Session III: Credit Derivatives and Macro-Risks

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"Credit Derivatives, Macro Risks, and Systemic Risks"

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Credit Derivatives can be confusing.

If you're long the Credit Default Swap (CDS, DFS, CDSW,…),
(that is, if you've bought protection), you're short the credit.

If you're short the Credit Default Swap,
(that is, if you've sold protection), you're long the credit (risk).

"Spreads blew out!"

Spread over Treasuries, Asset Swap Spread, CDS Spread, z-Spread,…

The indexes.

CDS are swaps.

Systemic risk: the possibility of a series of correlated defaults among financial institutions that occurs over a short period of time, usually caused by a single major event"

-- in The Risks of Financial Institutions
Chan, Getmansky, Haas, and Lo (2006)

Current Credit Market Conditions

U.S. high-yield bond market default rates have been very low

2001: 9.8% 2002: 12.8% . . . 2006: < 1%

Globally, corporate defaults < 1% (vs. historical average of 4%)

Proportion of New High-Yield Issues Rated “B –” or below:

‘93-96: 20% 97:27% 98: 41% 99-00: > 30% … 03: 30% 04: 39% 05-06: 35%

“(M)ost traders remain convinced that a fundamental repricing of credit is in the cards, The question is: when?”

-- Nick Sawyer

“It seems increasingly likely that we are observing a gathering storm in the U.S. high-yield credit markets. The big question is likely to be not whether such a storm will occur, but how severe it will be.”

-- David Rowe

Credit Derivatives and Macro Risks

The effect of macroeconomic factors on default rates?

"… we are somewhat surprised by the low contribution of these (macroeconomic) variables … in explaining annual default rates" -- Ed Altman et al. (2003)

While there's surely a credit cycle, and this should manifest itself in triggering various numbers of credit derivatives, there is no reason to think more defaults will necessarily lead to systemic market failure.

Then again, "… certain aspects of the market infrastructure have not been fully tested by a severe or prolonged credit downturn." -- IMF Global Financial Stability Report (2006)

Issues With Credit Derivatives

As in any new market, there have been some “growing pains”:

-- trading of protection on names without debt

-- getting the reference entity “wrong”

-- deliverable mismatches for marketmakers

-- the triggering of credit events by “involved” institutions

-- physical settlement and “squeeze” possibilities

-- what exactly is a “credit derivative”?

-- legal risks (Aon vs. Soc Gen; Fitch 14%)

Most Commonly Voiced Concerns

The three credit derivative concerns
that have been articulated most often are . . .

1) the fact that large notional amounts are traded
in credit derivatives relative to the underlying debt
(in conjunction with a history of physical settlement);

2) the increasing involvement of hedge funds
in credit derivative products and markets;

and

3) the fears of operational risks in light of apparent failings
in confirmation, clearing, assignment, settlement,…

Notional Mismatch

In a physically-settled market, if there is not enough of the "underlying" to "go around", there could be the possibility of a "short squeeze".

Historically, CDS contracts have specified physical settlement.

Creditex and Mark-It Partners with ISDA:
Credit Event Auction Protocol.

Move to cash-settlement largely eliminates mismatch concerns.

Aside: Many financial examples of this phenomenon.

Concern: Auction manipulation (e.g., Hang Seng)?

Hedge Funds

Hedge funds have increasingly utilized credit derivatives.

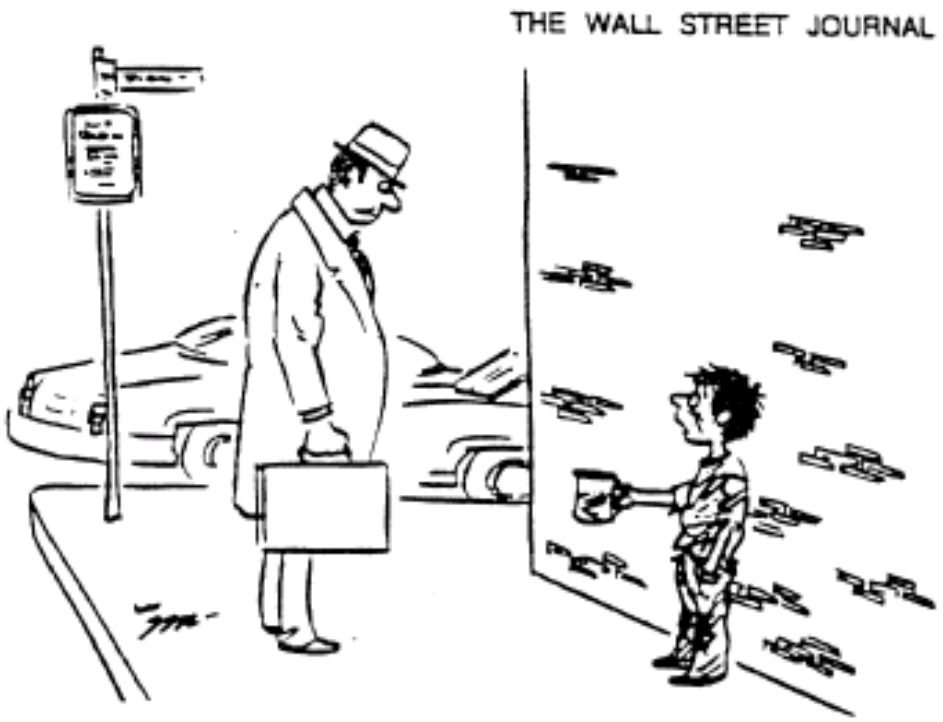
Many, like convertible bond arbitrage funds, simply buy CDS as a hedge for their long corporate bond holdings.

Others engage in more sophisticated spread strategies.

"Hedge funds … are fairly balanced … with about 16% of protection buyers and sellers." -- Philippe Jorion (2005)

In a recent hedge fund study by Delloite & Touche, though, 30% were said to have poor risk management practices.

Credit Derivatives and Macro-Risks



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Mark-To-Market, Margin, Collateral

As long as all the market participants understand the risks and maintain safeguards in place to guarantee performance,…

Rehypothecation

Cross-Margining

Location/Legal

“Do you disagree often about valuation?”

“All the time…all the time.”

DTCC

One of the potential areas of concern is operational risk.

On September 15th, 2005, The Federal Reserve "invited" 14 major financial institutions to "discuss" the backlog of credit derivatives.

DTCC Deriv/SERV now electronically processes over 90% of all single-name CDSs.

Later this year, working with ISDA, they will add . . .

(1) centralizing settlement payments

and

(2) work flow pursuant to credit events (auction protocol)

Actual Concerns

- Moral Hazard (in Lending or Debt Issuance)
- Concentration in the Dealer Community
- Proper Margining, Hedging, and Valuation
- Understanding Correlation
- Liquidity

The Range of Credit Derivative Products

Asset Swaps and Total Returns Swaps

Credit Default Swaps (the fundamental building block)

Synthetic CDOs

Credit-Linked Notes (often simply “funded” credit derivatives)

Basket or Portfolio Credit Derivatives

First-To-Default, Second-To-Default, . . .

Credit Spread Options

Structural (Firm Value Black-Scholes KMV) Approach
vs. Reduced Form (Default Intensity) Models

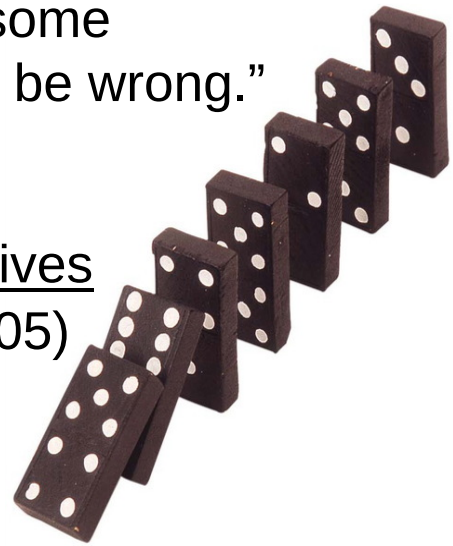
Structured Credit Derivatives and Valuation

First-To-Default Structure

"For now, all we need to know is that the mere fact that there are different ways to arrive at a fair valuation of a credit derivative contract – and that different ways often deliver different answers – suggests that there is always some chance that one's favorite approach or model may be wrong."

-- Antulio N. Bomfim

Understanding Credit Derivatives and Related Instruments (2005)



Structured Credit Derivatives

CDO-Squared

"CDO-Squareds are potentially dangerous because a lot of the danger is invisible. Unlike straight CDOs, where the investor can pretty much eyeball the expected loss in the reference pool and see how it will affect his or her tranche, the risks in CDO-squareds are not easily visible to the naked eye." – Saul Haydon-Rowe (Devon Capital)

Structured Credit Derivatives

Constant Proportion Debt Obligation (CPDO)

[first developed by ABN-Amro and launched July 2006]

In effect, these involve selling protection
on the 5-year iTraxx and CDX indexes
and rolling them into the new series every 6-months.
Contain leverage.
If performance wanes, leverage is increased.

Does this sound like “portfolio insurance” to anyone else?

Variations are on the way…

How Volatile?

In February 2007, admittedly on the heels of the subprime credit market concerns, we saw

the 5-year iTraxx Europe Crossover index (on February 28th) widen from 201 to 238

and the day before (on February 27th) the Dow Jones CDX Crossover Index widen from 114 to 142.

Midmarket 5-year CDS Quotes:

	2/23/05	4/29/05	7/11/06	5/15/07
GMAC	230	625	255	168
GM	290	895	845	432.5
Ford	235	600	865	546.5
Pepsi	12.5	10	11	
Disney	27.5	35	19.5	
Harrahs	63	62	74	

Liquidity

How to measure liquidity?

The ability to trade in large size without impacting market price.

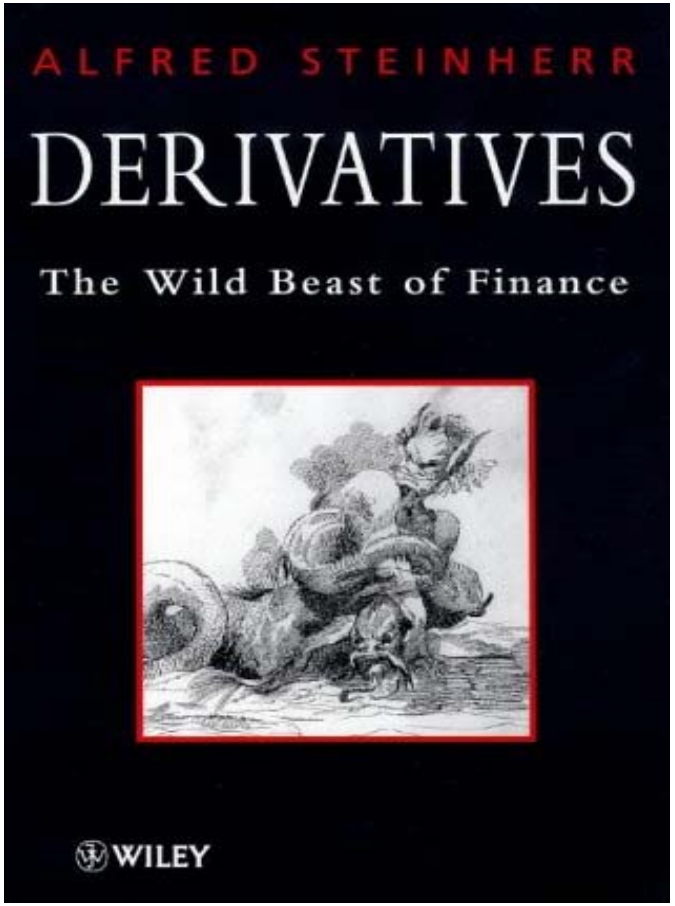
Obviously related to the number of willing dealer marketmakers.

Reflected in the bid-ask spread:

	2/23/05
IBM	12-22
GMAC	225-235
GM	285-295
Ford	230-240
HPQ	20-30
Lehman	22-27

	5/15/07
Boeing	8-12
GMAC	166-170
GM	430-435
Ford	544-549
Dow	31-34
Citi	9-11

Who wants this product area to succeed?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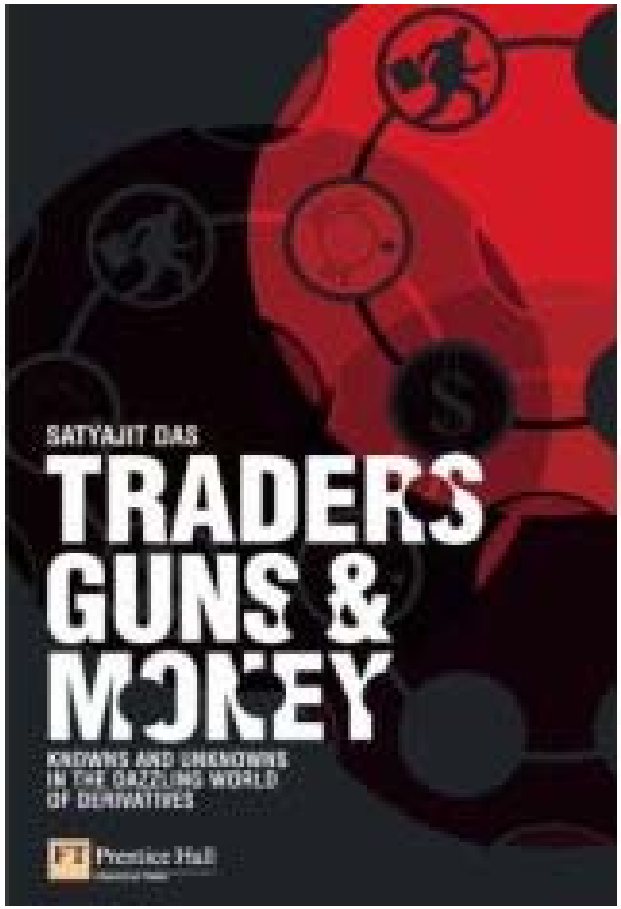
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Regulation?

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