

If you've got it, flaunt it...

Exchanges' concentrated pools of talent, capital, and management gives them innumerable possibilities to fight competition from the OTC market and capitalise on the new era of risk management awareness, argues Leo Melamed

When American lexicographer Noah Webster defined **derivative** as, "something derived; made up of or marked by derived elements," I doubt he had in mind futures and options contracts in foreign exchange, interest rates, or equities indices. Nor in his wildest dreams could he have considered esoteric gadgets like foreign exchange and interest-rate swaps, equity index swaps, commodity swaps, compound options, swaptions and other contrivances with odd names such as Percs, Mitts, Leaps, and Lyons.

In truth, Webster may have been negligent in his research. Somehow he missed the financial application of this word completely, even though the tools of risk management have existed since biblical days. On the other hand, such pre-eminent economists as Adam Smith, Milton



Melamed: exchanges have "innumerable possibilities to capitalise on the new era of risk management"

Friedman, and Paul Samuelson also do not mention derivatives in their definitive textbooks on economics.

I think it fair to say that the modern concept of financial risk management using derivatives dates back about twenty years. Their evolution spans the time from foreign currency contracts on the International Monetary Market in 1972 and the introduction last year of Globex by the CME, CBOT, Matif and Reuters. During this time, academia, computer technology, globalisation, and the general acceptance of risk management as a necessary business regime fostered the idea of breaking down risk into its basic components; ergo: derivatives.

The definition of derivatives is now well understood. Broadly speaking, derivatives are financial contracts

whose values depend on the value of one or more underlying asset or indices of asset values. They are representations of special features in stocks, bonds and other financial instruments. In the more narrow sense, derivatives are forwards, futures, swaps, and options whose primary purpose is not to borrow and lend funds but to transfer price risks associated with fluctuations in asset values.

Most derivatives can be placed into one of four categories: foreign exchange, interest rate, commodity, and equity. These reflect the most common forms of financial risk. Most derivatives trading is in interest-rate and foreign exchange swaps, but it is rapidly expanding into equity, commodity, and insurance markets. Indeed, with modern high-speed computers, the range and possibilities of derivatives is limited only by the imagination.

So how explosive has their growth been? The Bank for International Settlements (BIS) estimates the value of outstanding contracts in OTC and exchange-traded instruments grew from 1 trillion dollars in 1986 to 8 trillion at the end of 1991. Even conservative estimates would show that the face value of today's open OTC derivative positions is in excess of \$4 trillion.

Many underlying factors have fostered this phenomenal growth. For one, tougher capital requirements and the loss of traditional business flows in the 1980s sent banks looking for ways to diversify and attract new clients. Derivatives presented them with opportunities to forge direct relationships with a new customer base. Banks also learned the value of derivatives to reduce their own risk as well as for outright trading, and so became both principals and intermediaries in the employment of derivatives. It is estimated that banks account for at least 30% of volume in US-based financial contracts such as Eurodollar futures, and as much as 80% of activity in non-US contracts such as Euroyen and Bund futures. Similarly, derivative-based arbitrage and swap strategies now account for much of the earnings of major investment banks.

But the most powerful force affecting the growth of derivatives has been technology. High-capacity computing and telecommunications have prompted off-exchange and screen-based trading, and enabled complicated new products to be created cheaply. These have included ideas for net revenue hedges, stock-option hedges and synthetic instruments to supplant interest and principal-only mortgage strips, as well as real estate options and volatility futures. It is believed that a new derivative instrument is invented weekly. In what *Forbes* magazine calls the "age of digital capitalism," formerly impossible tasks

such as breaking up a Fannie Mae mortgage pool into 36 tranches of different maturities can now be done routinely. Mathematicians, scientists and quants are replacing economists and account executives.

As the President of InterSec Research, C.A. Nowakowski, so aptly put it, the financial revolution has forced managers to admit that "the management of money is really the management of risk." In other words, "risk can be managed, returns cannot." *Forbes* recently concluded that "derivatives are revolutionizing corporate finance", and estimated that derivatives enable three-fourths of corporate bond issuers in the Eurodollar market to swap their obligations into floating-rate debt, providing all the advantages of long-term capital while paying low short-term interest rates. In a *Euro-money Publications* poll of 172 corporate treasurers in some of the largest European companies, nearly 80% of the respondents used derivatives. Indeed, derivatives are facilitating the revolution in all sectors of financial services, as traditional distinctions become blurred, and banks sell stocks, mutual funds invest in money markets, banks and insurance companies offer mutual funds, and securities professionals offer risk management strategies.

Macro-economically, derivatives have played a major role in increasing the liquidity in capital markets and developing more efficient global intermediation. By being a catalyst for market integration, derivatives foster rapid growth in international trade and capital flows, allowing excess savings in one market to be channelled into another. This helps emerging capital centres by funneling investment of savings from mature industrialised countries into higher yielding opportunities in developing countries.

But as with all market phenomena, there is another side to the story. The big unknown is the derivatives aggregate risk. The OTC derivatives market, which greatly overshadows exchange-traded futures and options, lacks protection of the exchanges such as daily mark-to-market value adjustments, margin deposits, price and position limits, and, most notably, the guarantee of a central clearing house. OTC products also lack the federal regulatory oversight to which futures and options exchanges are subject.

Consequently, many argue that derivatives pose an undetermined risk to the world's financial fabric. Unquestionably, the exposure is off-balance sheet and very difficult to assess, and can swing dramatically due to the volatility in the underlying market. In early 1992, Gerald Corrigan, the retiring president of the New York Federal Reserve

Bank, said that derivatives tend to add "elements of risk and distortion" to the balance sheets and income statements of financial and non-financial institutions alike. Managers don't always understand what their traders and rocket scientists are up to, and "If this sounds like a warning," he said. "It is." Although Corrigan has since modified this position, others continue to be worried. Felix Rohatyn, senior partner at Lazard Freres & Co, said: "26 year-olds with computers are creating financial hydrogen bombs." And Warren Buffett, a user of both futures and derivatives, believes that derivatives might one day trigger a catastrophic "chain reaction" in world financial markets.

Still, many experts have the opposite view about the exposure represented by the derivatives market. They insist these are sophisticated financial tools that help to spread the risk among many participants, ameliorating shocks to the system as a whole.

Globex represents a potent weapon with which to compete against the threat of OTC expansion

The derivatives community, primarily the International Swap & Derivatives Association (ISDA), makes a highly credible case that the risk is vastly overstated: that what is not understood is feared. To accurately measure the risk, ISDA says, requires netting of exposure, specifically by calculating net replacement value. Although this idea is not uncontroversial, ISDA is attempting to get netting recognised by the BIS for counterparty risk and capital allocation requirements. By virtue of a netting computation, ISDA estimates actual total exposure to be around \$200 billion — no small sum, but a far cry from the notional \$4 trillion figure.

There is no easy answer to the question of the risks posed by OTC derivatives. Perhaps the danger is misunderstood but, then again, it is as yet unquantifiable. The fact that the issue is being studied by so many regulators and professional bodies is by itself most revealing of how little we know. This diverse regulatory interest reflects a general concern that derivatives are dangerous, particularly when traded over-the-counter rather than on organised exchanges.

Futures exchanges understandably feel threatened by OTC derivatives, regarding them as competing products, which is true. Moreover, the OTC deri-

vatives market is relatively free from the regulations imposed on the regulated markets, resulting in a very unlevel playing field. In addition, a big advantage of the OTC market is that intermediaries have close ties with their customers, giving them an edge in discerning and understanding their needs, and being able to create new products to respond to those needs.

Nevertheless, the competitive threat posed by OTC derivatives to regulated exchanges is overstated. OTC instruments have benefited the exchanges by attracting new participants and increasing the size of the overall financial pie, and OTC intermediaries use the established exchanges to price their products and hedge the unwanted risks of the derivatives components of their portfolios, making for an increase in futures and options volume.

Furthermore, it is likely that OTC products can evolve onto the exchanges. The exchanges, already recognizing this truth, are experimenting with products and mechanisms designed to recapture some of these new ideas. At the Chicago Board of Trade, for instance, the Hybrid Instrument Transaction Service (Hits) task force is studying ways to make swaps clearable and possibly tradeable on exchanges. CME has launched its Rolling Spot contract to compete directly with the forward FX market. And CBOE has introduced Flex, which enables investors to design their own hedges against stock-price swings.

But the overriding advantage of the exchanges is that they are concentrated pools of talent, capital, and management that can form a huge competitive force. The OTC market is by comparison unmanageable, diverse and unstructured, giving the exchanges innumerable possibilities to capitalise on the new era of risk management awareness. Globex is just one outstanding example of exchange potency to innovate. The markets of the 21st century — over-the-counter or exchange-traded — will include computer-based mechanisms that offer global, 24-hour trading. Globex embodies that reality. As yet the OTC world has no such competence.

Globex also represents a potent weapon with which to compete against the threat of OTC expansion. It can be an ideal experimental laboratory for exchange-based derivatives, offering an efficient, low cost means to evaluate products that are impossible to test on the trading floor, while providing users with the advantages and safety of the regulated exchange. If the exchange community ignores this opportunity, it does so at its peril. 7

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