

INSEAD

**The Business School
for the World**

**Professor Claudia Zeisberger
Professor of Finance
Programme Director
Asia Pacific Institute of Finance (APIF)
Centre of Decision Making and Risk
Analysis (CDMRA)**

Pervasiveness of Structured Products
*Too much Structure – Too little
Strength?*

Structures in Asia

Structured products have become omnipresent over the last 2 years – try as you might you can hardly avoid the avalanche of new structured products issues every month.

In the past the domain of institutionals with specific hedging needs, they are now the investment vehicle of choice not only for the Hedge Fund mavens, Live insurance companies, but also High Net-worth and even Not-so-High Net worth individuals.

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

...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.”

... with unassuming Investors

Hong Kong SFC survey 2006:

1. Weighting of SPx in investor portfolios was inversely proportionate to their investment experience
2. Only 1/10th of the investors in equity linked products recalled of receiving, reading & understanding the prospectus
3. Limited liquidity (buy + hold)

→ Potential of mis-selling?

*SFC & University of Hong Kong;
joint study on investor behaviour*

How many financial (structured product) engineers invest in what they build?

Close to ZERO!

You might want to ask why.

Structuring – the Real World

In the world of construction, **engineering codes** are strict.
Makes sense as peoples lives are at stake.

Building codes **enforce the rules** and ensure that buildings
are not built on the proverbial sand.

Still – excesses are common, like the race for the tallest
tower in the world or even.....

.... In History

Burj Dubai....

Rumoured height of 940 meters
(3080 feet)

Competing with:

CN Tower (Toronto), Taipei 101,
Freedom Tower (NY); Shanghai
World Financial Center etc ...

In a RACE TO THE TOP



Oversight in the Real world

Still – your architect or building contractor not wanting to join the house warming party would make you think (at the least) or even pick up the phone to call the building authorities.

How about those Financial Structured products?

Critical Questions

Are Structures really a ONE SIZE FITS ALL solution

Or merely a “Precision tool for Professional investors”?

Are they a unique way to capture excess returns & diversify

OR

Simply another tool to increase exposure to TAIL RISK and other UNKNOWN UNKNOWNNS?

INSEAD

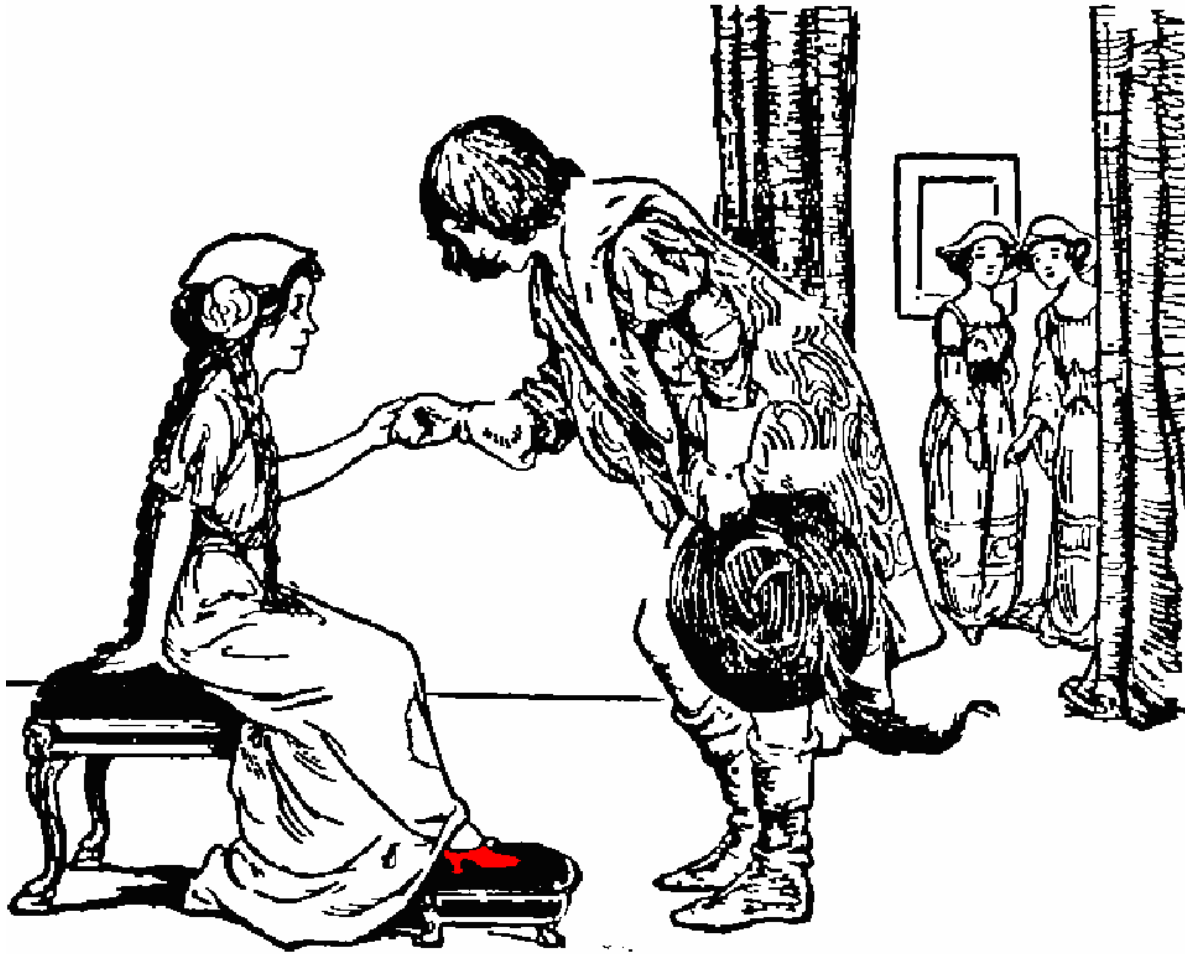
The Business School
for the World

STRUCTURED PRODUCTS

How do they fit? (if at all)

Structured Products for Institutionals

Does the shoe fit?



- Institutional Investors like wearing shoes as much as Private Banking clients.
- But they have different tastes.



Private Banking Client



Institutional Investors

Some Hedge Fund managers aren't happy unless they own all the shoes...even the smelly ones.

Natural Gas Trader



Investment **objectives** and **constraints** of Individual Investors differ widely from those of institutionals:

Risk & Return

Mark to Market

Risk management

Subscriptions

Leverage

Accountability

Liquidity

Benchmark

Tax

These characteristics play a large part in determining the fit of a structured product.

Risk & Return

Private Banking Client

- Willing to accept a 0% return in exchange for the possibility (however remote) of earning 15% on a “deposit” or “note.”
- Willing to accept 1% return per year in excess of High Grade Corporate Bonds in exchange for losing 100% once every 80 years”

Institutionals

- Bounded by well defined Risk, Return and Drawdown parameters:
 - 15-20% return
 - 8-12% risk (annualized standard deviation of returns)
 - Max drawdown of $\frac{1}{2}$ of avg. annual return.

Accountability

Private Banking Client

- Accountable to no one (perhaps a spouse).

Institutionals

- Investors
- Regulators
- Administrator
- Auditor
- Employees
- Media
- (spouse)

Risk Management

Private Banking Client

- Does not have to stop out of a losing position.
- Has no VaR limit.
- *"In the worst case scenario, you will lose your original investment amount and receive no Interest payments."*

Institutionals

- Individual or strategy VaR Limits
- Portfolio VaR limits
- Individual Stop-loss limits.
- Strategy concentration limits.
- Asset concentration limits.
- Independent risk manager.

Benchmark

Private Banking Client

- Benchmark is own happiness.
- No external benchmark comparison.
- 60/40 bond/equity?
- Starting Capital

Institutionals

- Stock Markets
- Bond Markets
- CSFB/Tremont Indices
- MSCI Indices
- Greenwich-Van Indices
- HFR Indices
- Barclay Indices
- S&P Indices
- HSBC Indices

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.

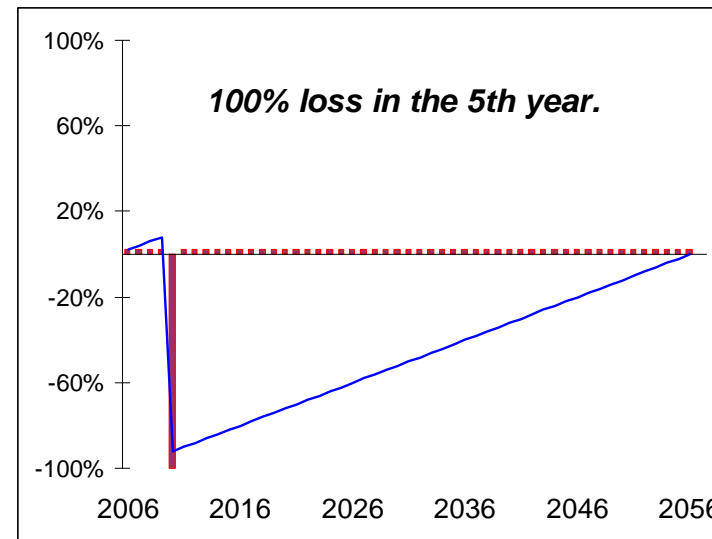
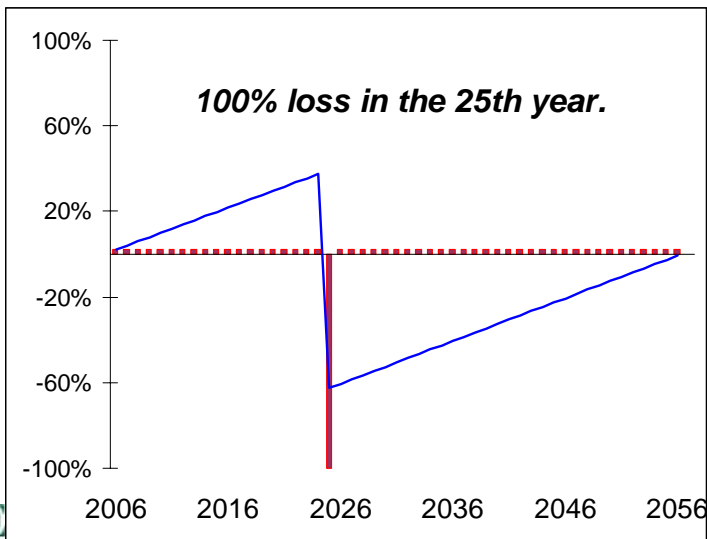
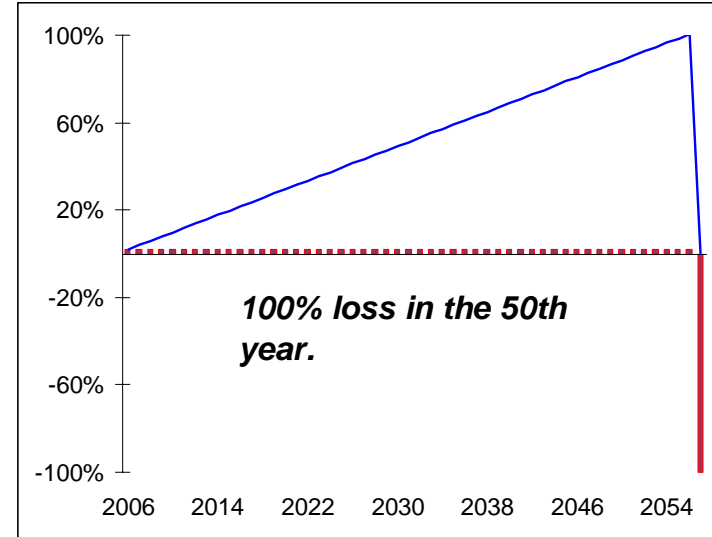
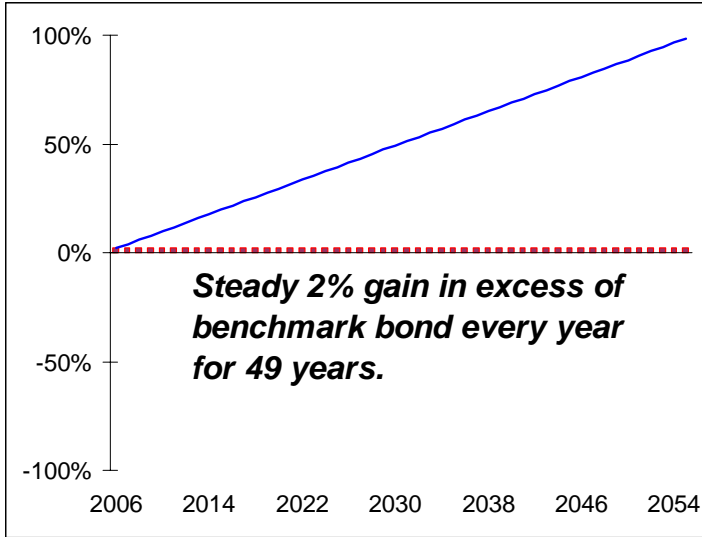
Let's have a look over a selection of products popular over the last 12 months (by no means exhaustive) and discuss whose foot each shoe would fit.

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

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



A Nifty Idea

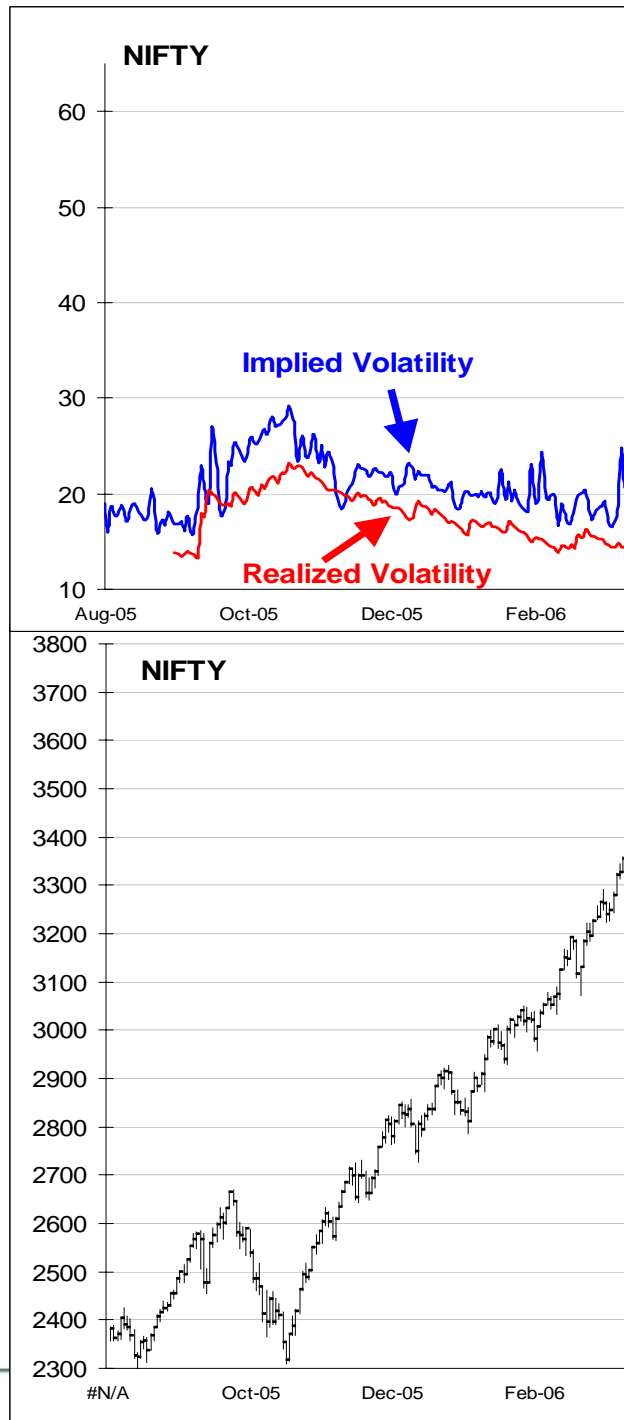
Implied volatility almost always trades higher than realized or actual volatility.

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?

A Nifty Idea

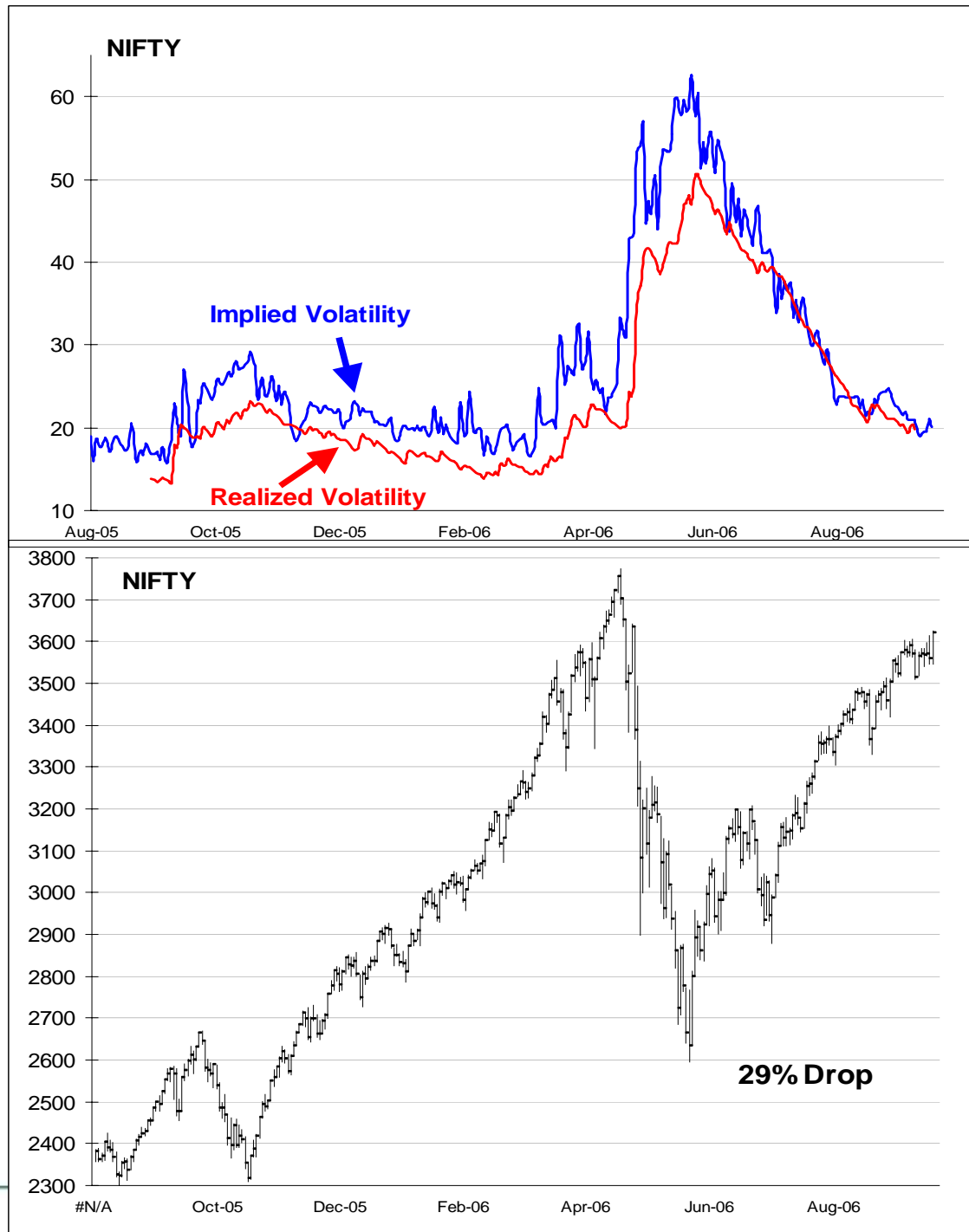
Volatility was sold at 22% on \$100k per Vega.

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,
- Trying on glass slippers,
- Buying volatility,
- Buying capital protected structured products

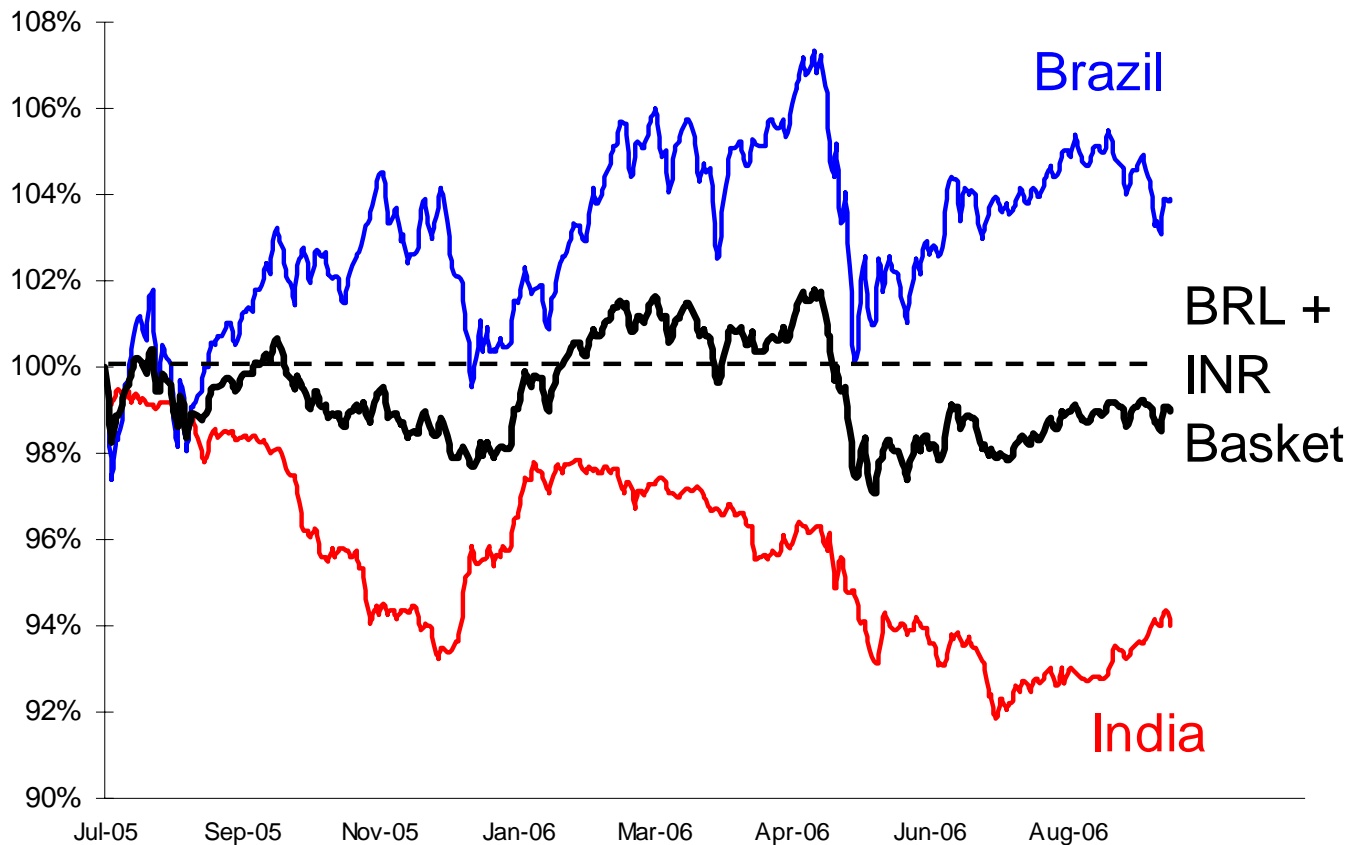
Or Would You Prefer...

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.

- ➔ **Too sophisticated for Private Investors?**
- ➔ **Suspicion of the Unknown?**

BRIC Correlation/Dispersion



Buy the absolute performance of Brazil and India, sell the Basket.

Performs well if Brazil and India move in opposite directions and the basket remains stable.

Asian Domestic-Export growth spread (suggested middle of 2006)

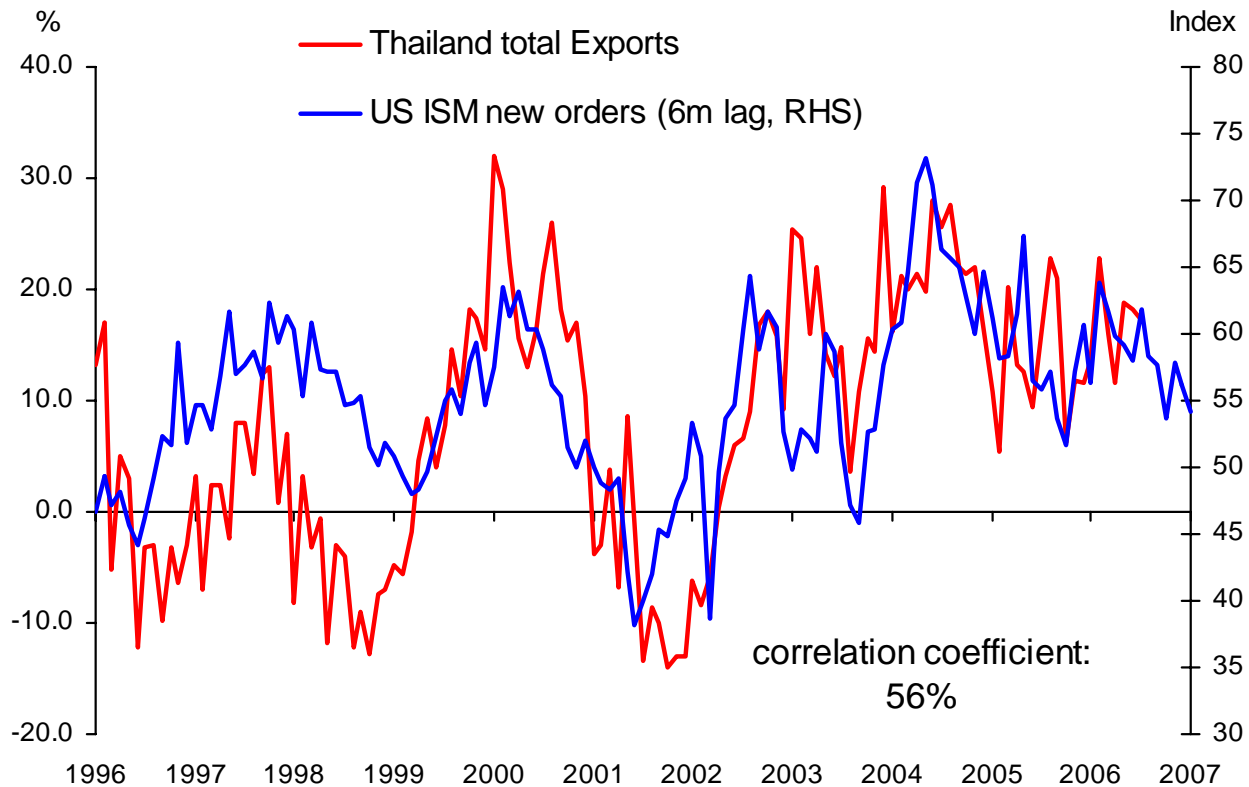
Fundamental Story:

- 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.



When do Private Investors trade Structures?

- 1) Access to a new asset class
- 2) Real diversification
- 3) When it becomes part of the core investment
- 4) When the choices at the “buffet” increase
- 5) When the story fits (infrastructure, commodities)
- 6) Understanding of the product is there
- 7) When the shoe fits And is COMFORTABLE

When do Institutionals 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.

Summary

- Choices for investors have increased tremendously over the last 5 years
- It is still “Caveat Emptor” !
- And investors should be aware of the Trade-offs and ask if those products truly fit their risk profiles

In the world of structured products, the only oversight is by the investors. It's a bit like asking the home buyer (who may be a Doctor, poet or bus driver) to approve the structural soundness of their new home.

But the structured products engineers do warn of the risks....a bit like the home builder saying, you have a high probability of enjoying your new house for years, although it could completely implode and turn to rubble at any time.

These Boots are Made for Walkin'

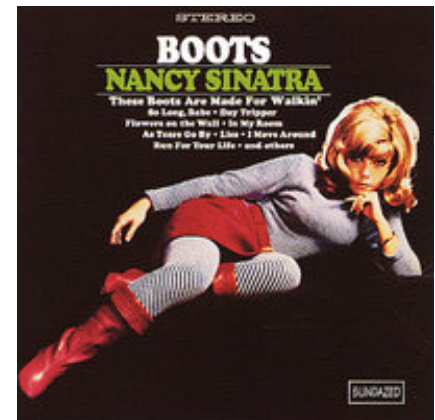
You keep playing where you shouldn't be playing

And you keep thinking that you'll never get burnt (HAH)

Well, I've just found me a brand new box of matches (YEAH)

And what he knows you ain't had time to learn

*These boots are made for walking, and that's just what they'll do
One of these days these boots are gonna walk all over you*



INSEAD

The Business School
for the World

Structured Products
- The Sell-side -

How about: “Caveat Venditor”

...or should we have a closer look at risk?

Result of excessive Structured product selling:

- Large Short vol positions across institutions in an environment of
- Tightening credit spreads and
- Historical low volatility

Gives regulators sleepless nights.

“Very Significant Business”

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

Most are sold OTC or in private placements

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

Reputational risk has increased

Market developments

- **Primary issuers:**
 - Large Investment banks
 - Electronic platforms with real time pricing 24x6 for over 12,000 IR structures
- **Secondary Markets** importance for sustainable growth:
 - In the PAST a “must offer” value added service for clients, that was painful to maintain.
 - NOW: larger activity, more ingrained, an opportunity & profit center → voluntary participation

Who holds the risk?

The issue of “White Labelling”

Structurer and distributor are rarely the same institution in Asia.

Question is:

1. Who is responsible for the disclosure requirements towards clients (especially retail clients)?
2. Reputational risk – if things go wrong

The Future

Market participants clearly expect this segment to grow.

Given the demand seen from fairly new entrants, like China retail investors, there is certainly enough room for growth.

Innovation is rampant:

End 2006 in Hong Kong: Notes (both guaranteed and non-guaranteed) linked to A-shares were issued.

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.

And how about Tail Risk?

It remains to be seen how those new investors will behave when the next 10-Standard deviation move hits the market.....

***Be Assured –
we will not have to wait 63 years for it!***

INSEAD

The Business School
for the World

*For questions, please feel free to
contact me at:*

claudia.zeisberger@insead.edu

**Asia Pacific Institute of Finance
(APIF)**

www.insead.edu.sg/AsiaFinance