



**THE GROWTH OF THE SYNTHETIC DERIVATIVE MARKET:
RISKS AND BENEFITS**

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**BEFORE
THE NATIONAL OPTION & FUTURES SOCIETY**

WASHINGTON, D.C.

NOVEMBER 13, 1991

***The views expressed herein are those of Commissioner Schapiro and do not represent those of the Commission, other Commissioners or the staff.**

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As has been the case in the past, the over-the-counter market again is the breeding ground for innovative new products. Reports of the dramatic growth in recent years in the over-the-counter synthetic derivative market is, I'm sure, no surprise to this audience. I would like to take the opportunity today to discuss the development of this market, some of its more interesting features, and the potential risks to the purchasers of these products, namely the institutional players, the sellers, or "providers," and the underlying exchange markets that provide price discovery that may result from continued, unobserved growth in this market.

THE NEW PRODUCTS

A. OTC Index Options

There is some evidence that the OTC market for equity index options may have begun to meet a market need to hedge institutional positions in the Nikkei 225 Index, given the volatility of that market and the trading levels it achieved during the mid-1980s and the absence of a liquid derivative market. The recently obtained ability to trade Nikkei warrants or options on the Japan Index have not served to reduce the growth of this market. More recently, dealers have

begun to market OTC options on other products, including other country-specific indices and even the S & P 500, although foreign indices, such as the DAX and the CAC continue to be among the most prominent.

Estimates as to the size of this market vary. A recent CBOE survey estimated, conservatively, in their view, a range of 10 to 50 billion dollars, measured in underlying contract value. The CBOE hastened to add that, compared to the exchange traded derivative market, estimated at 5 trillion dollars in underlying contract value, the OTC market is quite small. Other players in the market have pegged the combined international/domestic market at between 60 and 75 billion dollars. But, at this point, no one, including the regulators, knows for sure, and therein lies a problem. But, more on that later.

There is a fair amount of consensus on who uses OTC index options and why. Large institutions, mostly pension managers and mutual funds, as well as insurance companies and corporations, are the largest participants in the market. With its origin in the Japanese market, instruments to hedge positions in the Nikkei continue to be the most widely used. But, there are signs that the market for U.S. indices is growing, and most participants seem to believe that this

trend will continue. For example, the 1987 Market Break increased the demand by institutions for instruments to hedge effectively domestic equity portfolios, and we saw, in 1989, during the mini-Break, the increase in the use of the sale by brokers of "portfolio puts," or hedges tailored to specific equity portfolios, to their major institutional customers.

Most of the use of OTC index options is for passive hedging, with the product offered replicating the customer's cash position. Again, according to the CBOE report, their experience is that rarely are the products straight options for a particular index, but, more often, represent an exchange of the return on a certain index for either a specified interest rate or a return on a different index.

B. Attributes of OTC Index Options

There are a number of valid economic reasons for an institutional customer to choose to enter the OTC index option market. The most significant, and obvious, reason is the flexibility the products offer, or the so-called "customization" feature. Every feature of a standard option contract: the strike price; the expiration date; the underlying security or securities; the size of the contract; even the currency, can be tailored to the needs of the investor. In theory, at

least, the ability to obtain a product whose features are specific to the individual risks of the customer provides a more efficient and effective hedge, and it can be assumed that personnel costs might be lower as well.

The flexibility that a customized option can offer in terms of expiration date is an easy concept to grasp. Providers can offer longer term expirations, or tailor them to expire at the end of a month, the fiscal year or the calendar year. Although longer term standardized options are becoming more available, the market for them may not provide the liquidity that ordinarily is perceived to be a major benefit of exchange trading. Flexibility can also be offered by providing for either American or European exercise.

Flexibility in the underlying index is also easy to conceive. It can be an existing index for which there is a non-existent, poorly developed, or illiquid derivative market, or a narrower basket for country or industry groups. Quite often, the broker is not responsible for creating the product and pitching it to the institution; instead, the investor takes his or her portfolio and risk strategy to the broker-dealer and requests a solution for its strategic goals.

The flexibility offered in the context of the size of contracts again interacts with the idea of liquidity. These trades typically range in size from as small as \$50 million in underlying value to as large as one billion dollars. In the competition between exchange traded, standardized derivative products and customized options, liquidity is often mentioned first in the plus column for the exchange products. But when trades get as large as \$50 million or more, the liquidity of even the most active index options can be tested. Although, again, it is in the context of the markets for foreign indices that the price impact of large orders can be so dramatic as to affect the underlying value of the index.

Finally, the OTC market offers three other features that the standardized market cannot: the ability to effect large options trades without concerns about exchange-imposed position limits; the ability to incorporate a hedge against currency exposure into the contract by combining the OTC option with a currency rate swap or similar product; and increased market secrecy. One cannot underestimate the value customers place on their ability to execute such large transactions and remain anonymous to other market participants.

The benefits I just outlined in the OTC index option market are pertinent to other synthetic derivatives that are traded over the counter, including the stock index swap market. The stock index swap market is very similar to the OTC index options in terms of strategy, allowing the buyer to purchase a neatly customized hedge for his or her portfolio. The swaps market differs slightly in structure, in that unlike the option, either party, not just the writer, may become financially obligated as a result of movement in the underlying basket.

Both the swap market and the index option market often are used in conjunction with the interest and currency rate swaps markets, whose breadth is much larger than the OTC index options market. As you know, an interest rate swap is the exchange of one stream of interest rate payment for another, most often the exchange of a fixed rate for a floating rate. The currency swap market performs a similar hedging function, providing protection for fluctuations between currencies.

C. Drawbacks of the OTC Market

1. Liquidity

So far, the picture of the over-the-counter index option market sounds almost too good, a perfect innovation filling a real market need. But there are a number of limitations attendant to this market, risks which may or may not exist in exchange traded instruments. I've mentioned liquidity a couple of times in passing, and it is an obvious concern. The down-side of a customized package is the complete or near-complete absence of secondary trading or an inter-dealer market. In fact, the lack of secondary trading in the OTC market was the primary catalyst for the development of the standardized index option market in the early 1980s. Therefore, although the creation of these products allows for more accurate hedging on the part of the institutional customer, it makes such precise hedging by the broker-dealer provider increasingly more difficult, as the provider often is forced into the conventional exchange traded market in an effort to stay neutral.

2. Credit Risk

Assumption of credit risk can be another significant problem with the OTC market. When a party trades in listed options, the risk of failure by the counterparty is spread among the members of the

clearing corporation. No such safety net exists in the OTC options market. The risk of failure by the counterparty to the transaction adds significantly to the risks of the transaction. In effect, when one purchases a call from a broker, the call becomes a general obligation of the broker, and the purchaser an unsecured creditor. Therefore, the credit rating of the broker-dealer is of paramount importance in assessing the credit risk of the transaction.

Moreover, the size and duration of the typical OTC option further exacerbates the risks assumed by the purchaser of the option, because, as we have seen recently, the financial health of a bank or broker-dealer can change dramatically during the lifespan of a long-term OTC index option. Furthermore, in its attempt to assess credit risk, the purchaser of the option may be exposed by the inability to obtain accurate information as to the level of similar risk the seller has provided to other institutional customers. Needless to say, these risks can best be minimized by diversification of business among firms, and by attempting to deal with firms whose credit is beyond reproach.

3. Pricing Concerns

Price discovery, another function served by exchange trading, is also absent from the customized index market. Market participants in over-the-counter options often will be able to cover for the lack of price dissemination by piggybacking on the price discovery mechanism of the quoted markets. However, there may be some inefficiency in that process, and the inability to obtain exact prices may prevent some customers who must mark their positions to the market from trading OTC index options.

REGULATORY PERSPECTIVE

The rapid growth of the over-the-counter market for index options presents certain challenges to regulatory authorities, separate from the question of "are these products good or bad?" As with most developments in the market, these new products do not lend themselves to the absolute concepts of good and bad and right or wrong. They are innovative, they are born from competition and they are filling effectively a legitimate market need. If functioning properly, they permit the precise tailoring of risk and exposure. And finally, with or without their drawbacks, the market exists and it is growing, and it likely would be counterproductive to try to stop it.

A. Individual Broker-Dealer Risk

That said, the expansion of this market raises some legitimate regulatory concerns. Primary is the inability for anyone, the purchasers, the providers, or the regulators, to get a handle on the true size of this market, either firm by firm or industry-wide. In response to this concern, and others like it, the Congress, in the Market Reform Act of 1990, gave the Commission expanded authority to review the business of the parents and affiliates of registered broker-dealers by requiring broker-dealers to obtain and make available information concerning the financial and securities activities of their "material associated persons" whose activities are reasonably likely to have a material impact on the financial and operational condition of the broker-dealer.

The statute requires a broker-dealer to make and keep such records as the Commission, by rule, may require, concerning its policies, procedures, and systems for monitoring and controlling financial and operational risks that may result from the activities of any of its associated persons other than a natural person. The holding company risk assessment rules thereby provide the Commission with greater access to the books and records of the parent or affiliates. The Commission's existing authority pursuant to

the net capital and broker-dealer reporting rules failed to provide the necessary authority in this instance, since, because of capital and other regulatory reasons, the broker-dealers providing these products generally enter them not on the books of the broker-dealer, but rather on the books of an affiliate.

One provision of the Commission's proposed temporary risk assessment rules may serve to help close the informational gap. A provision of proposed rule 17h-1T [paragraph (a)(2)(iv)] would require broker-dealers to maintain records which reflect the aggregate notional amounts and gross payments owed pursuant to all financial statements with off-balance sheet risk where the associated person incurs principal risk, which include OTC options and equity index swaps, and interest rate and currency exchange swaps.

The Commission intends to incorporate the definition for "financial instrument with off-balance sheet risk" as that term is defined in SFAS Number 105. Only trading commitments would fall within the scope of the definition. Commitments made in connection with non-financial or non-securities activities, such as a currency exchange agreement to hedge a long-term contract with foreign currency terms, would be excluded. Under the proposed rules, the

broker-dealer would be required to file, on a standardized form, aggregate quarterly summaries, with a separate entry for each commitment that exceeded a pre-determined materiality threshold. Through this recordkeeping and reporting requirement, the Commission should be in a better position to evaluate the breadth of the market generally, and the impact that such market activity may have on a given broker-dealer.

B. Chances of Systemic Risk

Along with concerns about the impact of these activities on individual broker-dealers, the Commission must be aware of the impact that OTC options may have on the exchange traded markets. As has been stated before, a customer assessing the credit risk the provider of the option would be interested to know, if he were able to find out, that the broker-dealer provider had provided similar products, on the same side of the market, to a number of other customers. Similarly, the effect of a number of broker-dealers all on the same side of the market, all structuring their hedging positions as if they are the sole player in the market, may raise significant concerns.

We need to ask the question whether the hedging strategies of the providers bears a resemblance to the portfolio insurance strategies in effect prior to the market break of 1987, which were based on a flawed assumption that there were not multiple players in the market, and no accommodation was made for group behavior. Portfolio insurance strategies called for the selling of stocks or futures by portfolio managers after a stock index, usually the S & P 500, declined by a prescribed amount, in an attempt to limit loss and place a floor on the value of the portfolio, thereby adding selling pressure to an already declining market. During key periods during the market break, portfolio insurance strategies accounted for a substantial portion of the sell pressure placed on the market, far more than index arbitrage.

In 1987, the Commission staff also found that the existence of portfolio insurance created an overhang effect. Unlike traditional put strategies, the execution of which sends a bearish signal to the markets, portfolio insurance, while evidencing a similar portfolio management intent, sends no such similar message. Therefore, as was seen in 1987, heavy selling failed to draw buyers into the market, because market professionals knew of the existence of portfolio insurance, but had no way to assess its size. The market

professionals in that case were discouraged from buying during the falling market, fearing that any brief rebound in the market would be overwhelmed by a subsequent massive wave of heretofore undisclosed portfolio insurance selling.

Without a grasp on the true breadth of the OTC index option and stock index swap market, it is impossible to know whether provider hedging strategies could effect significantly volatility during periods of market stress. This forces us to readdress the issue of liquidity, which has come up more than once in the last few minutes. But let's look at it not from the angle of the absence of it in certain foreign index derivative markets, or its inapplicability to a customized market that lacks secondary trading characteristics. It has been our experience that, in times of market stress, everyone returns home, to the centralized marketplace, as the ultimate source of liquidity. Then the question becomes, does the primary market have sufficient liquidity to handle the rush, particularly on the same side of the market.

Even passing similarities to the portfolio insurance market, namely undisclosed selling interest and market participants who might base their strategies on their own positions, ignorant of the

number of other market players similarly situated, are strong motivations for us to learn more about this market.

C. Market Structure Issues

The growth of the OTC market also raises questions of price discovery and market structure. Because of the absence of secondary market trading, there is little discussion of an "efficient" market. Further, because the products are not fungible, it is questionable whether increased price disclosure or transparency would be necessary or effective. The cost of products to the customer, and therefore the potential profit to the provider, will be greater than in the exchange-traded context, because the purchaser is paying the price for customization, namely the research involved in designing the product, and the additional cost of hedging the provider's position.

Does this pricing structure that exists separately from the exchange pricing mechanism raise a concern? Is this competition, or market fragmentation, or are they the same thing? At a certain level, the existence of this separate market, serving a market niche, should not raise serious problems. So long as the significant majority of stock index interest stays somewhat centrally located, the OTC

market can continue to free ride on the price discovery mechanism of the exchanges, subject to its own particular modifications. Further, the OTC market even can serve as an effective complement to the standardized exchange market. But should the customized market begin to rival the exchange market, the pricing efficiency of the latter market likely will suffer, which, in turn, would affect the pricing accuracy of the OTC market. Obviously, the potential for the tiering of the market raises regulatory concerns.

CONCLUSION

The market for over-the-counter derivative products, such as stock index options, index swaps, and interest rate and currency rate instruments, currently is quite large, and will only continue to gain more prominence. The Securities and Exchange Commission realizes the importance of this market, particularly in respect to the effects it can have on the viability of broker-dealers and their affiliates, and the potential it may have for influencing market movements. Through increased reporting and examination authority, the Commission will continue its necessary educational process, thereby, hopefully, guarding against any unforeseen major market events.

Thank you for your attention.