Title: "Pervasiveness of Structured Products – Too much Structure – Too Little Strength?"

Speaker: Professor Claudia Zeisberger, Adjunct Professor of Finance, Program Director, Asia Pacific Institute of Finance (APIF), Centre of Decision Making and Risk Analysis (CDMRA)

Written by Jean Wee, Research Associate, APIF

Structured products are the new darling of private bankers, primed as the answer to high net worth individuals' search for higher returns with limited downside loss. In the global structured products market, 2005 saw an explosive 400% increase of notional, matched by an increase in the breadth of product offerings as rising commodities prices and disappointing returns in equities led to greater innovation and, more importantly, demand in this product class. In the US, this soaring interest has resulted in a record US$65 billion sold in the retail market, up another 33% from 2005.

Asia has not been missing the action either. In the past couple of years – the top three private banks in Asia are estimated to account for over US$50 billion worth of structured products, mostly through over-the-counter (OTC) or private placements. Already, recent fund raising for new stock funds in China – Harvest Fund Management Co Ltd raised RMB40 billion (US$5.2 billion) and ICBC Credit Suisse Asset Management Co Ltd raised RMB12 billion (US$1.6 billion) - closed after just 24 hours.

Professor Claudia Zeisberger recently hosted a breakfast seminar at INSEAD Asia campus to untangle the complexities of this new product class, which has drawn not just high net worth investors, but the savvy hedge fund players as well.

Why Structured Products – why not?

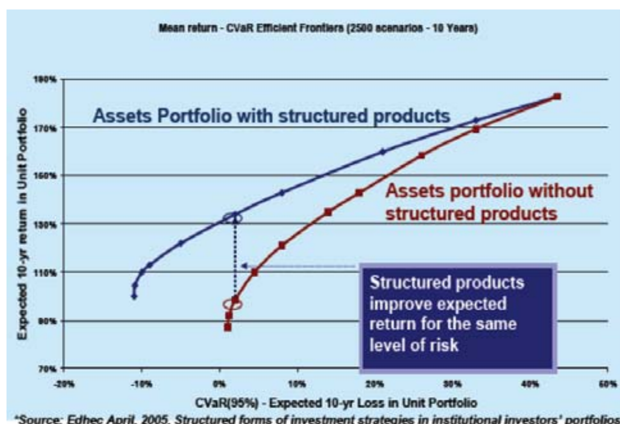


Fig 1 – Efficient frontier enhancement from structured products

Investors can invest in structured products according to their individual preferences/needs – for the provision of: capital, inflation or minimum returns guarantees; smoothed returns through reduced volatility investments; locked-in returns; gearing and leverage; yield enhancement; or most interesting to alternative players, access to "new" or "synthetic" asset classes.

Furthermore, from an asset allocation point of view, academic studies have all been conclusive that adding structured products to an already diversified portfolio can further enhance performance, pushing the efficient frontier up and out to the right.

Why Hedge Funds are in Structured Products – casting their net wider…

These sophisticated players are attracted to structured products as they enable them to trade correlations, or express a view quickly, cheaply and efficiently along a curve or with multiple components or in areas where they have no expertise. Structures with tight spreads and easily identifiable components that can be revalued and included in risk analyses are especially attractive.

© Copyright 2007 by INSEAD, Asia Pacific Institute of Finance. All Rights Reserved

Types of Structured Products – what are you looking for?

With the myriad of structures available out there, Professor Zeisberger classified the structured product universe into:

Products offering High Probability of Small Gain + Low Probability of Large Loss

Some examples would be Dual-Currency Deposits, Buy/Write Indices, selling Variance, buying Credit-Linked Notes. A recent product offered was based off the Indian stock index Nifty, structured to capture the difference between implied volatility and realized volatility of the index. Generally, implied volatility of stock indices tend to be higher than realized volatility, so selling implied and buying realized would have normally netted a nice 4% (small) profit. Unfortunately, a 4-standard deviation event, occurring only once in 63 years, pushed realized volatility up 50%, resulting in a very large loss for investors. Caveat Emptor!

Products offering High Probability of Small Loss + Low Probability of Large Gain

These included buying volatility or buying capital protected structured products, where investors would hope for these 4-standard deviation events to happen.

One-to-one tracking of an asset, a basket of assets, or the correlation between assets

Offerings in this category are the most interesting to alternative investors/hedge funds. Professor Zeisberger discussed two recent innovations – The Asia Basket Trade (Domestic Call, Export Put) trading the Asian Domestic-Export growth spread, and the Commodity-linked Note trading Crude Oil Futures Backwardation.

The first structure traded the expectation that a US slowdown would impact Asian economies differently through the export channel. Thailand and Taiwan, with low domestic demand and high export contributions to GDP, would be more adversely affected, compared to China and India with very robust domestic demand. The trade involves being long the Indian Rupee and Chinese Renminbi (buy call options) and being short the Thai Baht and Taiwan Dollar (buy put options) for six months. Traders could express a fundamental growth view without having to manage and trade around the position.

The Commodity-linked Note allowed investors to sell the front-month Crude Oil Futures and buy the back month, when front-month futures were much higher than distant futures, a phenomenon known as backwardation during periods of strong demand and low supply. The note allowed tight 2-way pricing and none of the hassles of trading futures.

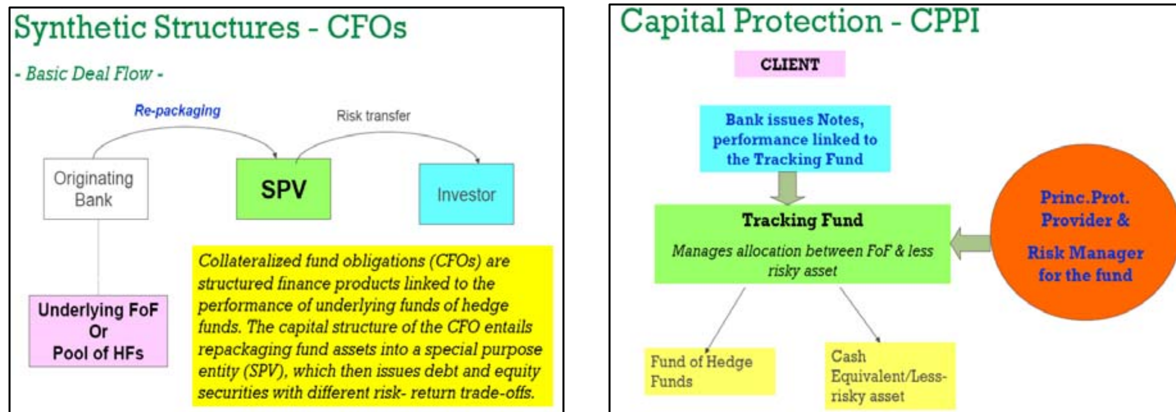
Hybrid structures

Over the last 2 years, product offerings have moved from linking the traditional asset classes (e.g. equity index-linked notes), to linking alternative asset classes such as credit, inflation, properties, hedge fund portfolios, and even alternative energies and emissions (e.g. the Barclays European Carbon index (BECI) Tracker). This has vastly increased diversification opportunities and effectively made the structured products universe limitless.

© Copyright 2007 by INSEAD, Asia Pacific Institute of Finance. All Rights Reserved

Structured Products on "Alternatives" – the new game in town

Fig 2 – Types of Structured Products on "Alternatives"



These hybrid structures have sprung up to create innovative pay-off profiles to suit clients' needs. Structures like hedge-fund linked products could have, as underlying, a basket of hedge funds, managed accounts, fund of funds, or investable hedge fund indices. Two of the most common types are the Constant Portfolio Protection Insurance (CPPI) and the Collaterized Fund Obligations (CFOs) structures. CPPIs are structured as notes with performance linked to a tracking fund. The tracking fund manages allocation between fund of funds (more risky) and cash assets (less risky), providing capital protection by adding to the risky assets when performance is up, and moving to cash when performance is down.

CFOs, similar to collateralized debt obligations (CDOs), are repackaged debt and equity securities with different risk-return trade-offs, backed by funds of hedge funds. Originally pushed out by banks, CFOs are increasingly being issued by funds of hedge funds themselves, as more of them start to build their own structuring teams.

Innovations employing CDO technology continue to expand the choices available to investors. In March 2007, Merrill Lynch married CDOs with FX to create FX CDOs, developing FX default swaps with spot FX and out-of-the-money barriers, so that the probability of touching the barriers could be calculated, and hence given a rating. The pool of FX default swaps are then repackaged into tranches as in normal CDOs. Collaterized Fund Managers Obligations (CFMOs), repackaged securities backed by investment fund management companies, have also emerged.

In the convertibles space, the new twist are structures with a conversion option linked to shares in Private Equity firms, thus allowing a pay-off similar to investing in a convertible issued by a company not listed yet, and being able to convert to shares before it "IPOs".

In general, structured products on "alternatives" are gaining popularity because of the flexibility and positive risk-return impact on investors' portfolio; instant diversification of overall portfolio risk; good accessibility to a broad universe of alternative investment opportunities previously out of reach because of high minimum investment size; and finally, their simplicity with no re-investment risk or re-allocation decision needed.

© Copyright 2007 by INSEAD, Asia Pacific Institute of Finance. All Rights Reserved

Layers upon layers upon layers – a house of cards?

As alternative players like hedge funds move into the role of both the investor and the investable, this layering upon layers in the pursuit of innovation, is rightly beginning to worry regulators. Born in the current benign market environment of low volatility, tightening spreads and healthy equity markets, the structured products market has yet to go through the test of fire.

When the tide turns, the unraveling of all the interlinked strands could cause tsunami-sized ripples in unexpected directions. For issuers, the “unknown-unknowns” will increase as they venture into unfamiliar territory dealing with new product classes like hedge-fund-backed structures. For investors, the cost of being invested in a product going nova could go beyond mere accounting losses, due to the “bad name” association - reputational risk. It is therefore crucial for players looking at the alternative and structured markets to slice through the complexities and understand just what they are getting themselves into.

© Copyright 2007 by INSEAD, Asia Pacific Institute of Finance. All Rights Reserved