
How does a structured product work?

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Monday, 29 June 2009

Structured product usually provide some form of capital protection with the potential of upside. It is usually require the client to hold on to the investment for certain number of years. At maturity, the principle is returned. An additional bonus is provided if the underlying investments meet certain target. A structured product in reality invests in derivatives. Here is an illustration of how this work:

A simply to understand product is one which the underlying is share price of XYZ. At maturity if XYZ is below a strike price, the product return the investor's capital. If XYZ's share price exceeded the strike price, the product return the capital plus the profit of the share price.

Such a product is consists of a fiduciary call, consisting of a zero coupon bond and a call option. Mathematically it is $X/(1+r)^T + c$ where X = par value of the bond at maturity while c is the value of the call option which at maturity is $\text{MIN}[0, S-X]$ where S = share price at maturity.

The bank hedges their risk selling another type of structured product known as a protective put or mathematically $S + p$ where p = value of put option = $\text{MIN}[0, X-S]$. Under put-call parity, the two sets of equation are equivalent. The bank earns a profit by charging each side a spread.

The risk of such structured is the default risk of the bond and the default risk of the option writer. You can see that the underlyings of the structured product are sophisticated and complicated derivatives which normally are used by the most sophisticated institution investors. Unfortunately such products have been sold to the man in the street. My advice is stay away from such product.