BARCLAYS CAPITAL INC., 200 PARK AVENUE, NEW YORK, NY 10166.

NO ACTION HAS BEEN MADE OR WILL BE TAKEN THAT WOULD PERMIT A PUBLIC OFFERING OF THE SECURITIES DESCRIBED HEREIN IN ANY JURISDICTION IN WHICH ACTION FOR THAT PURPOSE IS REQUIRED. NO OFFERS, SALES, RESALES OR DELIVERY OF THE SECURITIES DESCRIBED HEREIN OR DISTRIBUTION OF ANY OFFERING MATERIAL RELATING TO SUCH SECURITIES MAY BE MADE IN OR FROM ANY JURISDICTION EXCEPT IN CIRCUMSTANCES WHICH WILL RESULT IN COMPLIANCE WITH ANY APPLICABLE LAWS AND REGULATIONS AND WHICH WILL NOT IMPOSE ANY OBLIGATION ON BARCLAYS OR ANY OF ITS AFFILIATES.

THIS DOCUMENT DOES NOT DISCLOSE ALL THE RISKS AND OTHER SIGNIFICANT ISSUES RELATED TO AN INVESTMENT IN THE SECURITIES/TRANSACTION. PRIOR TO TRANSACTING, POTENTIAL INVESTORS SHOULD ENSURE THAT THEY FULLY UNDERSTAND THE TERMS OF THE SECURITIES/TRANSACTION AND ANY APPLICABLE RISKS.