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Wealth Management by Creation and Designing Financial Instruments

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ABSTRACT :

The resources are limited both internal1y and externally, but due to today's competitive pressure the financial institutions and corporate always search for innovative financial instruments in a way so that it can garner to both domestic and international fund with the minimum risk exposure. The combination or modification of basic contracts in the market gives rise to the instruments that we see today. The present paper is intended at providing a practical approach to analyses and construct new instrument in the international market for the current century. The paper targets at explaining the, 'Building Block Approach' and the' Functional method' which elucidates and seeks to understand the fundamental component of a complex sounding new instrument and help in estimating the price of those.

Key words : Financial Instrument(s), LIBOR, Swap, Bond, Coupon, Yield.

1. Introduction :

Wealth Management is one of the important fee based revenue generation activity for bank and financial institutions for last few years. The enormous growth of financial market vis-à-vis competition demands a high degree of specialization and innovativeness in the area of wealth management. Creativity and uniqueness of a product is the key to success in today's world of business. Perhaps the largest number tangible creation has occurred in the field of finance. Names that lure the investor range from "Dual currency bonds" to that "Heaven and Hell Bonds" which are attached to international index of currency to that of oil price indexes. Both the investors and the corporate are confused about it. The paramount question is 'What is it all about? One wonders as how to create it and if at al1 created who buys it? To answer such queries, it is fundamental to know as to how they are created and what serves as the platform to value these instruments.

2. Instrument creation through Building block method

The time has come for the banks to take a call for the creativity to augment the product line in the field of wealth management. This can be done based on the client's feedback. The product or services can be completely a new one or it can be an old and complex one broken down into much simpler one. In this paper we have conceptualized two approaches to construct effective wealth management tools for better hedging of financial risks arises in the international market. The first one is building block approach which enables to learn us to construct or reverse-engineer existing or new instruments. Put it differently, a bigger financial instrument having a large single pay-off can be broken down to several piecewise linear cash flow. All these pieces or blocks can be sum up and build the building of that large financial instrument. The supposition of the budding block approach is that all hybrid instruments can be dissected into simpler instruments that are easier to understand and price. Most of the hybrid securities can be broken down into components consisting of :

- Bonds : Long credit period or short credit period positions, regular coupon paying or zero coupon bonds.
- Equity : Common stock, preferred stock, warrants, non voting warrants.
- Indices : National, broad based, sectoral or derivative based.
- Forward contracts : Long or short forward positions in currency, bond or equity or commodity.
- Options : Long or short positions in calls or puts or currency, bond, equity or commodity.
- Swaps : Interest rate swaps or currency swaps.

The building block approach combines two or more instruments to create another instrument. The basic objective is to mingle the basic and complex instruments to create the same cash flows as some more complex instrument. A simple example may be : a coupon paying bonds is a series of zero coupon bonds equals to the interest and a larger zero at the end equal to principal. Arbitrage should ensure that the prices of the coupon bonds equal the sum of the prices of all the little zeros.

An illustration about how the building block approach helps in valuation of a hybrid instrument more than an ad hoc approaches by decomposing a callable bond into its

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component may be cited here. More often than not, a broker would focus on the 'yield to maturity' versus the 'yield to call' for a callable bond to his / her client. They prefer to focus on the fact that, when a non-callable bond is judged against a callable bond, it serves better when measured in the light of the above benchmarks. This does not seem to be a logical argument. Why so? This is because of the fact that a 'Yield to maturity' might be wrong signal as it could be much less if the rate falls over a callable period. At the same time, 'Yield to call' could be much less if rates rise over the period and might derail the earlier decision. Hence, the investor cannot value a callable bond by either, or even both, measures of return. Whichever way the rate moves, the investor gets the worst of both the world. The fundamental, therefore is to compensate an investor for the risk they undertake. The best way to judge a bond for the investor is not by looking at the 'yield' but to value the components and than comparing them with the investors' needs and constraints.

Therefore to better evaluate and compare different callable and non callable bonds, it is better to decompose the bonds into :

- Non-callable bond (which are bought by investors)
- Call options (which are sold to the issuer by the investor)

The best way to judge an instrument is to value each component, to discover whether the composite instrument is over priced or under priced related to the investors' realistic alternatives. This can also be viewed as the comparable approach of valuing an instrument compare the different components by breaking the instruments in more than one part and valuing the individual parts. A systematic way to chalk out a plan to understand the value as in the case of a derived debt instrument may be as given in the table below :

Table1 : Comparable valuation approach through break-up the instrument

Valuation	Approach
Straight bonds	• Use the market yield • Similar non-callable bonds.
Attached call option	• Subtract the price of the callable bond from the value of the non-callable bond. • Compare that with the value the investor could have received from selling call options in the market (may use options - pricing model). • Compare it with the implicit value of call options embedded in the callable bonds from comparable issues currently available in the market.

Source : Compiled

The fact will be clear if we take up a small illustration, Let X Corp issue a $ 100, 000, 000, 5 year Eurobond that it termed as "ADJUSTABLE -RATE NOTE". The features of the deal are as follows :

Interest on the Note is payable semiannually on January 30 and July 30 beginning in July 30, 2011. The interest rate on the Note for the semiannual interest period ending July 30, 2011, will be 9.25% per annum. The note will mature on January 30, 2016, and will be subjected to redemption by X Corp prior to maturity. The annual interest rate will be 17 3/8% minus LIBOR (London Inter-bank Offering Rate) but will never be less than zero. (It was observed that the LIBOR did not exceed more than 8.6875% in the past. Hence, it is assumed that the LIBOR would be below 8.6875% in future also).

Let us reverse-engineer this. The instrument shows a differential payment between two rates which reminds us of swap. Indeed, a part of the instrument is like an interest rate swap and part of it is like a simple bond (because the investor is lending money after all). When we replicate the cash flows the X Corp note, we observe :

1. Buy a five - year fixed rate bond paying 8.6875 (17.375 / 2)
2. Enter into a five year swap where you receive fixed 8.6875 percent and pay LIBOR.

This will enable the investor to receive half yearly (17.375 percent minus LIBOR). Besides, he/she will never have a negative payment under the X Corp deal. So to copy it he / she should also.

3. Buy an interest-rate cap at 17.375 percent. This pays the difference between LIBOR and 17.375 percent should LIBOR exceed that level. It's deep out-of-the money, so it comes extremely cheap.

Now we are in a position to evaluate this hybrid instrument against the others in the market. If the five year bond yield exceeds 8.6875 percent by a sufficient amount, then it may be worthwhile replicating the instrument rather than buying it. The reality however is, that most of the investors do not get an access to the swap market. Besides, they may not be permitted to hold fixed-rate bonds; therefore, they may take up the deal even though its pricing gives X Corp cheap finance. So, why take up this dissecting exercise? Because, it serves two purpose :

1. We realize that the effective duration of this debt instrument is more akin to that of a 10 year coupon paying bond (or two five year coupon paying bonds)

minus a six month instrument rather than a floating rate note which typically have duration of 5 years or less.

2. If the above serves as a fact, it shows that by taking up the deal, the investor acquires a high degree of price risk.

The latter part serves as a more important factor than knowing how to duplicate the instrument. This method however may be quite futile in case of analyzing an instrument that has a prepayment option which are contingent on the corporate events rather than on interest rate conditions and hence cannot be broken down easily.

3. The functional method to hedge and manage financial instruments

The functional method is the second approach to analyze the hybrid instruments. Here, the indent is not so much on dissection as it is on the price behavior of any hybrid instrument. This method indicates which instrument serves what purpose for a particular investor or issuer. The method serves the purpose of creating optimal hedge or arbitrage for one instrument against another.

The base idea of the functional approach is that the value of every financial instrument can be characterized as a function of a set of economic variables. The variables may range from spot exchange rate to that of stock index as published by an authorized exchange. The supposition underlying is that, each instrument's payouts are contractually linked to the values or outcomes of a set of variables or events. If this is true, in principle, we can express the value of every financial instrument as a set of known variables like those we mentioned. Thus it seems that in order to understand what an instrument does, how its price behaves under different scenarios we have to highlight three basic things :

- The precise variable, factor that have the highest effect on the instruments price.
- The functional relationship that shows how a given movement in each variable's value translates into change in the instrument's value.
- The relationship between the factors whether, in particular, specific factor are positively, negatively or not at all correlated with each of the other significant factor.

Let us consider a simple exercise to update our concept. Consider a two year European bond, we will try to describe its price behavior in terms of the US dollar. In order to do so we identify the following stages :

a. Identify the underlying variables :

- Yen to dollar exchange rate (as we are looking into the dollar price of the Bond).
- Japanese interest rate on equivalent bond for the two years.
- Japanese rate of interest for one year, since the coupons are paid annually in the European market, the bonds value will be affected by the present value of the first year's coupon,

b. Describe the functional relationship between the bond's price and the set of key variables. Here's where the building block approach can be helpful. The valuation of the components of the security may yield the valuation of the hybrid instrument as a whole. In the case of a European bond, we can say the US dollar value is the present value of the cash flow in Yen, translated into dollars at the spot exchange rate of a day, thus :

$$P_{EY} = \text{SPOT}\left[\frac{\text{Y Coupon}}{(1+R^{Y})} + \frac{\text{Y coupon + Principal}}{(1+R^{Y}_{2})^{2}}\right]$$

c. Once the functional relationship has been established the next step is to estimate the correlation among the variables to understand the influence of anyone variable on the other(s). This will ensure us the degree of dependability of one variable over the other. In practice say in the case of our illustration, the yen to dollar spot rate will be highly affected by the maturity of the various bonds in terms of yen in the Japanese Market. This might put us in difficulty in estimation. The best way is to make approximation. It is found that in most purpose it would suffice to ignore the interest rate to exchange rate relationship as it is very poorly defined. The best assumption could possibly be that the single period bonds (one or two year bonds) coupon moves in tandem with the currency rate.

The sequence of steps allows us to simplify the relationship and to use the duration concept to show the sensitivity of European bond prices to two year Japanese interest rates. We then simply translate the price change in to US dollar value at the spot exchange rate giving the dollar price change in the European bond.

The functional method helps in pricing of the instrument and can be used for sensitivity analysis in portfolio management. But its chief value lies in making compel live analysis as long as there are overlaps in the functional variables. This will enable us to show the price behavior a combination of instrument for the purpose of hedging or

arbitrage and identity the most effective way of positioning in a particular market.

4. New instrument and its source

The previous sections provides with the concept as to how the instruments can be formed to manage wealth by hedging risks. The basic of the whole idea of innovation depend upon the bundling or unbundling of more basic instruments such as equities, bond and the fundamental negotiable instruments in the money market like the currency and bills. The question therefore is, why a particular innovation does takes place and if they do take place, why do the investors need them at all. The most probable answer is 'Market imperfection' which make the whole worth more than the sum of the parts and that constrains investors, issuers or both from constructing equivalent positions out of elementary instruments. Many of this imperfection arise due to barriers to international arbitrage, currency preferences and different economic conditions in different countries. The Eurobonds illustrate this concept a little more. In late 80's many Eurobond come to the market with an equity feature denominated either in Yen or in Swiss Francs. These bonds paid the investors lower coupon but the right to exchange each bond for a certain number of equity in the issuing company. The investors were more interested in the conversion premium then the yield to maturity of these bonds. The question then arises is why should a person by such a bond and not a stock alone? There may be three answers :

a. Lack of domestic equity option market, possibly because of the regulatory frame work. This had happened with Japan and explains as to why so many Japanese companies have Issued Eurobonds and warrants.

b. Another explanation for the existence of hybrid international securities lies in the freedom of certain offshore instruments from domestic taxes. Eurobonds are issued in locations free of withholding taxes and in bearer form, a practice that helps preserve investors' anonymity.

c. Many convertible bonds are also bought by the institutions like pension funds with no tax avoidance motivation. Here, the indent is on self regulatory discipline imposed on the equity investment. Convertible bonds gain them participation in the upside gain on the shares while guaranteeing interest and repayment of the bonds should the shares fall.

The market imperfection leads to creation of new product for managing the wealth. At least six kinds of market imperfections, alone or together, seem to make the whole worth more than the sum of the parts in hybrid international securities. We can identify these as follows :

i. Price driven innovation.

ii. Transaction and monitoring cost led innovation.

iii. Regulation driven innovation.

iv. Tax driven innovation.

v. Constrain driven innovation.

vi. Segment driven innovation.

Let us visualize the above in a detail perspective.

i. Price driven innovation

The basic objective of wealth management is to meet the need of the clients. The bankers should serve the best interest of their clients. The range of services is also based on the clients' requirement. In this process one of the very important issues is the price of the products or services that the banks are offering. It has been observed, that the cost of the product and the degree of complexity of the product are generally positively correlated. The higher the complexity the greater will be the cost / price of the product. It may be noted that, the cost of the product has a high negative correlation with the success of the product. In this situation if a product can created by combining two or more basic instruments there shall be price advantages for the new hybrid instrument.

ii. Transaction and monitoring cost led innovation

Transaction and monitoring cost can be particularly higher in case of international instruments. For example ECU denominated bonds and other cocktail currency bonds offer build in currency diversification. Such inherent transaction costs can be reduced through imbedding techniques like forwards debts and options. Where monitoring cost is high, credit risk must be eliminated, usually by means of one or both of two techniques: collateral and market with cash compensation. Hence, future contract enables poor credit companies to hedge future currency, interest rate and commodity price movements without monitoring costs.

iii. Regulation driven innovation

The regulatory framework of the various countries may restrict the financial institution and the capital market in many ways. The more common examples may of the Banks which are required to keep a part of their liability in

the form of "capital" that is used by the government as a regulatory device under the international 'Basle Agreement'. In most of the countries the insurance companies are not allowed to invest more than a certain amount in foreign portfolio despite poor investment in the country. This regulations often well intentioned, becomes redundant as the markets and institutions mature and the economic conditions change. History of economies of the world shows that as interest rates or taxes reach unusual levels or when competition threatens, the participants in the financial markets find it worthwhile to devise ways to overcome the restrictive effect of the outdated or misguided regulations. When in 1980s the foreign investment in the equities was restricted in Korea, the easiest way out for the Korean companies was to float Eurobonds which were converted into equity late.

Japan Air Lines (JAL) mid 1980's yen linked Eurobond issue is perhaps one of those few examples which illustrates the earlier discussion clearly. The issue came at a time when foreign borrowings were not al1owed and all yen denominated Eurobonds were subjected to a withholding tax of 15 percent. JAL wanted to raise cheap fund and did not wish to raise dollar. So JAL issued a dollar denominated Eurobond that repaid a dollar amount equivalent to ¥ 2.8 billion. In effect, the principal redemption was yen denominated. But the coupon was also yen linked, for as the declaration of the issues suggests, the bond paid was a fixed percentage of 7 $^{7/8}$ percent, of the yen redemption amount. Therefore, in effect it was a yen bond; but it satisfied the law of the land as we see that not only the government of Japan had approved it but also it was underwritten by firms which are virtually "Who is Who" in the international financial market.

iv. Tax driven innovation

Since Tax serves as one of the most important barrier to fund raising tax saving and avoidance has become the foremost innovation area of the financial world. It is a matter of common knowledge that almost all the Eurobond are designed to be free of withholding taxes and may have additional features which allows tax advantage to both the investor and the issuer. The use of preferred stock paying dividends instead of coupon is a common place examples which shows how revenue income tax are converted to capital income tax in the world of direct tax. Even the short period maturity money market preferred stock which tends to keep the issue value at par through the auction process and thereby enable a higher after tax return may serve as a wonderful eye opener in the case of the tax world.

v. Constraint driven innovations

Derivatives are not always market restriction driven. They may sometimes be self-imposed as in the case of trustee rules or standards set by self-regulatory organizations. Besides self restraint, one common constraint is the institutional investor's inability to buy and / or sell options, swaps or other derivatives. When an important category of investor desires the revenues that options writing provides or the protection plus opportunity that the option buying offers, there is an opportunity for an investment banker to devise a specially tailored security that incorporates the sought after strategy. The enshrined option or other derivatives are then shunned of the instrument by the same or a collaborating bank. This in itself provides for a interesting study and one may pick up the case of Nikkei-linked Eurobond Issued by Belgium's largest commercial bank.

vi. Segmentation driven innovation

The market in particular is divided into investors having various risk perception. Academics have long debated whether securities tailored to particular groups actually save money, or whether supposed advantages are eventually arbitraged out. The answer to such debate lies in the fact that the innovative instruments often have an inclination to be divided into long-term gain to short term cash flow which results in shorting out the risk premium on such instruments. Euro bonds which divide the cash flow from mortgage pools into trances based on timing of principal redemption and in some cases segregate the interest from the principal may be sighted as an example. Instruments which are targeted at the investors with a strong currency preference are commonplace in US. The dual currency bonds which solves the Credit risk problem undertaking swaps and forwards themselves to arbitrage out differences are the most sought after.

5. Conclusion

By the end of five consecutive years of highly successful 'Stock Markets Bull Run' across the globe, the number of high net worth investors has gone up significantly. The linkages between different counties have also gone up notably. To facilitate the fund raising activity and smooth flow of capital across the world and to manage the wealth of the company the hedging tools have occupied the center stage of fund and treasury management.

The world of finance has seen a great deal of change in terms of the creation and innovative ways of raising funds. These innovations have become meaningful as the concept of global fund became the key word and domestic capital market was not able to support the growth of the multi-national companies. In the process, the financial wiz kids have started to make remedial potions which blended the variation of the risk to return factor of the various stable and well established instruments to raise funds.

Though, this new investment tools are supposed to be investor friendly, often they turn out to be an eye wash. Besides, they are often tools in the hand of the corporate raising fund to procure cheap fund and in the process leaves the investors high and dry. A little analytical look into the approach of creating of the tool helps the investors in knowing the fact and helping in deciding the agenda of investment. At the same time the corporate may use the same approach to find the affectivity of these instruments in the usage for fund raising activity. Hence, the field of wealth management is getting wider and higher. Banks and Financial institutions are not only focusing on creation of instruments but are also applying various strategies to win away the customers. The present paper highlights some of the major ways in which this can be done, besides trying to dig the root cause of such innovation in the financial market in this century.

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