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Pervasiveness of Structured Products

Too much Structure – Too Little Strength?

Overview

1. **Alternative Players** in the Structured Product Universe: *Favorite plays*
2. **Structured Products** ON Alternatives: *How far can we go?*
3. **Structure MANIA:** *Who needs what – and Do they get what they are looking for?*
4. A different take on risk: ***Reputation on the line!***

Tremendous Growth

- Driven in 2005 by rising commodities prices and disappointing returns in equities led to…
- 400% increase of notional in 2005 in the global Structured Products Market
- Increase of breadth of product offerings

➔

Resulted in 2006 in a record US$ 64 billion being sold in the US, another 33% increase from 2005.

…especially in China

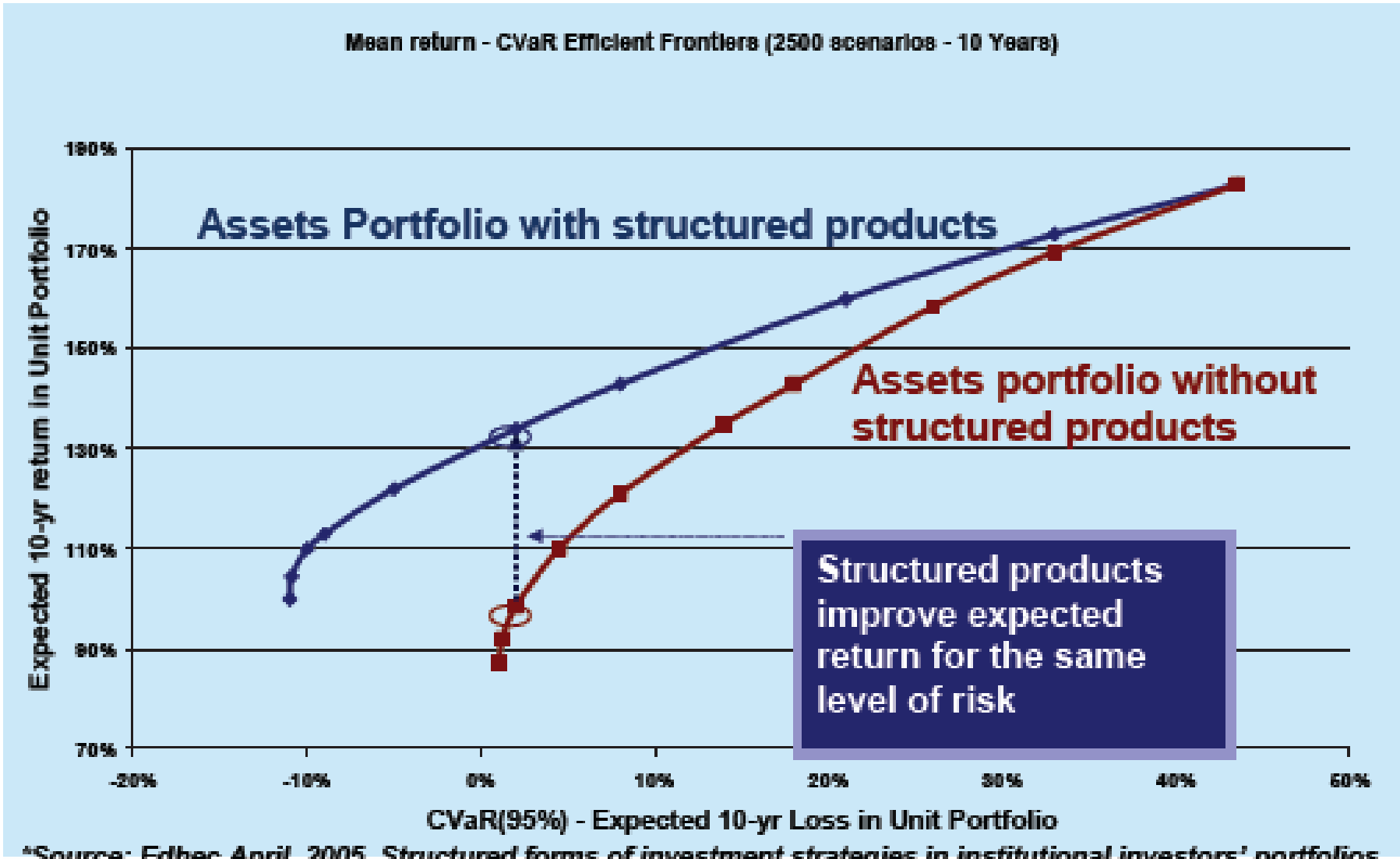
Harvest Fund Management Co Ltd, (19.9 pct held by Deutsche Bank), has raised about 40 bln yuan for a new stock fund product in a one-day offer

"ICBC Credit Suisse Asset Management Co Ltd said on Dec 7 that it raised 12 bln yuan for a new stock fund. The company issued a notice shutting down fund subscriptions on the second day, citing concerns about the scale of the fund possibly being detrimental to investor interests."

Why Structured Investments?

- Capital Guarantees
- Inflation Guarantees
- Guaranteed minimum returns
- Smoothed returns – reduced volatility
- Locked-in returns
- Gearing & Leverage
- Yield-enhancement
- Access to "New" or "Synthetic" Asset classes

Evidence of Performance Enhancement



Source: Edhec April, 2005, Structured forms of investment strategies in institutional investors' portfolios

A Guide through the SPx Jungle

But even in the Structured Products jungle – you have choices and it is important to know the right questions to ask and of course your own/ your investors requirements.

Let's have a look over a selection of products popular over the last 12 months (by no means exhaustive) and discuss whose foot each shoe would fit.

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STRUCTURED PRODUCTS for Alternative Players

How do they fit? (if at all)

What would you prefer?

1. A high probability of a small gain and a low probability of a large loss.

    - Selling insurance
    - Dual Currency Deposits
    - Buy/Write indices
    - Selling variance
    - Buying Credit-linked notes

A Nifty Idea

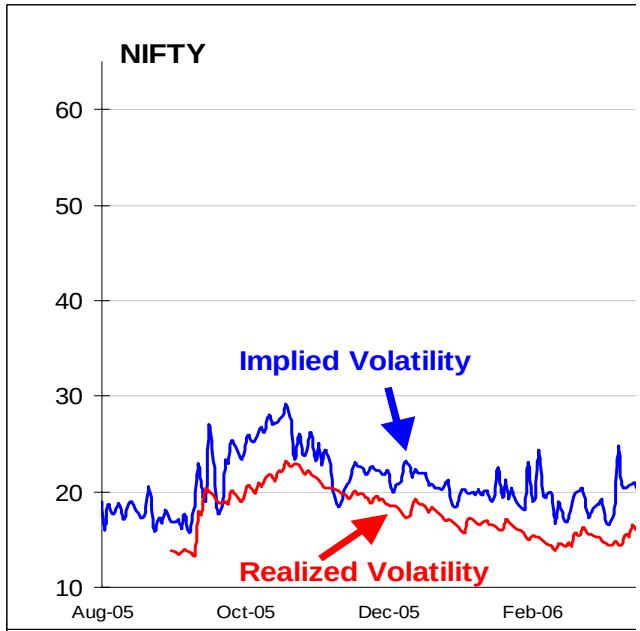
Implied volatility almost always trades higher than realized or actual volatility.

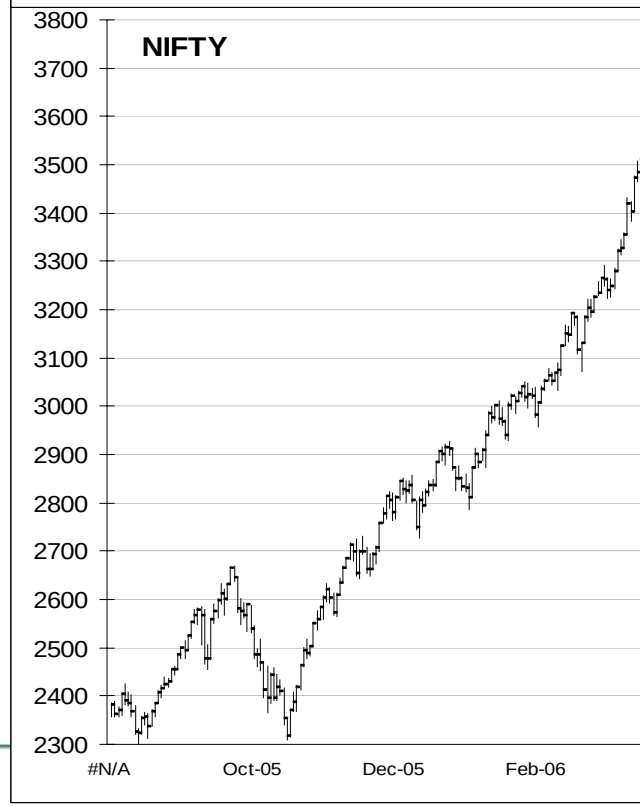
Variance trades slightly above implied volatility (since you are essentially trading low delta wings).

A systematic program of receiving variance and paying realized volatility was a steady earner of almost 4% per trade.

These products trade at a fixed dollar amount per 1% Vega. So if the trade was on $80k Vega, the profit would have yielded 4 *$80 = $$320k.

These have recently been packaged as structured products, but on more liquid indices.





What Happened?

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A Nifty Idea

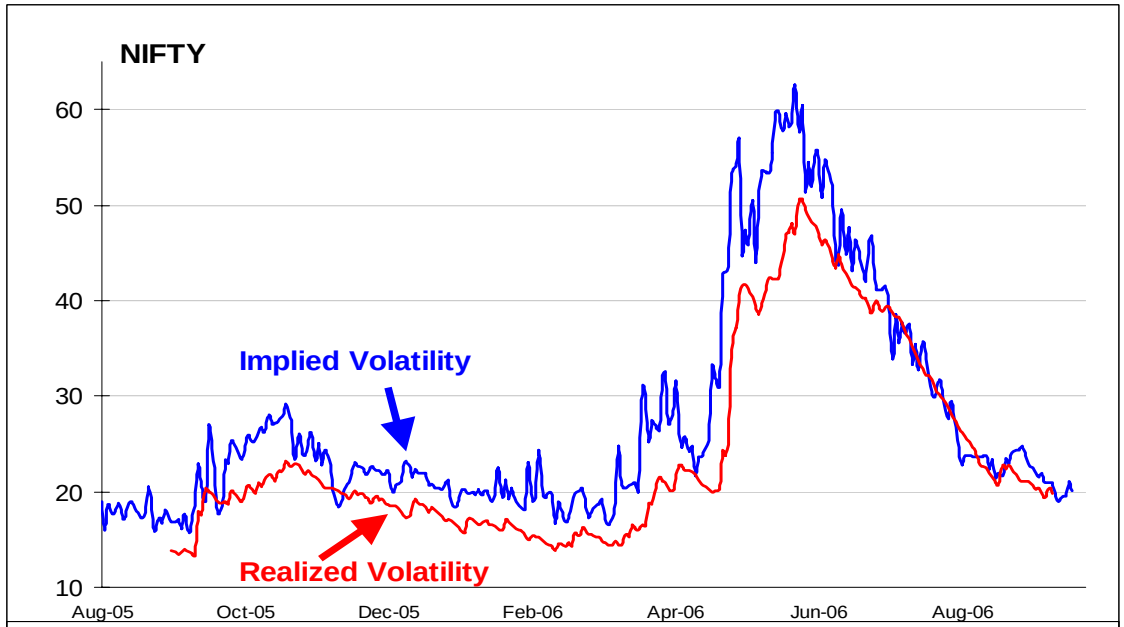
Volatility was sold at 22% on $100k per Vega.

Realized volatility jumped to 50%, resulting in a quick loss of (50-22)*$100k = $2.8 million.

The Nifty dropped 29% in one month, which is well in excess of a 4 standard deviation event.

How frequently does statistics allow for a 4 standard deviation event?

Once every 63 years



What would you prefer?

2. A high probability of a small loss and a small probability of a large gain.

- Buying insurance,
- Buying lottery tickets,
- Buying volatility,
- Buying capital protected structured products

Or Would You Prefer…

3. One to one tracking of an asset, a basket of assets, or the correlation between assets.
    - Non-listed but easily identifiable price relationships.
    - BRIC correlation,
    - Crude oil backwardation,
    - Asian Domestic-Export growth spread.
    - Commodity Range Accrual

Asian Domestic-Export growth spread

(suggested middle of 2006)

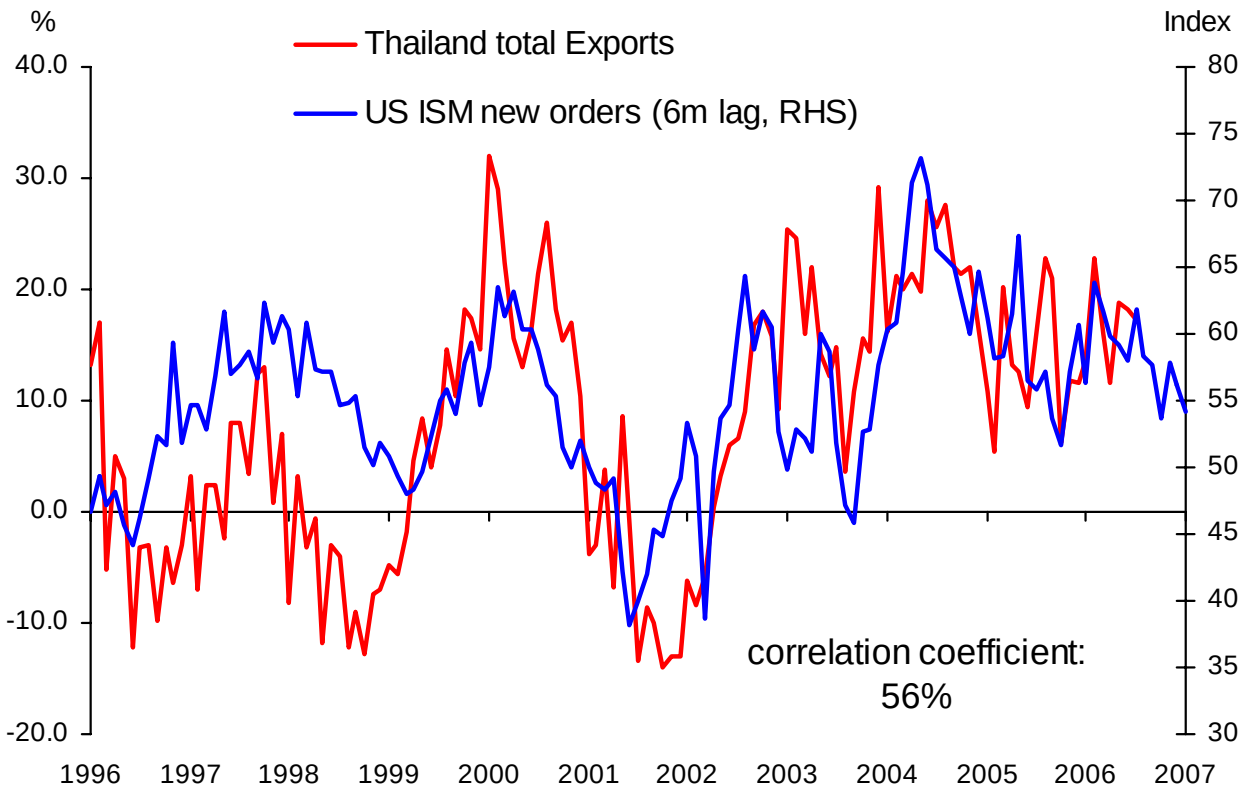
Fundamental Story:

- Expect a US slowdown over the coming quarters.
- Weak Philly Fed reading (suggesting moderating growth).
- US ISM new orders is a good leading indicator for US growth, and also a reliable key leading indicator for export growth in Asia. (US ISM was weak).
- Exports from most Asian countries track US ISM orders with a 6 month lag in lock-step.
- Some Asian countries are more reliant on US markets for growth than others.
- Look at contribution to GDP growth from domestic demand vs. exports.

Trade idea, structure and charts courtesy of Credit Suisse

Asian Domestic-Export Growth Spread

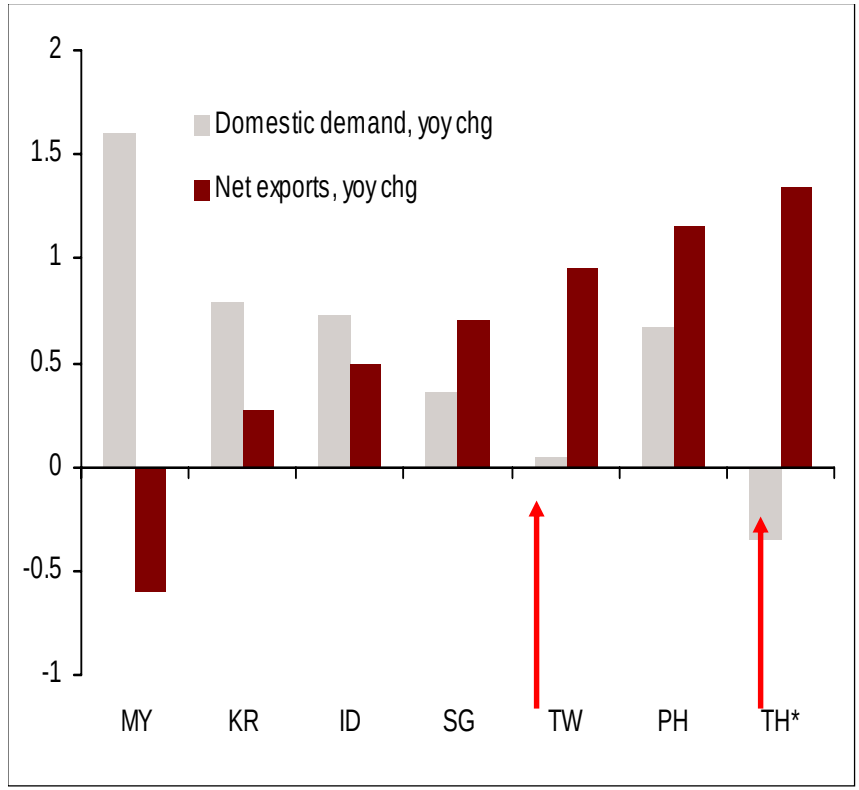
- Thailand and Taiwan are extreme cases with little domestic demand contributing very little to GDP growth.
- China and India have good domestic demand contributions.



Asia Basket Trade – *Domestic Call, Export Put*

- Long Indian Rupee & Chinese Yuen (1/2 notional each)
- Short Thai Baht and Taiwan Dollar. (1/2 notional each)

- Buy a call option in INR & CNY (put option on THB and TWD)
- Duration = 6 months
- Strike = zero
- Price 1.6% notional



Trade idea, structure and charts courtesy of Credit Suisse

Asia Basket Trade – Domestic Call, Export Put

What was the performance of the trade **end of 2006**?

- India is 1.20% stronger
- China is 0.24% stronger
  - **Average currency gain = 0.72%**

- Taiwan is 1.0% weaker
- Thailand is 0.27% weaker
  - **Average currency loss = - 0.64%**

- Net spread gain = 1.36%, so the option has quickly moved in the money.

Traders were able to express a fundamental growth view without having to manage and trade around the position.

Satisfies the requirements of transparency, liquidity, easy revaluation, tight spreads, lower volatility due to correlation component, doesn't tie up much capital, pre-defined stop-loss etc…

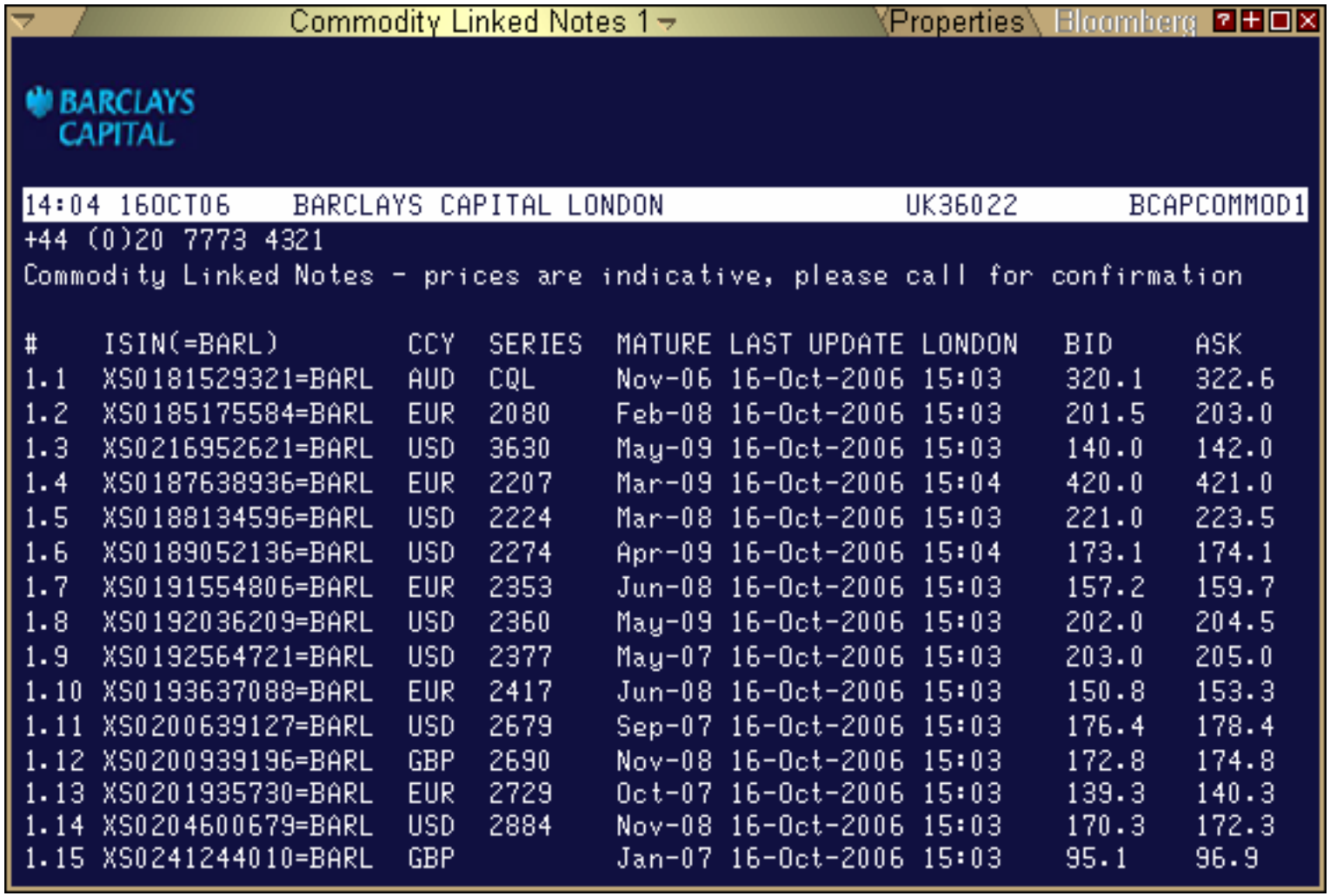
Trade idea, structure and charts courtesy of Credit Suisse

Transparent Pricing – Crude Oil Backwardation

- The Price of distance Crude Oil futures were well below the price of near Crude oil futures.
- A trade opportunity to sell the front month and buy the back month presented itself.
- Traders wanting to take advantage of this curve – and not experienced in trading Crude oil - would have to deal with all of the costs and hassles involved in maintaining this position (rolling the front month out when close to maturity, costs, storage etc.)
- One bank came up with a commodity-linked note that expressed this trade, and offered 2-way tight pricing (via Bloomberg no less)

Trade idea and prices courtesy of Barclay's

Transparent Pricing – Crude Oil Backwardation



Commodity Linked Notes 1 — Properties — Bloomberg

BARCLAYS CAPITAL

14:04 16OCT06 BARCLAYS CAPITAL LONDON UK36022 BCAPCOMMOD1
+44 (0)20 7773 4321
Commodity Linked Notes - prices are indicative, please call for confirmation

#	ISIN(=BARL)	CCY	SERIES	MATURE	LAST UPDATE LONDON	BID	ASK
1.1	XS0181529321=BARL	AUD	CQL	Nov-06	16-Oct-2006 15:03	320.1	322.6
1.2	XS0185175584=BARL	EUR	2080	Feb-08	16-Oct-2006 15:03	201.5	203.0
1.3	XS0216952621=BARL	USD	3630	May-09	16-Oct-2006 15:03	140.0	142.0
1.4	XS0187638936=BARL	EUR	2207	Mar-09	16-Oct-2006 15:04	420.0	421.0
1.5	XS0188134596=BARL	USD	2224	Mar-08	16-Oct-2006 15:03	221.0	223.5
1.6	XS0189052136=BARL	USD	2274	Apr-09	16-Oct-2006 15:04	173.1	174.1
1.7	XS0191554806=BARL	EUR	2353	Jun-08	16-Oct-2006 15:03	157.2	159.7
1.8	XS0192036209=BARL	USD	2360	May-09	16-Oct-2006 15:03	202.0	204.5
1.9	XS0192564721=BARL	USD	2377	May-07	16-Oct-2006 15:03	203.0	205.0
1.10	XS0193637088=BARL	EUR	2417	Jun-08	16-Oct-2006 15:03	150.8	153.3
1.11	XS0200639127=BARL	USD	2679	Sep-07	16-Oct-2006 15:03	176.4	178.4
1.12	XS0200939196=BARL	GBP	2690	Nov-08	16-Oct-2006 15:03	172.8	174.8
1.13	XS0201935730=BARL	EUR	2729	Oct-07	16-Oct-2006 15:03	139.3	140.3
1.14	XS0204600679=BARL	USD	2884	Nov-08	16-Oct-2006 15:03	170.3	172.3
1.15	XS0241244010=BARL	GBP		Jan-07	16-Oct-2006 15:03	95.1	96.9

Hybrid Structures

Initially, those Hybrids linked the traditional asset classes.

Over the last 2 years we have seen increasingly products linking Alternative Asset classes such as:

- Credit
- Inflation
- Properties
- And Hedge Fund portfolios
- Alternative Energies & Emissions

➔Increasing DIVERSIFICATION OPPORTUNITIES

➔Making the SPX Universe Limitless

Inflation Products – Why the Interest?

- Traditionally, equities have been regarded as a hedge against rising inflation.
- and rates available on debt products have historically risen in step with inflation.
- In 2000-2003, equities fell significantly and rates did not rise fast enough to offset inflation.
- Inflation exposures were no longer effectively offset with external proxy hedges.
- Inflation exposure needed to be managed with inflation protection.
- Sharp growth in inflation as an asset class over the past 4 years.

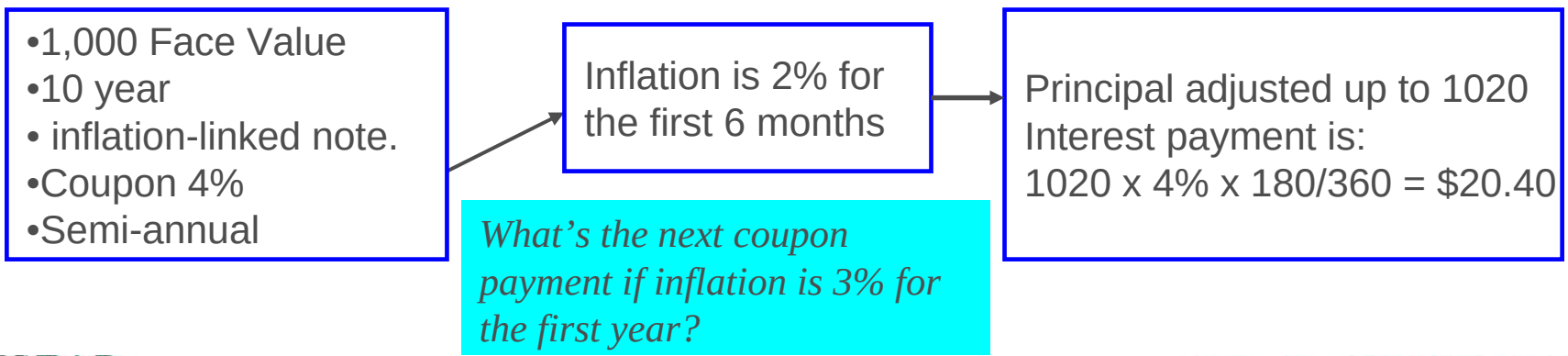
"LINKERS"

Inflation-Linked Government Bonds

- Governments were the first to issue inflation bonds and remain the main issuers.
  - It signals their commitment to curb inflation. This is especially important in non G10 countries with high inflation such as South America and Mexico.
  - Asset – Liability management. Much government income is linked to inflation:
    - GST
    - Taxes that rise as the economy expands
- The main sovereign issuers have been US, UK, France, Sweden, Australia, NZ, Canada.
- In the UK, linkers account for more than 25% of newly issued Government debt.

TIPS *(Treasury Inflation Protected Securities)*

- At maturity, the investor receives the greater of the inflation-adjusted value of the security, or original face value (deflation does not decrease the price).
- Because inflation protection is built in, these securities pay lower interest rates than other treasuries of the same maturity.



When do Hedge Funds trade Structures?

1) Expressing a view along a curve
2) Trading a correlation
3) Cost (premium) reduction
4) To efficiently express a view with multiple components.
5) To express a view in an area where they have little expertise.
6) To reduce time required to manage a trade.
7) When spreads are tight.
8) When components of the trade can be easily identified and revalued.
9) When the structures can be included in a risk analysis.
10) When the shoe fits.

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STRUCTURED PRODUCTS
on "Alternatives"

Why Structured Alternatives?

- Search & select the funds:

  finding attractive Alpha sources

- "Wrappers": select a suitable framework to optimize the investor's exposure
- Create innovative pay-off profiles to suit the client's need
  - Capital protection
  - Leverage
  - Non-discretionary allocation algorithm
- Increase/ enhance Transparency & Liquidity
- Access to Risk Management Expertise: Reduce downside

Why Structured Alternatives?

- HNW Investors do understand the portfolio benefits of Alternatives, but are still hesitant due to:
  - Perceived "Riskiness"
  - Lack of Transparency (opaqueness)
  - Liquidity risk
  - Unregulated environment
  - Headline risk & "blow-ups" (Amaranth, LTCM etc.)
  - Regulatory & Tax constraints

HF linked Structures – Overview

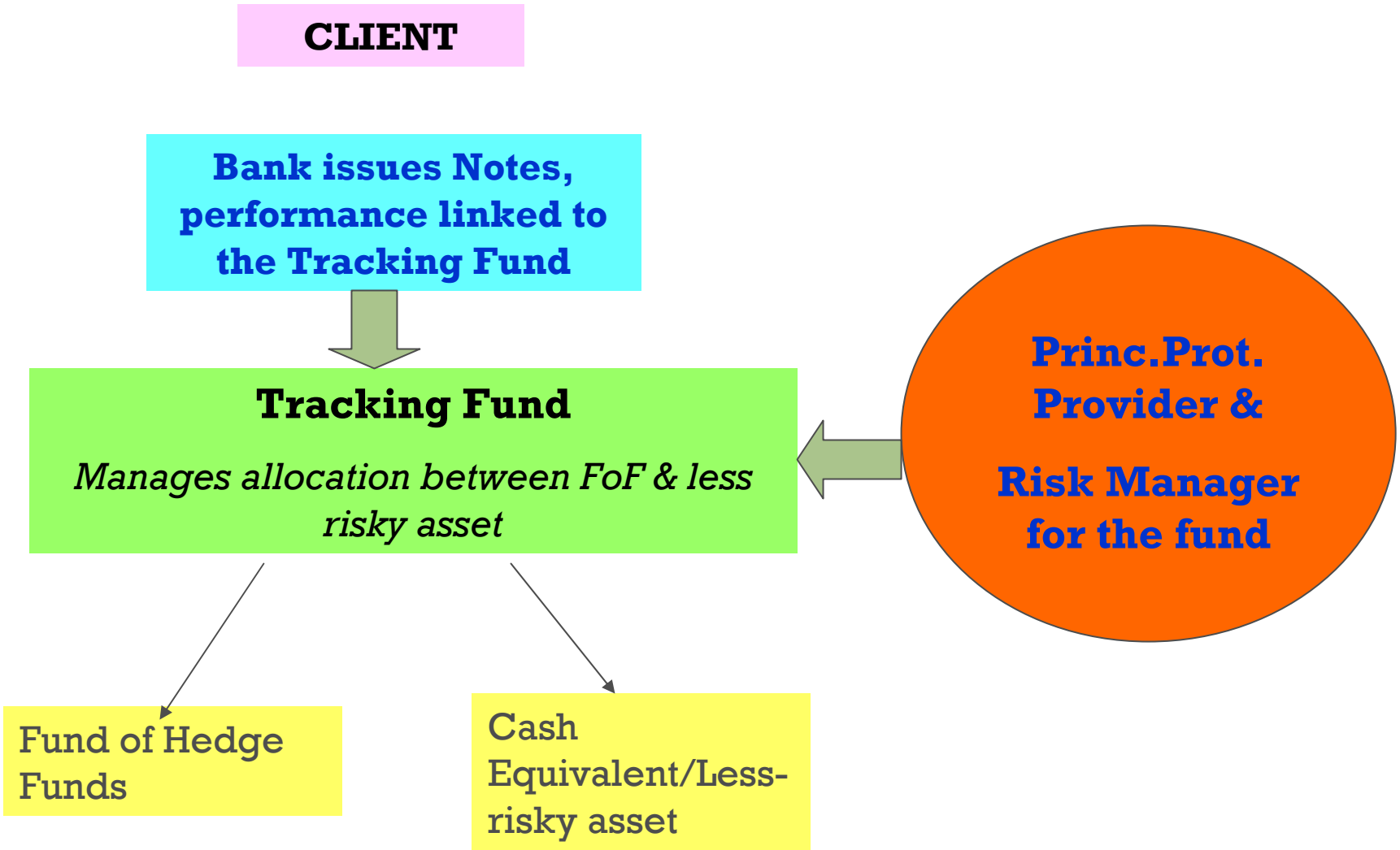
- Capital protection on HFs not new
- Recently some interesting innovations
  - Underlyings are mainly FoFs
  - Structures include simple options
  - Path-dependent/ dynamic hedging structures

Structuring goes beyond capital protection and includes the creation of tailor-made risk return profiles.

The "Underlying" can be …

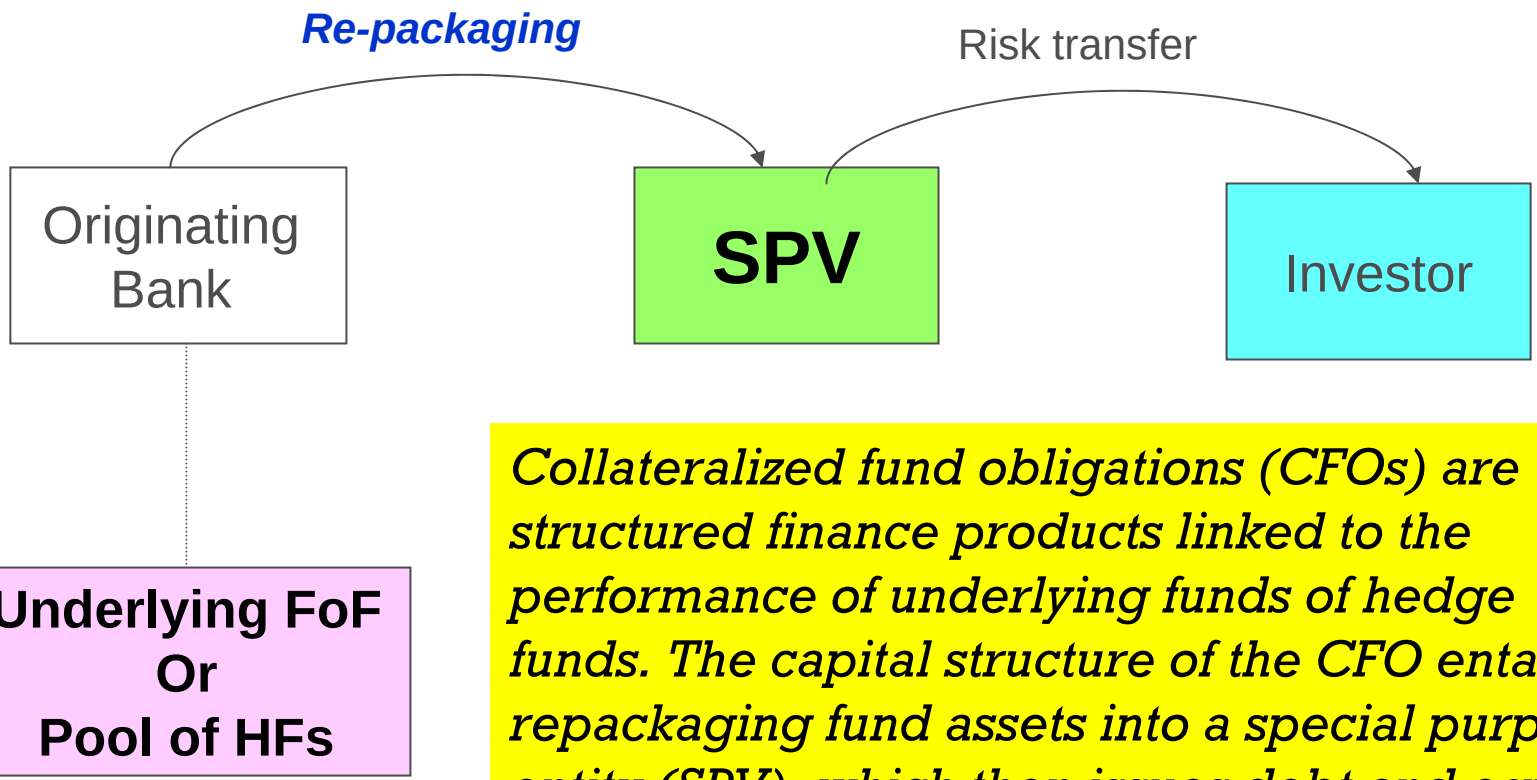
- Basket of HFs (passive or actively managed)
- Managed account
- FoF
- Investable HF indices

Capital Protection - CPPI



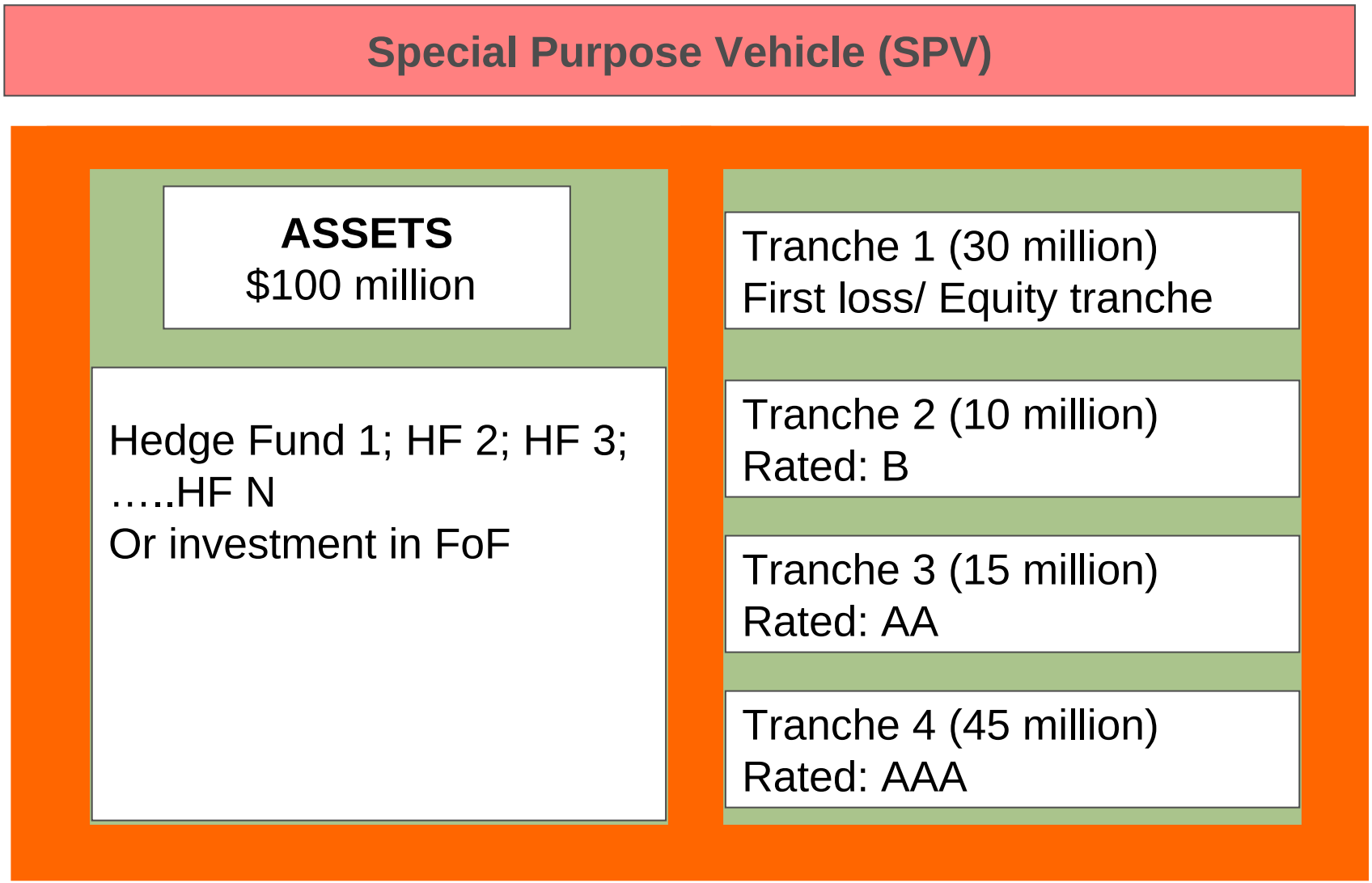
Synthetic Structures - CFOs

- Basic Deal Flow -



Collateralized fund obligations (CFOs) are structured finance products linked to the performance of underlying funds of hedge funds. The capital structure of the CFO entails repackaging fund assets into a special purpose entity (SPV), which then issues debt and equity securities with different risk- return trade-offs.

CFO Example


Special Purpose Vehicle (SPV)
ASSETS
$100 million
Hedge Fund 1; HF 2; HF 3;
…..HF N
Or investment in FoF
Tranche 1 (30 million)
First loss/ Equity tranche
Tranche 2 (10 million)
Rated: B
Tranche 3 (15 million)
Rated: AA
Tranche 4 (45 million)
Rated: AAA

CFO Outlook

Alternative investments: Collateralized fund obligations issuance by FOHFs increases

Euromoney March 2007 By *Helen Avery*

An increasing number of funds of hedge funds are issuing collateralized fund obligations. There have been 20 such transactions, 10 of which were launched in 2006. "We expect the number of CFO transactions in 2007 to surpass that of 2006," says Ken Margolis, co-head of global CDOs at Merrill Lynch.

HF linked Structures - Outlook

- More and more FoFs have started to build their own structuring team
- Increase in Single-manager structures
- Individual managers of specialized funds
- Portable Alpha Structures
- Sharia-compliant structures?

Value-add for the Clients

Value-Add		***Positive risk-return impact on investor portfolio***
Instant Diversification		***Instant diversification of overall portfolio risk***
Accessibility		***Access to a broad universe of alternative investment opportunities, often not accessible due to high min. Investment size***
Simplicity		***Actively managed; no re-investment risk; no re-allocation decision***

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FUTURE TRENDS IN STRUCTURING & ALTERNATIVES

ML marries FX & CDO structures

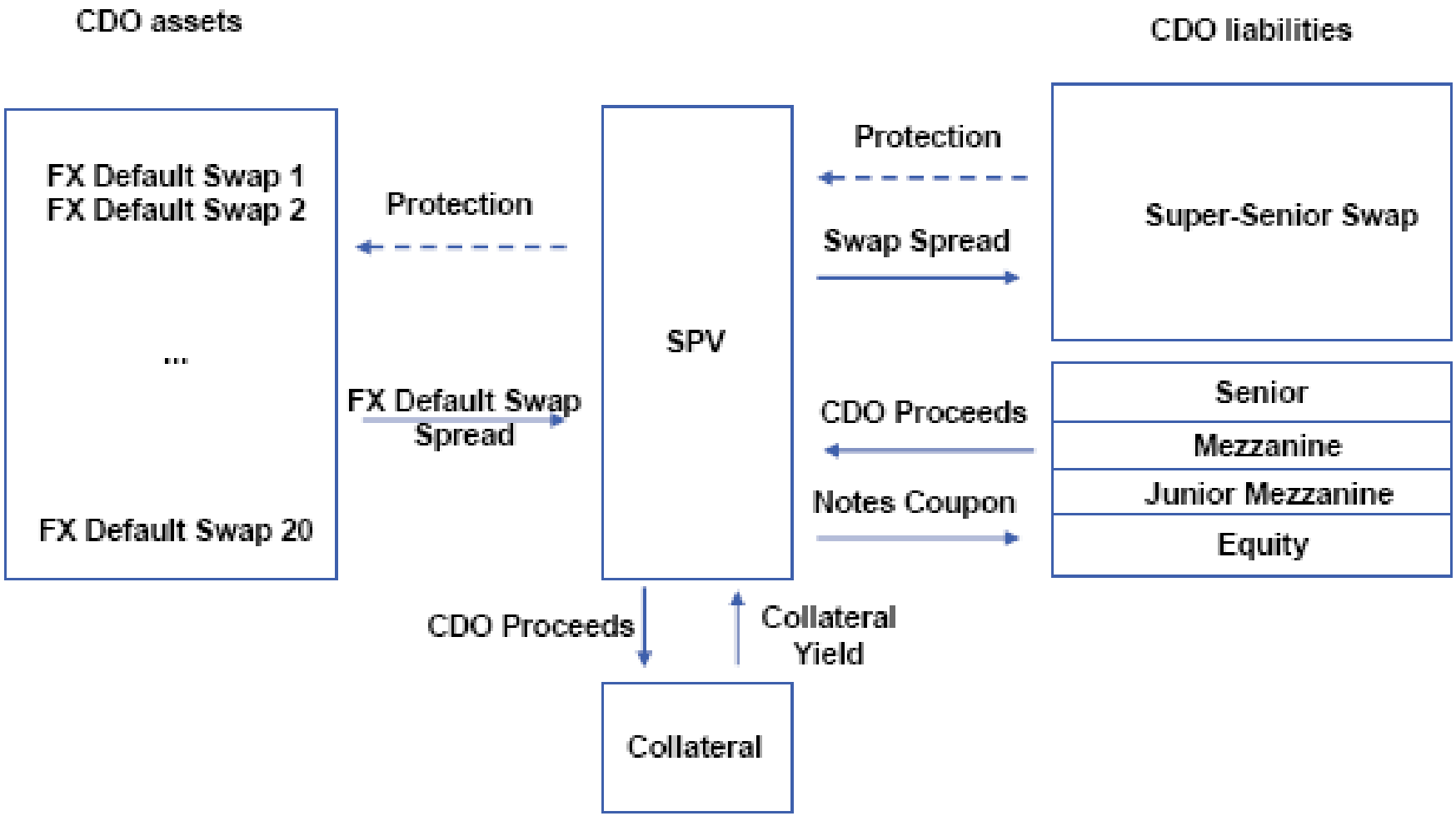
In **March 2007**, Merrill Lynch announced **"CDOs that go beyond credit",** by applying the principles of this credit derivatives structure on FX, equities & commodities exposures.

The CDO simply pools such exposures, then re-packages the risk into tranches that suit individual investor risk-return profiles.

Why would an FX CDO be interesting for investors?

Source: European Structured Finance; CDO -07 March 2007

FX CDO hypothetical structure



Source: Merrill Lynch

Merrill Lynch; March 2007

A new twist on Convertibles

Structures with a pay-off profile similar to Pre-IPO convertibles….

With a conversion option linking to shares in PRIVATE EQUITY firms

From CDO to CFO to CFMO

Why not use the idea behind CDOs to structure a product that gives investors access to a portfolio of Fund Management companies and take advantage of "tranching" to create attractive products for different investor risk appetites.

… and call them

Collateralized Fund Managers Obligations

CFMOs

...Which would result in an investment in the Fund Management company.

➔Participate in:

- ➔ the company performance
- ➔Admin revenues
- ➔% of the Performance bonus

➔Gives fund owners a chance to extract value & divest.

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Reputational Risk

"Very Significant Business"

Top 3 Private Banks in Asia are estimated to account for over US$ 50 billion worth of Structured Products.

Most are through OTC or private placement

Disclosure requirements have gone up with more and more retail investors entering the market

Reputational risk has increased

The Warning

Regulators are nevertheless worried …and for good reasons.

The growth over the last 4 years has been achieved in a more than benign market environment, with low volatility, tightening spreads and flat to positive equity markets.

For issuers, the unknown-unknowns will increase as they venture into unfamiliar territory dealing with new asset classes.

What is Operational Risk?

According to BIS (Basel II):

Risks associated with people, internal processes & systems, external events & force majeur.

It specifically does NOT include:

Strategic or business risk, credit-, market- or systemic risk and also not REPUTATIONAL RISK

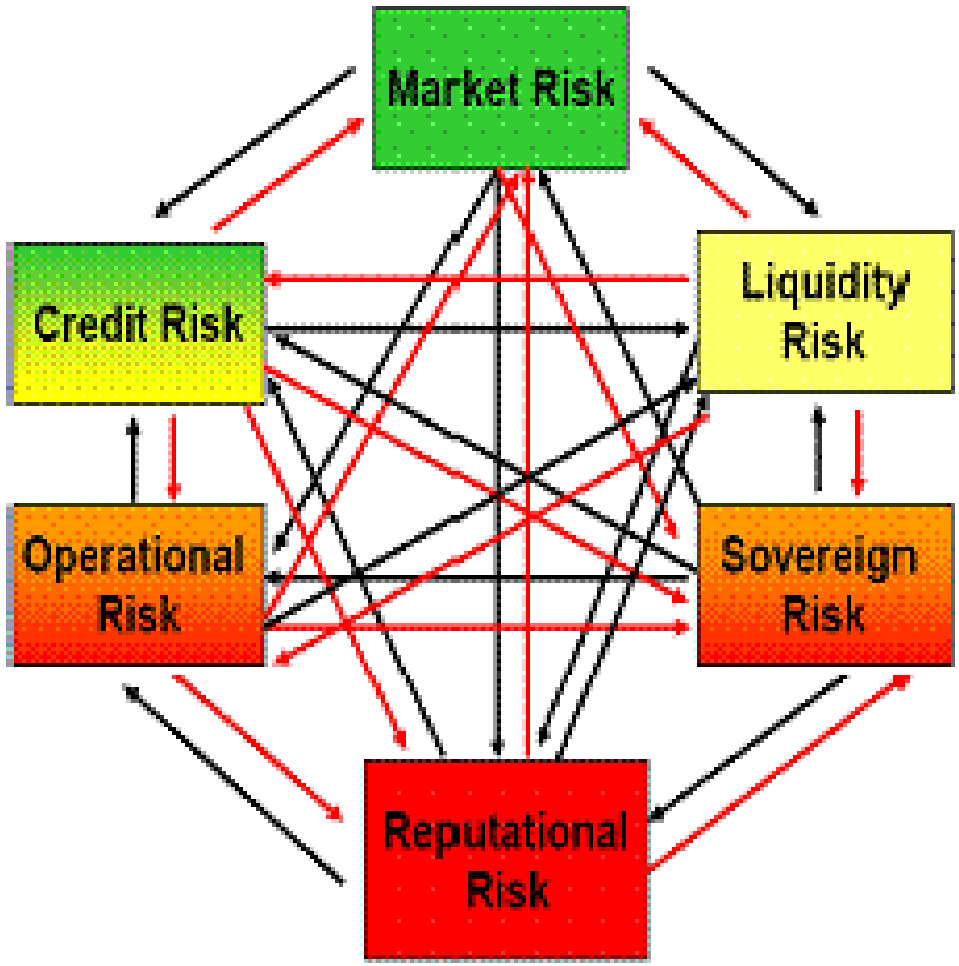
What is Reputational Risk?

*"Reputational risk comprises the **risk of loss in the value of a firm's business franchise** that extends beyond event-related accounting losses and is reflected in a decline in its share performance metrics.*

Reputational risk is usually the consequence of management processes rather than discrete events, and therefore requires risk control approaches that differ materially from operational risk."

Hierarchy of Risks

Exhibit 1
A Hierarchy of Risks Confronting Financial Intermediaries



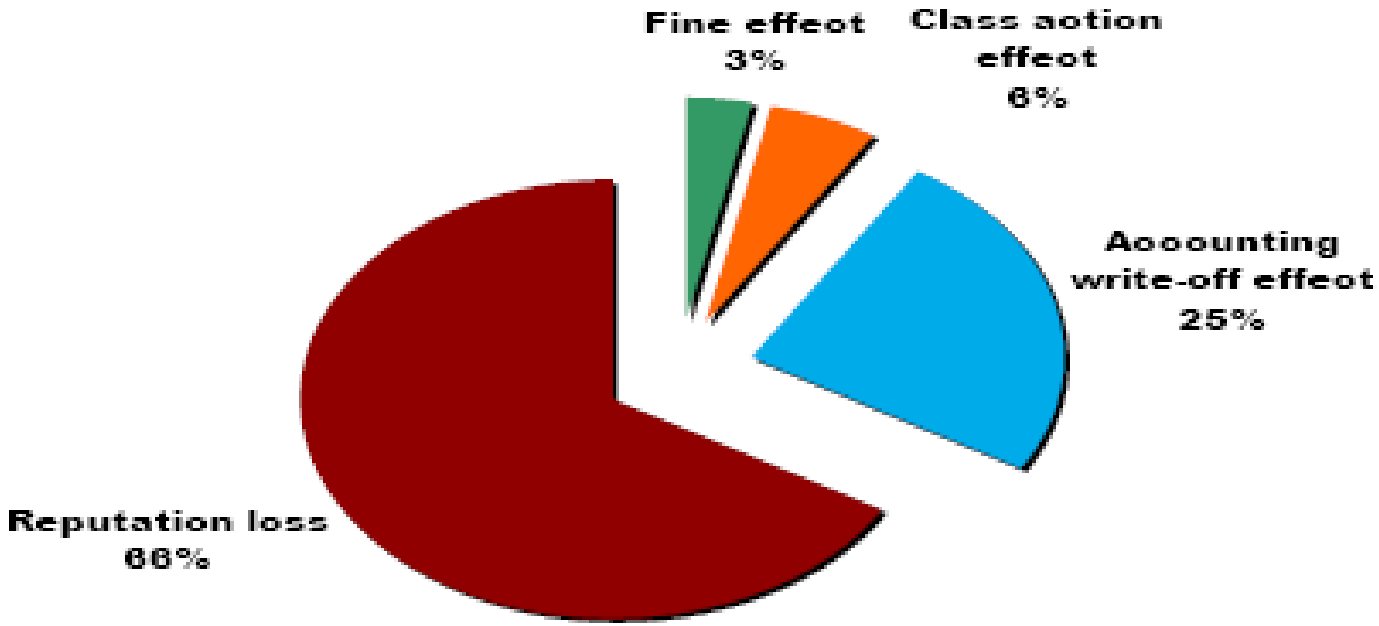
Key sources of Reputational Risk

… in the financial services sector (in particular for Investment Banks) is **the search for INNOVATION and the exploitation of conflicts of interest .**

➔ ***A fact of life in finance***

(and probably will always be)

Exhibit 12
Decomposing CARs Related to Earnings Restatements



Data: All SEC enforcement actions 1978-2002 – 2,532 regulatory events
Actions & penalties tracked through 15 November 2005
Mean CAR -38.06% = mean market value loss $397 million (24% higher for surviving firms)
Partitioned for sample:
Fines imposed on firms $5.01 billion
Class action payments $ 8.59 billion
Accounting write-off $37.4 billion
Reputation loss $101.5 billion

SourceKarpoff, Jonathan M., Lee, D. Scott and Martin, Gerald S., "The Cost to Firms of Cooking the Books" (March 8, 2006). Available at SSRN: http://ssrn.com/abstract=652121 :

Magnitude of Reputational Loss

This survey attempts to identify pure reputational loss and notes that

Reputational losses are by far larger than the cost of fines, class action settlements & accounting write-offs!

SOURCE

"Reputational Risk & Conflicts of Interest in Banking & Finance – The Evidence so far"; December 2006; by Ingo Walter; Stern School of Business, NYU; New York; INSEAD, FTB & SGP

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