Good tools, bad workmen?

Over the past few weeks, the dread word 'derivative' has become even more dreadful as losses, unexpected and to some extent unexplained, have continued to pop up in the most unlikely places — those 'safe' money market funds and short government bond funds, touted as being virtually risk free. While it is one thing for sophisticated investors involved in the 'murky' world of hedge funds to sustain huge derivative-related losses, it is quite another for smaller retail investors, believing themselves to be investing in low risk vehicles, to be similarly hurt.

Fears proliferate as derivatives appear to resemble the flesh eating virus that recently romped through the south of England. What has caused these problems? What can be done to prevent them? Is it possible, or desirable, simply to avoid them? How can the risks be diagnosed and properly managed?

It is too simple to blame the products themselves, and their Wall Street creators. To do so would be to avoid learning from the recently exposed errors, and to fail to increase the ability to avoid them in the future.

To understand the nature of the problems, it is necessary first to understand the structure of the markets in which they exist and the methods of valuing securities and evaluating the performance of all parties involved.

Let us be clear at the outset, however, that in our view the problems that seem to have arisen like a rash are the result of human error, not of unforseeable price behaviour. Whether these errors were errors of ommission, the failure to properly analyse the subject bonds, or commission, or the purchase of bonds with full knowledge of their possible behaviour to reap short term performance benefits, remains to be seen. None of these scenarios is an acceptable excuse, and none points the finger at the bonds themselves.

When the markets now known as the 'derivative' markets began their rapid growth ten years ago, they were a response to genuine needs of different categories of borrowers and investors. They provided text book cases of financial intermediaries filling the role they were intended to play. A small bank, for example, might have a local advantage in raising floating rate funds from local depositors, but want fixed rate financing to match fund a loan. A large bank might have access to very attractively priced fixed rate funds but need instead the lowest possible floating rate cost of funds. The interest rate swap market allowed borrowers with different advantages in their own markets to, in effect, pool those advantages and each reduce their cost of borrowing.

The collateralised mortgage obligations (CMO) market, which began in 1983, was similarly developed to meet investor needs and in so doing expanded the demand for mortgage related products. Life insurance companies, for example, with typically long liabilities, could not easily buy mortgage pass throughs, with their attendant prepayment risk. Wall Street originators therefore segregated pools of pass throughs and prioritised the distribution of the related cash flows to create shorter and longer issues. Once again, all parties had achieved their objectives.

Once quite separate, the interest rate swap and mortgage derivative, or CMO, markets have become increasingly entwined as participants recognised their common challenge. Both revolve around the valuation of the instruments' option-related components — the ability of the borrower or the lender to change the expected pattern of the receipt of cash flows, thus changing the value of the instrument.

Technology — in retrospect almost laughably primitive, as we relied on the historical average value of Libor in the swap market and the 12-year prepaid life in the mortgage market — developed as the potential unleashed through rearrangement of cash flows began to be recognised.

These transactions were profitable to arrange, enabled dealers to create and extend new markets and move more product. They were also highly customised and traded in over-the-counter markets. Standardisation was in nobody's best interest, particularly as competition increased. While this degree of customisation was often beneficial to the customer, it also put, and continues to put, a high burden of analysis on the investor. It is impossible to rely on a static price alone: each instrument and arrangement of cash flows must be analysed separately.

As the markets grew and the struggle for market dominance (and thus access to the broadest array of counterparties and transaction types) accelerated, underwriting spreads eroded. At the same time, the infrastructure required to support origination activity expanded enormously, in terms of both people and computing power consumed. The combination brought terrible pressure to originate and sell ever higher volumes of transactions. It also brought armies of new people into the process, often specialised in a certain aspect of the market and just as often lacking knowledge of the overall market and the degree to which many segments are interrelated in their behaviour.

To continue to create and sell high volumes of product, in which the great bulk of the bonds issued genuinely met the needs of fixed income investors, it became necessary also to create, and more importantly to sell, 'byproduct' bonds, whose inherent characteristics suited no investor's natural needs. In the zero sum game that is the division and reallocation of a finite series of cash flows, if nine out of ten slices of the pie,

Some unfortunate fund managers recently watched their derivatives portfolios come crashing down around their heads. The last thing most of them would have considered was that they might only have themselves to blame. "Caveat emptor!" warns Deborah Midanek

or tranches of the CMO, are made disproportionately attractive, then the remaining slice or tranche will naturally be disproportionately unattractive.

Two methods have typically been used to sell the byproduct bonds. Either they have been offered with a tremendous amount of yield, in order to tempt yield hungry investors into overlooking the fundamental structural weaknesses of the bond, or they have been structured in such a way that the investor can achieve an effect in his portfolio which he would not be authorised under his investment guidelines to achieve by investing directly. Importantly, the location in the CMO structure of these bonds is in no respect consistent: they can and do occur in every category or type of tranche created.

More than one Wall Street career was made, for example, in the early 1980s when money funds, to choose a simple example, were growing rapidly and had a voracious need for product. Term bonds were converted into floating rate instruments, with resets every six months or so to meet the maturity restrictions placed by the SEC on money market funds. Broadly accepted, the argument was that the price would remain close to par because of the periodic resetting of the coupon, and thus would have no material impact on the money market funds' ability to preserve its stable $1 net asset value. Though the theory did not always hold up as other factors – such as credit quality – influenced prices, nevertheless this method of thinking about conforming with the letter of the investment restriction rather than its intent, has become widespread.

'Kitchen sink' bonds provide an outstanding example of the yield driven sale. Created by bundling together the literal leftovers of other transactions, these bonds are impossible to analyze, even for their originators. Composed of many different underlying pools and a variety of different expected cash flows the possible patterns of price behavior diverge so wildly that no investor can have a high degree of confidence in his assessment. Nevertheless, a number of these bonds have been sold to yield-hungry investors. Often, these investors are accustomed to accounting for bond investments on the basis of historical cost and hence have not developed a sensitivity to the likely total return pattern of the security. In other words, they can accept high yield at the cost of potentially eroded principal value.

Another example of a byproduct bond which suits the natural needs of no investor is the leveraged inverse floater. These bonds are comprised of a package of some number of support bonds with a coupon which moves inversely to Libor. In effect, these bonds are long the support tranches and short Libor, or in other words financed at Libor. Thus when Libor moves up, the coupon diminishes (ie the financing costs increase), and the value of the bonds declines. Value can also be eroded by increases in rates on the long end, which cause the highly variable average lives of the underlying support bonds to extend, often to very great lengths.

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The natural home of bonds like these, which do not do particularly well in a falling rate environment and do terribly in a rising rate environment, is hard to fathom. Nevertheless, many investors have bought them to achieve the exaggerated effects on returns which can be provided through the use of leverage. These bonds, which do not involve explicit leverage, in the sense that no cash is actually borrowed to finance them, can qualify for inclusion in portfolios which forbid the use of leverage. Such rules typically did not contemplate the existence of securities which contained the leverage inside the structure of the bond.

As has now been amply demonstrated, the exaggerated effects work both ways. While on the face of it they may qualify under the investment guidelines of a mutual fund, it seems inconceivable in view of the bonds' likely behaviour that any portfolio manager could consider them appropriate for inclusion in the portfolio of a short duration government fund.

There is nothing new in these machinations. The long rally in bonds which ended, or was at least interrupted, earlier this year served to mask a multitude of portfolio weaknesses. Sharp rate increases served to attack the hidden structural weakness of a number of otherwise benign looking bonds. Portfolio managers, often lulled into complacency by the bull market, and often young and unfamiliar with bear markets, are likely surprised and injured by the malignancies which seem to have appeared in their portfolios overnight. While we believe that most of the significant portfolio weaknesses have been flushed out by the sharp moves earlier this year, and that therefore the major problems are behind us, we also believe that neither complacency nor youth are valid excuses for purchasing products inappropriate to the goals of one's investors.

The derivatives markets are and will continue to be vigorous and vital sources of innovation, and offer tremendous potential to borrowers and investors alike. They are essential at this point to the health of world-wide capital markets. Nevertheless, the expression 'caveat emptor' takes on new meaning in these markets. In our view, it is necessary to look every gift horse in the mouth, and to examine the rest of his anatomy. Bonds which appear to be too good to be true probably are. If tempted to buy them, this should be done only after analysing the structure of the cash flows and their behavior in many different circumstances to discover what hurt the bond the most. In other words, take informed risks only. In view of the supply of bonds out there it should be simple to just say no: if the characteristics of a bond cannot be analyzed, the bond should not be purchased.

The more difficult distinctions relate to character and motivation. While there are many seasoned and knowledgeable traders, investment bankers, and sales people on Wall Street involved in the origination and sale of derivatives, their responsibilities are to work to increase the value of their own enterprise. This is most often translated into the need to move product. Though as salespeople they face a suitability test, they are not in business to improve the returns of their clients. Portfolio managers, however, are most often acting as fiduciaries for their clients, which gives them an explicit obligation to protect their clients' interests by preserving capital and seeking to achieve the best return. Tempting as it can be to post top ranked returns in the short run, and thus attract more money to manage, these goals should not interfere with serving the clients' interests❐

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