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## The Globalization of Stock Index Futures: A Summary of the Market and Regulatory Developments in Stock Index Futures and the Regulatory Hurdles which Exist for Foreign Stock Index Futures in the United States

William J. Brodsky

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ARTICLES

**The Globalization of Stock Index  
Futures: A Summary of the Market  
and Regulatory Developments in  
Stock Index Futures and the  
Regulatory Hurdles Which Exist  
for Foreign Stock Index Futures in the  
United States**

*William J. Brodsky\**

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## I. INTRODUCTION

The twelve-year history of stock index futures contracts has been marked by great success both in the United States and in many other countries. Two years after the product was introduced in 1982, the "notional," *i.e.*, underlying, or dollar value of trading on the Chicago Mercantile Exchange (CME) S&P 500 Stock Price Index futures contract surpassed the dollar volume of trading at the New York Stock

Exchange (NYSE).<sup>1</sup> Moreover, "as investors go increasingly global and market turbulence grows, stock index futures are emerging as the favorite way for nimble money managers to deploy their funds. Indeed, . . . in most major markets, trading in stock index futures now exceeds the buying and selling of actual shares."<sup>2</sup>

This article presents an overview of the history of stock index futures products,<sup>3</sup> including an examination of their role in the market decline of 1987 and their broad acceptance in international markets. It concludes with a review of the current regulatory impediments to stock index futures trading.

## II. DEFINITION OF STOCK INDEX FUTURES

A stock index futures contract is an agreement to buy or to sell the value of a specific stock index at an agreed price at a future "settlement date." A futures position established on an organized exchange can be offset at any time during the life of the contract by taking an opposite position and closing out the contract. Exchange-traded futures contracts are marked-to-the-market daily and the gains or losses are settled daily. Thus, whether the market user is a hedger or speculator, the discipline of the exchange system requires actual cash to move at least daily as the value of the contract fluctuates. On the settlement date, the contract is "settled" to the value of the underlying stocks in the index.

## III. DEVELOPMENT OF STOCK INDEX FUTURES

While organized futures markets were active in the United States as early as the 1840's, for approximately one hundred years only storable United States farm commodities, as well as coffee, sugar, cocoa, silver and platinum, etc. were considered candidates for futures trading. Until the 1960's, futures contracts were based on physical and storable commodities. The development of the first strictly non-storable commodity did not occur until 1964 when the CME introduced its successful Live Cattle futures contract.

An even more significant innovation was the initiation of futures trading on financial instruments. This occurred in May, 1972 when the

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<sup>1</sup> In 1994, the notional value of the volume S&P 500 contract at the CME was \$4.389 trillion.

<sup>2</sup> Suzanne McGee, *Fund Managers Get a Jump With Stock-Index Futures*, WALL ST. J., Feb. 21, 1995 at C1.

<sup>3</sup> Although the focus of this article is stock index futures, stock index options play a similarly important role as an investment vehicle and have been enormously successful.

CME introduced futures trading based on foreign currencies through its affiliate, the International Monetary Market. These were the first futures contracts based on financial rather than tangible assets. Nevertheless, the foreign exchange rates, *i.e.*, Deutschmark, British Pound Sterling, Japanese Yen, etc., which were the subject of these contracts were physically delivered on settlement.

Only one year later in April, 1973, the Chicago Board of Trade (CBT) created another major innovation in finance: the establishment of an exchange market in put and call options on listed stocks through the creation of the Chicago Board of Options Exchange (CBOE). Although licensed as a National Securities Exchange and regulated by the SEC, the market was established based on fundamental elements of United States futures markets: standardized contract terms and conditions, certificate-less trading, daily mark-to-the-market, and the severing of the link between the buyer and seller through an exchange-guaranteed clearing house.<sup>4</sup>

The next step in the evolution of futures trading occurred with the introduction of futures contracts based on interest-bearing securities. The contract based on GNMA securities listed by the CBT during September, 1975, and the ninety-day Treasury Bill contract listed by the CME on January, 1976, were the first interest rate futures contracts. They were followed by other futures contracts also based on government securities, such as the one-year Treasury bill, Treasury bonds, and four-year Treasury notes. Treasury bill and Treasury bond futures saw gradual acceptance from inception, but their success was insured by increased levels of interest rate volatility during the highly inflationary period of the late 1970s and early 1980s. A major study of the impact of financial futures markets by the Board of Governors of the Federal Reserve System (FRB), the Security and Exchange Commission (SEC), and the Commodity Futures Trading Commission (CFTC) concluded that the ability of primary government securities dealers to hedge their positions with futures decreased the cost of issuing United States debt.<sup>5</sup>

Against this backdrop, the CME, following a legislative change to permit the creation of futures contracts that employed a method of

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<sup>4</sup> William J. Brodsky, *Rules of the CBOE*, 6 REV. SEC. REG. 897 (1973).

<sup>5</sup> BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM, COMMODITY FUTURES TRADING COMMISSION AND SECURITIES AND EXCHANGE COMMISSION, A STUDY OF THE EFFECTS ON THE ECONOMY OF TRADING IN FUTURES AND OPTIONS (1984) (submitted to the Committee on Agriculture and the Committee on Energy and Commerce of the House of Representatives and to the Committee on Agriculture, Nutrition and Forestry and the Committee on Banking of the Senate in December 1984).

cash settlement rather than physical delivery, introduced in December 1981, the Eurodollar futures contract based on The London Interbank Offered Rates (LIBOR) and settled in cash to an index of prices established by surveying major United Kingdom banks. This not only established the viability of creating a hedging vehicle that did not result in physical delivery at the end of the contract, but also paved the way for the introduction of a cash-settled futures contract on a basket of stocks. The Eurodollar futures contract now is the most actively traded, most widely held futures contract in the world.<sup>6</sup>

Stock index futures were logical extensions of futures contracts based on interest rates. The most popular stock index futures contract is the CME's Standard and Poor's (S&P) 500 Stock Price Index futures contract. Beginning in 1983, the CBOE introduced cash settled options on the CBOE 100 (later renamed the S&P 100) due to concerns that the S&P 500 futures contract would drain volume from the CBOE's very successful market of options on individual stocks.

#### A. Indexation and the Equity Markets

Participants in the equity market utilize stock index futures and options in a variety of ways as an adjunct to their portfolio strategies. Investors have long followed stock indices as a measure of stock market performance. For example, the Dow Jones Industrial Average has been a prominent measure of United States stocks since its introduction in 1884. Moreover, the concept of indexing a portfolio to a broad stock index as a means of investing in a "market portfolio" emerged in the 1960's from Harry Markowitz's 1952 paper on portfolio theory and from William Sharpe's 1964 Capital Asset Pricing Model.<sup>7</sup> This concept was further developed in the random walk concept of Burton Malkiel in his well known work on the "Random Walk Theory,"<sup>8</sup> which clearly asserted that it was very difficult for most portfolio managers to outperform, over a period of time, a basket of diversified common stocks, *i.e.*, the S&P 500 index.

However, it was not until the mid-1970s that fund managers began to invest in portfolios that mimicked a particular stock index or to compare their performance to a stock index as a benchmark. Entire

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<sup>6</sup> With a notional value of one million dollars, average daily volume through December 31, 1994 for Eurodollar futures and options was 690,539 contracts per day and open interest in these contracts was 4.039 million positions on December 31, 1994.

<sup>7</sup> Harry Markowitz, *Portfolio Selection*, 7 J. FIN. 77 (1952); William Sharpe, *Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk*, 19 J. FIN. 425 (1964).

<sup>8</sup> BURTON G. MALKIEL, *A RANDOM WALK DOWN WALL STREET* (1973).

portfolios of stocks could and still can be acquired or sold by routing simultaneous orders to stock exchange specialists for all the individual stocks in the portfolio. However, the strategy of diversifying a portfolio by replicating a stock index would be facilitated if complete baskets of stocks could be traded as a unit. The development of computerized routing systems, such as the NYSE's Designated Order Turnaround system (DOT), was more efficient and less expensive than the traditional manual system of delivering buy and sell orders to the stock exchange floor. Although originally designed to handle small orders for one hundred to five hundred shares, the "list processing" feature, developed by the NYSE at the behest of major brokerage firms, paved the way for the automated purchase and sale of "baskets" of stocks. The computerized transmission of orders through systems such as DOT and the computer programs to select and/or create portfolios gave portfolio and basket trading the name of "program trading."

In February, 1982, the Kansas City Board of Trade launched the first futures contract on a stock index, the Value Line Composite Index. The NYSE's futures affiliate, the New York Futures Exchange, followed with futures on the NYSE composite index in May, 1982. In April, 1982, the CME launched a futures contract on the S&P 500 Stock Index. Since the S&P 500 Stock Index is the most widely accepted stock index benchmark of institutional investors, and because the CME's market had the most volume and liquidity, the S&P 500 stock index futures immediately became the dominant stock index futures contract. Futures and option contracts on a multiplicity of other stock indices were subsequently launched in the United States and in the majority of other countries with well-developed stock markets.

#### IV. USES OF STOCK INDEX FUTURES

By using futures contracts based on a broad index of stocks, equity investors effectively accomplish two basic objectives: they can "buy" or "sell" the market, and they can hedge against market risk. Speculators in equities profit from general price movement in the markets by buying a bullish market or selling a bearish one. Until the introduction of stock index futures, speculators could satisfy this objective only by dealing in groups of stock or individual stock options, *i.e.*, puts and calls, whose price movements were closely related to the general market. This strategy can prove unsatisfactory, however, since the prices of individual stocks are influenced by firm-specific information. Before the advent of stock index futures, mutual funds,

that were composed of groups of stocks selected because their price behavior closely tracked an index of overall market movement, could be used to buy the market. But mutual funds are not well suited to trading or use by institutions; they cannot be sold short and timing is difficult. Thus, stock index futures provide a valuable instrument for buying, selling, or hedging "the market."

The introduction of stock index futures contracts presented hedgers with a unique opportunity. Unlike speculators, who are interested in profiting from general moves in market prices, hedgers seek to insulate portfolios or individual stocks from such moves. The futures contract meets the needs of an equity portfolio manager who anticipates a bearish period in the market that could erode the value of a fundamentally sound portfolio that the manager is unable or unwilling to sell (e.g., the manager feels the portfolio will outperform the market over time). Stock index futures provide the manager the ability to hedge by "shorting" the market. If the manager's expectations are correct, and the market deteriorates, the profit on futures will compensate for the loss on the portfolio.

During the past twelve years, United States stock index futures have become essential to managing institutional portfolios. Many large pension fund managers now find it extremely difficult to manage their portfolios without stock index futures. According to a recent survey by *Pensions and Investments*, one-third of the top two hundred pension plans in the United States use stock index futures, including the pension managers of such firms as: General Motors, International Paper, RJR Nabisco, J.C. Penney, Sears Roebuck, Shell Oil, ALCOA, AT&T, Ameritech, IBM, and Exxon.<sup>9</sup> Stock index futures are also heavily used by money managers, mutual funds, endowments, insurance companies, and the managed futures fund community. In his 1988 Congressional testimony, Alan Greenspan, Chairman of the Board of Governors of the Federal Reserve, said that stock index futures and options "... provide economic value to their users. By enabling pension funds and other institutional users to hedge and adjust positions quickly and inexpensively, these instruments have come to play an important role in portfolio management."<sup>10</sup>

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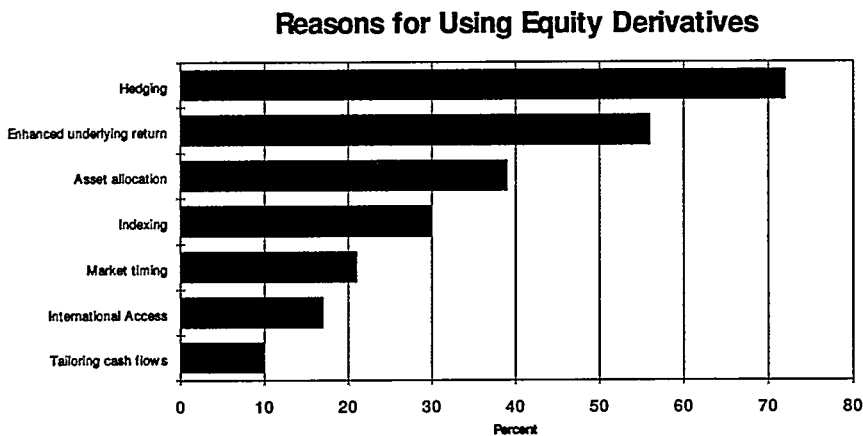
<sup>9</sup> See *The Largest Pension Funds*, *Pensions and Investments*, Jan. 24, 1994, available in LEXIS, Bankng Library, Peninv File.

<sup>10</sup> *Financial Market Regulatory Reform, Part II: Hearings Before the Subcomm. on Telecommunications and Finance of the House Comm. on Energy and Commerce*, 100th Cong., 2d Sess. 146 (1988) (testimony of Alan Greenspan, Chairman of the Federal Reserve Board).



The advent of derivative<sup>11</sup> products have allowed portfolio managers to dramatically alter the investment process. Futures and options have given users the capability to enhance fund performance, significantly reduce transaction costs, and alter the risk-return characteristics of their portfolios in order to enhance performance and better serve their customers. Not only have sophisticated users benefitted from the creation of futures and options, individuals benefit from these sophisticated money management techniques through investment in pension funds, mutual funds, insurance investments, and self-directed retirement plans.

The chart below highlights reasons why investors use stock index futures. Specifically, fiduciaries use them for hedging market risk, asset allocation, cash equitization, indexation, income enhancement, and lowering transaction costs.



Source: Greenwich Associates<sup>12</sup>

The prospectus of the currently 9.2 billion dollar Vanguard Index Trust, which tracks the S&P 500 Index, provides insight into how a public, no load, and retail-oriented open-ended mutual fund uses stock index futures and options:

Futures contracts and options may be used for several reasons — to maintain cash reserves while remaining fully invested, to facilitate trading, reduce transaction costs or to seek higher investment returns when a

<sup>11</sup> A “derivative” is generally defined as an instrument whose value is based upon, or derived from, some underlying index, reference rate, security, commodity, or other asset. *See, e.g., GROUP OF THIRTY GLOBAL DERIVATIVES STUDY GROUP, DERIVATIVES: PRACTICES AND PRINCIPLES 2* (1993).

<sup>12</sup> GREENWICH ASSOCIATES, *EQUITY DERIVATIVES: SURPRISING FACTS 5* (1994).

futures contract is priced more attractively than the underlying equity, security or index. A portfolio may not use futures contracts or options to leverage its net assets.<sup>13</sup>

This illustrates how an investment company can use a stock index futures contract as an investment tool but not as a speculative vehicle. A recent study by the Mid America Institute for Public Policy has quantified the significant cost savings of using exchange-listed derivatives as "typically on the order of five to twenty percent of the costs of using the cash market."<sup>14</sup>

## V. GLOBALIZATION OF STOCK INDEX FUTURES

The CME stock index complex currently maintains ninety-six percent of the market share measured in United States stock index futures volume and ninety-eight percent of the market share measured by open interest.<sup>15</sup> In 1984, the notional value of trading the S&P 500 surpassed the dollar volume of trading at the NYSE. This continues today. This pattern holds true in numerous other countries where the value of stock index futures exceeds the volume in the underlying stock markets, such as Japan, France, United Kingdom, Australia, Brazil, and South Africa.<sup>16</sup> The following graph shows the ratio of equity index futures dollar volume to the dollar volume in the underlying stock markets:

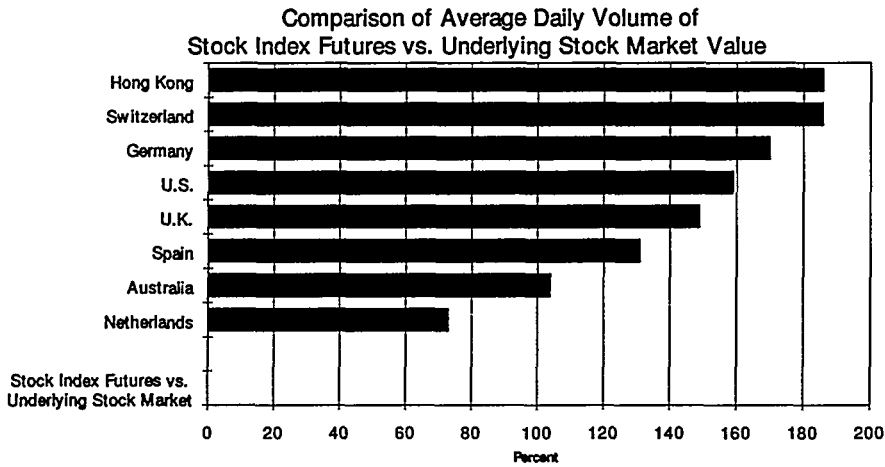
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<sup>13</sup> VANGUARD INDEX TRUST, PROSPECTUS 14 (1992) (originally published Mar. 15, 1992 and revised Apr. 10, 1992).

<sup>14</sup> DANIEL R. SIEGEL, MID-AMERICA INSTITUTE FOR PUBLIC POLICY RESEARCH, TRANSACTION COSTS FOR ASSET ALLOCATION 2 (1991).

<sup>15</sup> Open interest is defined as the total number of futures or options contracts of a given commodity that have not yet been offset by an opposite futures or option transaction, not fulfilled by delivery of the underlying instrument or its cash equivalent (depending on the design of the futures contract) or by option exercise.

<sup>16</sup> FUTURES INDUSTRY ASS'N, FUTURES INDUSTRY ASS'N MONTHLY VOLUME REPORT (June 1994).



(Based on average daily volume, 1994)

Source: Goldman Sachs<sup>17</sup>

In mature markets — countries with large volumes of futures trading or countries which have been trading futures for a number of years, such as the United States, the United Kingdom, France, and Japan — the stock index futures market share tends to be at or below ten percent of all futures volume. This is due not to any deficiency in stock index business, but rather to a well-developed business in other areas, especially in interest rates. However, in most other countries, stock indexes account for a much larger share of all futures and options trading: more than ninety percent in Hong Kong, South Africa, and the Netherlands; and twenty-five percent or more in Austria, Switzerland, Spain, Norway, Singapore, Denmark, Brazil, and Germany.

#### A. Globalization in the 1990's

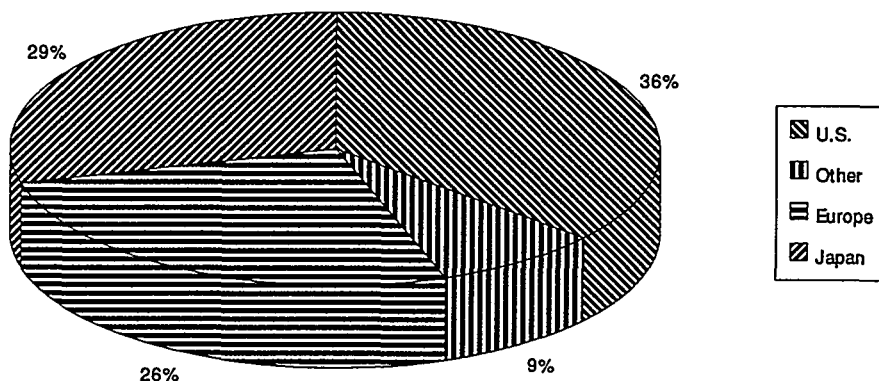
The United States no longer dominates the world's capital markets. In fact, according to the following graph, United States stock market capitalization only represents between one-third and forty percent of world stock market capitalization.<sup>18</sup> Investors seeking higher returns and greater diversification are forced to look beyond their borders for investment opportunities.

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<sup>17</sup> GOLDMAN SACHS, GLOBAL DERIVATIVES TRADING IN 1993 10a (June 1995).

<sup>18</sup> MORGAN STANLEY, MORGAN STANLEY CAPITAL INTERNATIONAL PERSPECTIVE (1995).

World Stock Market Capitalization



Source: Morgan Stanley, Jan. 1995.<sup>19</sup>

Institutional investors, because of their increased sophistication, relaxed regulatory concerns, easier access to clearing and custodial services, and improvements in global telecommunications and the ability to analyze international companies, are quickly becoming more interested in foreign stock index products. Because of these developments, investors began demanding easier ways to gain access to foreign markets. Stock index futures have greatly facilitated access to the equity markets of those countries. As sophisticated market users become familiar with how stock index futures permit efficient access to equity markets, the business of both domestic and international stock index futures markets has grown. Much of that growth has been fueled by United States based broker-dealers who are the major users of stock index futures and options markets on behalf of clients and for their own accounts.<sup>20</sup>

The popularity of stock index futures abroad confirms that these products can thrive in non-United States financial markets. Successful stock index futures products can be found everywhere. Many countries that do not have stock index products are scrambling to introduce them. Stock index futures markets are currently planned in Korea and Thailand. As of December, 1994, the following stock index futures and options contracts were traded on twenty-six exchanges in twenty-one countries. A list of those actively traded contracts follows:

<sup>19</sup> *Id.*

<sup>20</sup> Elyse Tanoye, *Rising Competition Eroded U.S. Futures Business in '91*, WALL ST. J., Jan. 4, 1992, at C1.

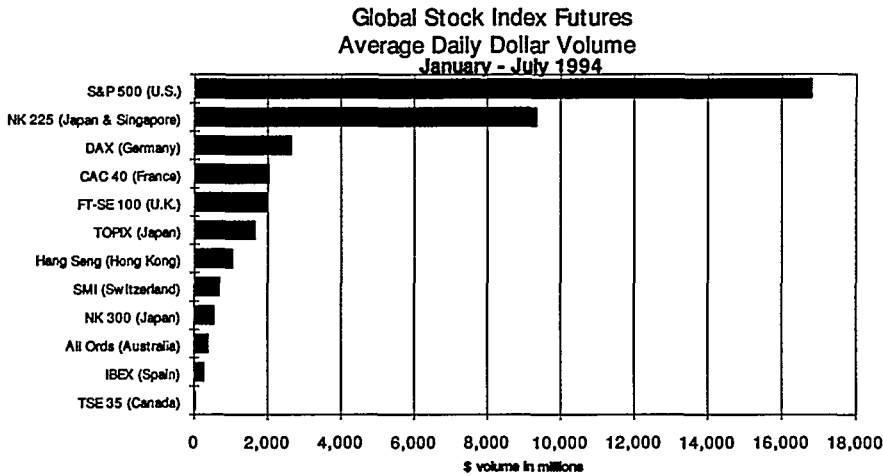
*Stock Index Futures*  
15:248 (1994)

| EXCHANGE  | INDEX  |
|---|--|
| American Stock Exchange (AMEX) - New York, NY   | XMI Options<br>Institutional Index Options<br>S&P Midcap Options<br>XMI Leaps Index Options<br>Japan Index Options<br>Pharmaceutical Index Options<br>Biotech Index Options  |
| Belgian Futures & Options Exchange (Belfox)   | Bel-20<br>Bel-20 Options   |
| BM&F - Sao Paulo, Brazil  | Ibovespa   |
| Chicago Board Options Exchange (CBOE)   | S&P 100 Option<br>S&P 500 Option<br>CBOE/S&P Sectors Options<br>Russell 2000 Option<br>FTSE 100 Index Option<br>Biotech Index Option<br>CBOE Mexico Index Options<br>CBOE Israel Index Options<br>Nasdaq 100 Options |
| Chicago Mercantile Exchange (CME)   | S&P 500 Futures and Futures Options<br>S&P 400 Futures and Futures Options<br>Nikkei 225 Futures and Futures Options<br>Major Market Index Futures and Futures Options<br>Russell 2000 Futures and Futures Options   |
| Commodity Exchange (COMEX) - New York, NY   | Eurotop Index Futures  |
| DTB - Frankfurt, Germany  | DAX Futures and Options  |
| European Option Exchange (EOE) - Amsterdam, Netherlands                                 | Dutch Top 5 Index Option<br>EOE Index Option   |
| Finnish Options Market  | Fox Index and Options<br>Fox Index Options   |
| Copenhagen Stock Exchange and the Guarantee Fund for Danish Options and Futures (FUTOP) | Danish KFX Index Futures and Options   |
| Hong Kong Futures Exchange (HKFE)   | Hang Seng Index Futures and Options  |
| Kansas City Board of Trade (KCBT)   | Value Line Futures<br>Mini Value Line Futures<br>and Futures Options   |
| Italian Stock Exchange - Milan, Italy   | MIB-30   |
| London International Financial Futures Exchange (LIFFE)                                 | FTSE 100 Futures<br>FT Mid 250 Index and Options   |
| Marché a Terme Internationale de France (MATIF) - Paris, France                         | CAC 40 Futures   |
| Marché des Options Negotiables de Paris (MONEP) - Paris, France                         | CAC 40 Options<br>CAC 40 Long Term Options   |
| Meff Renta Variable (MEFF RV) - Madrid, Spain   | IBEX 35 Futures & Options<br>IBEX 35 Options   |

| EXCHANGE  | INDEX  |
|---|--|
| New Zealand Futures & Options Exchange (NZFOE) - Auckland, New Zealand  | Forty Index Futures  |
| New York Futures Exchange (NYFE)  | NYSE Composite Futures & Options   |
| New York Securities Exchange (NYSE)                                     | NYSE Composite Options   |
| Osaka Securities Exchange   | Nikkei 225 Futures & Options<br>Nikkei 300 Futures & Options   |
| Oslo Stock Exchange (OSE)   | OBX Option   |
| (OTOB) - Vienna, Austria  | ATX Futures<br>and Options   |
| Pacific Stock Exchange - San Francisco                                  | Wilshire Small Cap Index Option  |
| Philadelphia Stock Exchange (PHLX)                                      | KBW Bank Index Option    Gold/Silver<br>Utility Index                Index<br>Value Line Index           Bank Index<br>Phone Index                Big Cap Index<br>Semiconductor Index       OTC Index |
| South Africa Futures Exchange (SAFEX) - Johannesburg, South Africa      | All Share Index Futures & Options  |
| Singapore International Monetary Exchange (SIMEX)                       | Nikkei 225 Futures & Options   |
| Sydney Futures Exchange (SFE)   | All-Ordinaries, Futures and<br>Options   |
| Swiss Options Financial Futures Exchange (SOFFEX) - Zurich, Switzerland | SMI Futures and<br>Options   |
| OM Stockholm AB   | Swedish OMX Futures & Options  |
| Tel Aviv Stock Exchange, Ltd.   | MAOF-25 Index Options  |
| Toronto Stock Exchange  | TSE 35 Futures & Options   |
| Tokyo Stock Exchange  | TOPIX Futures & Options  |

Although the United States continues to have the most active stock index contract, when measured in dollar terms, the growth of stock index futures abroad is significant. The United States and Japan together account for seventy-two percent of the dollar value of world stock index trading. With the addition of Singapore, Germany, France, and the United Kingdom, this number increases to ninety-five percent. The other countries make up the remaining five percent.<sup>21</sup>

<sup>21</sup> See Michael Gorham, *Stock Index Futures: A 12-Year Review*, Address at the Korea Futures Management Association Conference (May 21, 1994).



Source: Goldman Sachs<sup>22</sup>

While the international trading world has gotten smaller and easier to access, there remain regulatory restrictions on the ability of United States investors to obtain access to the global stock index futures and options markets. These regulatory restrictions are discussed more fully below.

### B. Trends in the Industry

As the United States stock market continues to mature, investors are trading not only large-capitalization stock indices, but are also interested in using small- and middle-capitalization stock indices as well. In response to this demand, the CME now lists stock index futures contracts comprising all three market segments for a total of over ninety percent of the United States market capitalization. In the United States, the S&P 500 continues to be the accepted industry benchmark for large capitalization common stocks and garners the majority of stock index trading volume. Futures contracts on middle-capitalization and small-capitalization stocks have grown slowly. Nevertheless, volume in the past year indicates an increasing desire by portfolio managers and others to use these products as they diversify their portfolios. Moreover, outside the United States, markets in London have witnessed the introduction of products on middle-capitalization stocks, *e.g.*, The Financial Times Mid-250 Index futures contract.

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<sup>22</sup> GOLDMAN SACHS, GLOBAL DERIVATIVES MARKET REVIEW 10a (Jan. 1995).

VI. COMPLEMENTARY RELATIONSHIP WITH TRADITIONAL  
EQUITY MARKETS

It is now well accepted that the market in stock index futures is directly linked to the underlying equity markets. This concept was confirmed in the "Brady Report"<sup>23</sup> with the assertion that these markets, taken together, represent "one market" and not several independent trading markets.

For instance, options market makers on securities exchanges have several ways of hedging their market making risk. Market makers in index options on a securities exchange such as the CBOE primarily use stock index futures on the CME to hedge their risk. As a result, since 1989, the CME and the Options Clearing Corporation (OCC), the clearing entity for all United States stock option exchanges, developed a "cross margining" system for futures and options as described more fully below.<sup>24</sup>

Moreover, stock index futures have not only become an integral part of the equity markets, but have also helped to fuel their growth. The introduction of stock options in 1973 and stock index futures and options in 1982, along with the development of more sophisticated computer technology, and the growing importance of the institutional investor, helped fuel the dramatic growth of United States securities markets. The following chart demonstrates growth in trading volume for NYSE issues from 1973 - 1994.

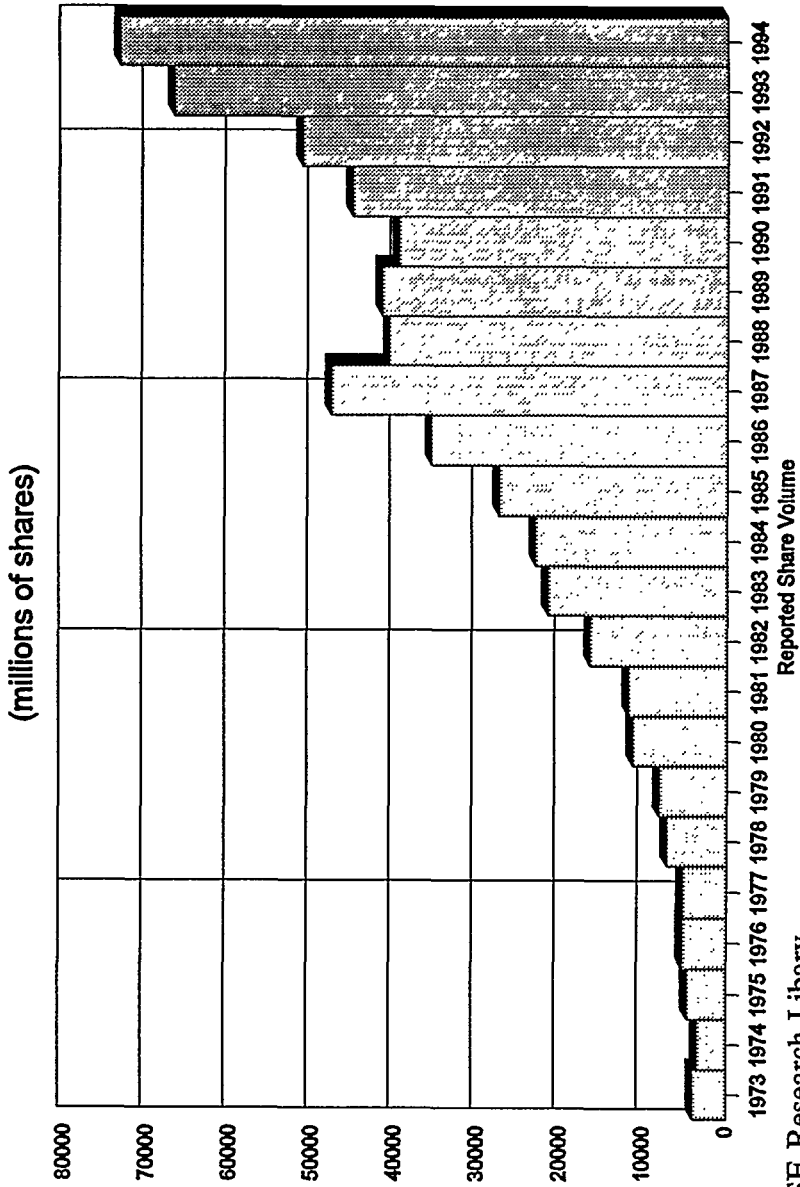
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<sup>23</sup> 1988 REPORT OF THE PRESIDENTIAL TASK FORCE ON MARKET MECHANISMS 8 [hereinafter BRADY REPORT].

<sup>24</sup> In addition to the CBOE and AMEX, as of July 6, 1993, the Intermarket Clearing Corporation, the futures affiliate of OCC, and the clearing entity for The New York Futures Exchange, joined the arrangement.



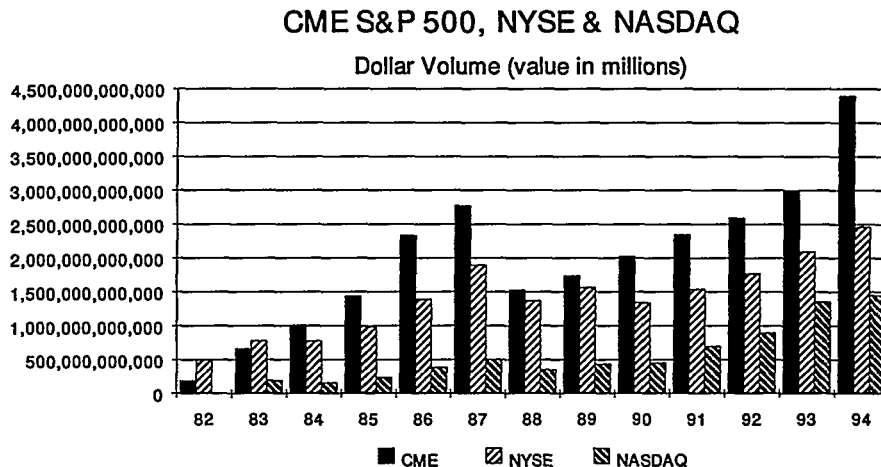
# NYSE Reported Volume



Source: NYSE Research Library

Similar volume growth has been experienced in stock markets of other countries after the introduction of stock index futures and options.

The phenomenal growth of trading volume in stock index futures and options and in shares of the underlying stocks in the last two decades tends to provide proof of the symbiotic relationship between the derivative and underlying markets for stocks. Another illustration of this relationship is contained in the chart below.<sup>25</sup>



Source: CME Index Marketing, NYSE, and Nasdaq

Fund managers and other institutional investors trade stock index derivatives because they are flexible, inexpensive instruments to hedge, index, or rebalance portfolios. They are also used to time the market and to carry out asset reallocations. In addition, trading in stock index derivatives facilitates price discovery. Futures and options markets have emerged as natural complements to the underlying equity markets. This has enhanced the appeal of equity markets and has fostered the formation of capital. Without stock index futures and options and other related derivatives, corporate borrowers would have to pay more for their capital. Stock index futures are not only an inte-

<sup>25</sup> The majority of stocks comprising the S&P 500 index are listed on the NYSE or the Nasdaq Stock Market. The Nasdaq Stock Market is an electronic trading system in which trades are executed via computers and telephones from participant firms' offices rather than in one physical location.

gral part of the derivatives markets, but also have caused a revolution in corporate finance.<sup>26</sup>

## VII. IMPACT OF EQUITY DERIVATIVES ON GLOBAL MARKETS

Although the market decline of October, 1987 caused a storm of criticism about the consequences of futures markets, the overwhelming conclusion of the dozens of economic studies that were conducted about the market decline strongly supported the position that stock index futures provide an important risk management vehicle and that the stock index futures contracts are an integral and complementary part of one global equities market.

### A. The Role of Stock Index Derivatives in the Market Decline of October 1987

Few events of the last two decades have left as deep or as lasting an impression on financial markets as the world-wide stock market decline of October, 1987. On October 19, 1987, the S&P 500 index dropped by more than twenty percent. From the close of trading on Tuesday, October 13, to the close of trading on Monday, October 19, the Dow Jones Industrial Average lost approximately a third of its value. Stock prices in Japan and Europe also plunged, some by as much as forty percent.<sup>27</sup> Studies have shown that countries which had stock index futures or options had crashes of the same average magnitude as countries without these instruments.<sup>28</sup> This spectacular price drop was accompanied by high trading volume. The price volatility which had in fact preceded the events of October, 1987 lingered for a few months while trading volume fell to very low levels.

The convergence of several fundamental economic factors - the prior increase in interest rates, bleaker earnings expectations following negative trade and budget deficits, greater perceived uncertainty as indicated by the rise in options' implied volatilities, and the filing of new tax legislation for takeovers - is sufficient to explain why stock prices should have declined right around October, 1987. The severity

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<sup>26</sup> See generally Robert Lenzner and William Heuslein, *The Age of Digital Capitalism*, FORBES, Mar. 29, 1993, at 62-72.

<sup>27</sup> See A.G. Malliaris and Jorge Urrutia, *Linkages of National Stock Markets: Statistical Evidence Before, During, and After the October 1987 Crash*, 4 RECENT DEV. INT'L BANKING 336-69 (1991).

<sup>28</sup> R. Richard, *The International Crash of October 1987* (1988) (working paper No. 9-88, on file with the John E. Anderson Graduate School of Management, University of California at Los Angeles).

and abruptness of the decline and the disruption it caused in the operation of financial exchanges were, nonetheless, considered puzzling.

Attention soon focused on the role of stock index futures trading in the financial crisis (along with computerized program trading, and other relatively recent and often misunderstood trading innovations). The Brady Report emphasized that "the market for stocks, stock index futures and stock options - are in fact one market" and that "[t]he instruments — stocks, stock index futures and stock options — are fundamentally driven by the same economic factors."<sup>29</sup> Thus, on October 19, 1987, "[p]ortfolio insurers and other institutional investors sold in both the stock market and the stock index futures market. Selling pressure in the futures market was transmitted to the stock market by the mechanism of index arbitrage."<sup>30</sup> This procedure, as with all types of arbitrage, consists of the simultaneous buying and selling of similar financial instruments in different markets to take advantage of price discrepancies. In the case of stock index arbitrage, stocks can be sold and futures purchased or vice versa.

The "cascade" theory that emerged in reports critical of stock index futures markets ascribed the cause of the market decline as "short" portfolio hedging strategies, e.g., portfolio insurance, and stock index arbitrage trades, interacting to "cause a downward spiral in stock prices."<sup>31</sup>

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<sup>29</sup> BRADY REPORT, *supra* note 21, at vi.

<sup>30</sup> BRADY REPORT, *supra* note 21, at vi.

<sup>31</sup> CFTC DIVISION OF ECONOMIC ANALYSIS AND DIVISION OF TRADING AND MARKETS, SUMMARY OF THE FINAL REPORT ON STOCK INDEX FUTURES AND CASH MARKET ACTIVITY DURING OCTOBER 1987 1-2 (1988). A small selection of the myriad studies of the crash of October 1987 is listed below:

#### GOVERNMENT STUDIES AND REPORTS

BRADY REPORT, *supra* note 21.

SEC DIVISION OF MARKET REGULATION, THE OCTOBER 1987 MARKET BREAK (1988).

FEDERAL RESERVE BOARD, REPORT OF THE PRESIDENTIAL TASK FORCE ON MARKET MECHANISMS (1988).

DEAN FURBUSH, SEC OFFICE OF ECONOMIC ANALYSIS, PROGRAM TRADING AND PRICE MOVEMENTS AROUND THE OCTOBER 1987 MARKET BREAK (1989).

DEPARTMENT OF TREASURY, FEDERAL RESERVE BOARD, SECURITIES AND EXCHANGE COMMISSION, AND COMMODITY FUTURES TRADING COMMISSION, INTERIM REPORT OF THE WORKING GROUP ON FINANCIAL MARKETS (1988).

CFTC DIVISION OF TRADING AND MARKETS, ANALYSIS OF TRADING IN THE CHICAGO BOARD OF TRADE'S MAJOR MARKET INDEX FUTURES CONTRACT ON OCTOBER 20, 1987 (1988).

CFTC FINAL REPORT ON STOCK INDEX FUTURES AND CASH MARKET ACTIVITY DURING OCTOBER 1987 (1988).

CFTC FOLLOW-UP REPORT ON FINANCIAL OVERSIGHT OF STOCK INDEX FUTURES MARKETS DURING OCTOBER 1987 (1988).

The presumed adverse effects of stock index arbitrage and the cascade theory were put in question by subsequent studies which analyzed the relationship between index arbitrage trades, program trades, and intraday price variations<sup>32</sup> on and around October 19. The principal findings of these studies were: (1) index arbitrage sell trades accounted for only a small percentage of NYSE volume in this period (eleven percent of total NYSE volume on October 19),<sup>33</sup> (2) stock

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CFTC INTERIM REPORT ON STOCK INDEX FUTURES AND CASH MARKET ACTIVITY DURING OCTOBER 1987 (1987).

GENERAL ACCOUNTING OFFICE, PRELIMINARY OBSERVATIONS ON THE OCTOBER 1987 CRASH (1988) (report to Congressional requesters).

GENERAL ACCOUNTING OFFICE, STOCK MARKET CRASH OF OCTOBER 1987 (1988) (preliminary report to Congress).

GREGORY DUFFEE, PAUL KUPIECK AND A. PATRICIA WHITE, BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM, A PRIMER ON PROGRAM TRADING AND STOCK PRICE VOLATILITY: A SURVEY OF THE ISSUES AND THE EVIDENCE (1990).

#### EXCHANGE STUDIES AND REPORTS

CHICAGO BOARD OF TRADE'S RESPONSE TO THE PRESIDENTIAL TASK FORCE ON MARKET MECHANISMS (1987).

N. KATZENBACH, NEW YORK STOCK EXCHANGE, AN OVERVIEW OF PROGRAM TRADING AND ITS IMPACT ON CURRENT MARKET PRACTICES (1987).

MERTON MILLER, JOHN HAWKE, BURTON MALKIEL, AND MYRON SCHOLES, PRELIMINARY REPORT ON THE COMMITTEE OF INQUIRY APPOINTED BY THE CHICAGO MERCANTILE EXCHANGE TO EXAMINE THE EVENTS SURROUNDING OCTOBER 19, 1987 (1987).

NATIONAL ASSOCIATION OF SECURITIES DEALERS, FINAL REPORT OF THE REGULATORY REVIEW TASK FORCE (1988).

#### ACADEMIC STUDIES

William J. Brodsky, *A View from the CME*, in *THE CHALLENGE OF INFORMATION TECHNOLOGY FOR THE SECURITIES MARKETS* (Lucas et al. eds.).

Franklin R. Edwards, *Studies of the 1987 Stock Market Crash: Review and Appraisal*, 1 J. FIN. SERVICES RES. 231-51 (1988).

Eugene Fama, *Perspectives on October 1987 or What Did We Learn From the Crash?* (1988) (on file with the Graduate School of Business, University of Chicago).

Sanford J. Grossman, *An Analysis of the Implications for Stock and Futures Price Volatility of Program Trading and Dynamic Hedging Strategies*, 61 J. BUS. 275 (1988).

Sanford J. Grossman, *Program Trading and Market Volatility: A Report on Interday Relationships*, FIN. ANALYSTS J., July-Aug. 1988, at 18.

Hayne Leland, *Portfolio Insurance and October 19*, CAL. MGMT. REV. (1988).

Hayne Leland and Mark Rubinstein, *Comments on the Market Crash: Six Months After*, 2 J. ECON. PERSP. 3 (1988).

Richard Roll, *The International Crash of October, 1987*, FIN. ANALYSTS J., Jan.-Feb. 1988, at 19-35.

Mark Rubinstein, *Portfolio Insurance and the Market Crash*, FIN. ANALYSTS J., Jan-Feb. 1988, at 38-47.

<sup>32</sup> Intraday Margin is defined as the additional margin deposited by a clearing member firm to an exchange clearinghouse during periods of great market volatility or in the case of high-risk accounts.

<sup>33</sup> Portfolio insurance trading accounted for less than ten percent of trading volume, but other less visible short hedge trades might have been more significant. Hayne Leland, *On the Stock Market Crash and Portfolio Insurance* 7-15 (1987) (unpublished manuscript, on file with the University of California at Berkeley) has pointed out that portfolio insurance, a hedging technique which *per se* does not necessarily convey information, can cause discontinuous price

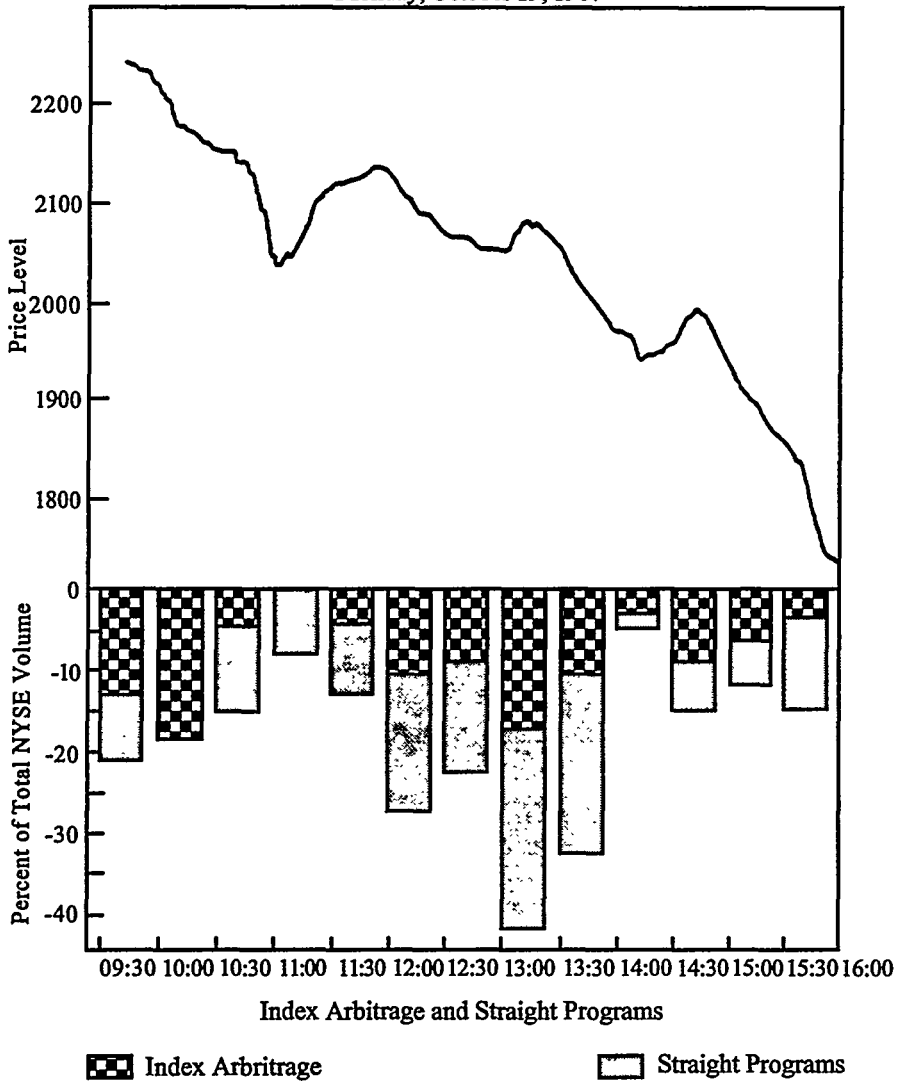
price volatility persisted after October 20 in spite of the restrictions imposed by the NYSE on index arbitrage trades, (3) since index arbitrage trades occurred at different times than portfolio hedge sales, there was little opportunity for the two to interact, (4) the pressure of index arbitrage sell programs on stock prices was very short-lived, and (5) the parallel decrease in stock index futures and cash market prices showed that stock prices were adjusting to a lower equilibrium level, which essentially did not change through the end of October. In addition, a little-known fact regarding trading on Monday, October 19, was that "straight program" trading<sup>34</sup> was more prevalent that day than index arbitrage trading. The following chart illustrates this occurrence:

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adjustments if investors misinterpret the trades it entails as information-based. Leland argued that "sunshine trading," *i.e.*, the announcement by portfolio hedgers of their demands prior to trading, would have alleviated the problem.

<sup>34</sup> "Straight program" trading refers to index trading other than through arbitrage. Whereas arbitrage refers to trading based on abnormal price differences between the futures contract and the underlying stock index portfolio, straight program trading refers to trading based on the direction of the market as a whole. Much of the straight programs were transactions of stock baskets and did not have a futures dimension.

Dow Jones Industrial One Minute Chart  
Monday, October 19, 1987



Source: The Brady Report

Source: The Brady Report

The unusual behavior of the S&P 500 basis<sup>35</sup> provides the best insight into the details of market activity during these few days. At the close of Friday, October 16, the S&P 500 basis became negative, which suggested a delinking between the cash and futures markets.<sup>36</sup> This delinking resulted from trading interruptions in S&P 500 component stocks.<sup>37</sup> Trading interruptions developed because NYSE specialists had difficulty in handling the surge in order flow because they could not absorb the unusually large order imbalances which had accumulated. These order imbalances were particularly pronounced for component stocks of the S&P 500 index which by definition, are the most widely held stocks. This might explain why the decrease in NYSE stocks in the S&P 500 index ended up seven percent greater than that of stocks not in the index.<sup>38</sup> Trading in stock index futures was not similarly constrained. Order imbalances, coupled with the rumors which circulated about wide-spread failures of brokers and market makers, and the fear of an imminent market collapse aggravated the panic of investors and made the collapse self-fulfilling.

Prior to the crash, Merton Miller<sup>39</sup> had warned that cash and futures markets might not have the capacity to handle very large order flows and that stale transactions prices would send false signals to traders. He predicted that, in the short-term, this illiquidity and lack of market transparency would exacerbate volatility generated by fundamental changes. Miller advocated an improvement in order-

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<sup>35</sup> "Basis" is defined as the difference between the current cash price and the futures price of the same underlying commodity. Unless otherwise specified, the price of the nearby futures contract month is generally used to calculate the basis.

<sup>36</sup> Barring significantly negative rates of interest, the cost-of-carry relationship between spot and futures index prices implies a positive basis. Lawrence Harris, *The October 1987 S&P 500 Stock-Futures Basis*, 44 J. Fin. 77 (1989) and Allan W. Kleidon, *Arbitrage, Nontrading and Stale Prices: October 1987*, 65 J. Bus. 483 (1992) are two exhaustive analyses of the October 1987 S&P 500 basis.

<sup>37</sup> Kleidon has also provided evidence for the hypothesis that the negative S&P 500 October, 1987 basis and the non-synchronicity between S&P 500 spot and futures prices were caused by staleness of the prices at which stock transactions were still executed as well as by nontrading in stocks. Kleidon, *supra* note 36, at 493-505.

<sup>38</sup> The discrepancy between S&P 500 and non-S&P 500 prices disappeared in the first hour of trading on the next day. See Marshall E. Blume et al., *Order Imbalances and Stock Price Movements on October 19 and 20, 1987*, 44 J. Fin. 827 (1989).

<sup>39</sup> Merton H. Miller, *Financial Innovations Next*, in FINANCIAL INNOVATIONS AND MARKET VOLATILITY ch. 1 (Mid-America Inst. for Pub. Pol'y Res. ed., 1986). This chapter is based on a paper presented to the Distinguished Invited Speakers Series at the 1986 Meetings of the Western Finance Association, Colorado Springs, June 1986; an earlier version was presented at the Seminar on Financial Innovation in Leuven, Belgium, in May 1986. See also, Sanford J. Grossman and Merton H. Miller, *Liquidity and Market Structure*, 4 J. Fin. 617 (1988); NEW YORK STOCK EXCHANGE, INDEX ARBITRAGE AND VOLATILITY G3-1-5 (1990) (paper prepared for Market Volatility and Investor Confidence Panel).



processing ability as the best solution to the problem. The market congestion which occurred in October, 1987, fit the pattern of Miller's prediction. It confirmed that a market dominated by large institutions using computerized portfolio trading technologies and electronic order-routing systems could cripple the existing market making mechanisms.

In the wake of October, 1987, securities and futures and options exchanges instituted a battery of measures to enhance inter-market coordination, increase computer capacity, improve the clearing and settlement processes, and ensure the adequacy of capital and other financial requirements. In addition, a new and sophisticated system to analyze portfolio risk was introduced. In 1988, the CME implemented Standard Portfolio Analysis of Risk (SPAN), a system for calculating performance bonds, at both the clearing firm and account levels. SPAN has become the standard performance bond calculation system for the futures industry and has been adopted by all United States futures exchanges and clearing organizations, as well as by not less than seven foreign futures exchanges and two clearing organizations. The NYSE increased capital requirements for specialists and member firms.

To further inter-market coordination, the NYSE, CME, and CBOE entered into mutual agreements to share surveillance information. In particular, information on large S&P 500 futures transactions is compared to information on NYSE program trades. Futures exchanges have joined the Inter-Market Surveillance Group (ISG), which includes nine major United States securities exchanges, Nasdaq, and several foreign exchanges and other self-regulatory organizations. The objective of the ISG is to share surveillance and investigative information useful in investigating the inter-market activities of members. Exchanges also share financial information on brokerage firms through two inter-market groups, the Joint Audit Group and the Inter-Market Financial Surveillance Group (ISFG), which includes the financial surveillance staff of futures and securities exchanges, as well as the National Association of Securities Dealers, National Futures Association, Commodity Futures Trading Commission, and Securities and Exchange Commission. More structured coordination was established between exchange clearing houses through the Clearing Organization and Banking Roundtable, an organization which includes domestic and foreign futures, options and stock clearing entities, as well as United States regulators.

To facilitate the processing of order flows and to give markets sufficient pause during volatile conditions, an elaborate set of circuit-breakers<sup>40</sup> was instituted. These include coordinated trading halts between securities and futures and options exchanges,<sup>41</sup> NYSE restrictions on index arbitrage (collars, side-cars) after specified (*i.e.*, fifty points for the collar) Dow Jones Industrial Average (DJIA) price moves, and an expanding schedule of intra-day and daily price limits for stock index products.

Taken together, these shock absorbers, circuit breakers, collars, etc., have contributed to the stability of the equity markets. Some have been used many times, others not at all. Nevertheless, the market users seem comfortable with them. This may be due, in large part, to their predictability. These price limits are based on fixed numbers rather than a percentage of the underlying index. Although some of the limits have been changed, these changes have not reflected the steep rise in the level of the index. Nevertheless, there is no strong movement to change these limits in proportion to the increases in the index. The charts below indicate the frequency of use some of these mechanisms.

|             | <b>CME LIMITS</b>   | <b>NYSE LIMITS</b>                | <b>CME &amp; NYSE<br/>JOINT CIRCUIT<br/>BREAKERS</b> |
|-------------|---|-----------------------------------|--|
| <b>YEAR</b> | <b>TOTAL LIMITS<br/>REACHED<br/>FOR ALL<br/>CONTRACTS</b> | <b>50 POINT<br/>COLLAR LIMITS</b> | <b>1 HOUR AND<br/>2 HOUR TRADING<br/>HALTS</b>       |
| 1989        | 5   | N/A                               | N/A  |
| 1990        | 12  | 23                                | 0  |
| 1991        | 5   | 20                                | 0  |
| 1992        | 5   | 16                                | 0  |
| 1993        | 2   | 9                                 | 0  |
| 1994        | 18  | 30                                | 0  |

<sup>40</sup> The term "circuit-breakers" refers to the collection of securities and futures exchange rules which mandate trading halts, price limits, and restrictions on index arbitrage transactions following specified changes in the Dow Jones Industrial Average Index or the S&P Stock Indexes.

<sup>41</sup> Participating exchanges include the American Stock Exchange, the Chicago Board Options Exchange, the Chicago Mercantile Exchange, the Chicago Stock Exchange, the Cincinnati Stock Exchange, Inc., the New York Stock Exchange, the Pacific Stock Exchange, and the Philadelphia Stock Exchange, as well as the National Association of Securities Dealers, Inc..

## B. Cross-Margining

One of the specific recommendations<sup>42</sup> derived from the 1987 market break was that the CFTC and the SEC work with securities and futures clearing organizations to develop systems for "cross-margining" securities and futures positions. The purpose of cross-margining is to reduce cash flows by allowing participants of both the securities options and futures markets to gain the benefit of hedged futures and options positions, thereby reducing the margin requirement for these offsetting positions.<sup>43</sup> For example, a market maker in S&P 500 options who has sold on the CBOE can hedge with short S&P 500 futures on the CME. By virtue of a cross margin agreement between the two clearing entries of both exchanges, the market maker's risk is more accurately reflected without the need for posting margins as if both positions were unhedged.<sup>44</sup>

Under the terms of the cross-margining agreement, the CME maintains control of CME-cleared stock index futures and options on futures while the OCC maintains control of OCC-cleared stock index options. Participating clearing members grant liens to the CME on options positions and the OCC on futures positions. Funds paid to and generated by either the CME or OCC are shared between the two organizations. Likewise, losses incurred as a result of position liquidations are also shared. Through coordination and exchange of position data, the CME and OCC are able to provide for a single collection of margin on these positions.<sup>45</sup>

The CME/OCC cross-margining agreement created immediate benefits for participant firms. During the market turbulence on October 13, 1989 and October 16, 1989, the two firms participating in the pilot program posted one hundred fifty million dollars less margin in their cross-margin accounts than they would have paid had they not been a participant in the program.<sup>46</sup> This satisfied a major goal of the Brady Report: *i.e.*, to reduce the need for funds to flow through the system during times of stress without increasing risk in the system. Since its inception, the program has grown substantially.

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<sup>42</sup> See BRADY REPORT, *supra* note 21, at viii.

<sup>43</sup> 1991 SEC REPORT FILED PURSUANT TO SECTION 8(A) OF THE MARKET REFORM ACT OF 1990 27-30 [hereinafter SEC REPORT].

<sup>44</sup> See 54 Fed. Reg. 41,195 (1989).

<sup>45</sup> SEC REPORT, *supra* note 43, at 2a.

<sup>46</sup> SEC REPORT, *supra* note 43, at 2a.

### C. Triple Witching Hour and Other Expiration Effects

Until June of 1987, stock index futures, futures options, and stock options in the United States expired simultaneously at the close of the third Friday of every quarter. Occasionally, these expirations were accompanied by spurts of stock price volatility and high volume. The last hour of triple expirations therefore came to be known as the notorious "triple-witching hour."<sup>47</sup>

On June 19, 1987, with the ratification of the SEC and CFTC, the Chicago Mercantile Exchange, the New York Futures Exchange, and the New York Stock Exchange changed the timing and derivation of the final settlement price of nearly all stock index derivatives. Final settlement prices are now determined on the morning of the third Friday of the contract month, and are based on the Special Opening Quotation (SOQ) of the underlying index. The SOQ is computed from the opening prices of component stocks. On the NYSE, opening prices are determined in a special market auction conducted by specialists which clear standing limit orders. The shift to a Friday morning settlement allows NYSE specialists more time to resolve publicly disseminated and often large order imbalances.<sup>48</sup>

Almost all derivative markets in Europe and the Pacific have followed the United States example and determine stock index final settlement prices on the basis of expiration morning prices, either the opening prices or some average of mid-morning prices. The major exception to this practice is the expiration of several United States stock index options. These options, the most prominent of which is the S&P 100 option traded on the Chicago Board Options Exchange, are settled at the close of the third Friday of the contract month. The continuation of this practice has been the subject of debate between the SEC and CBOE.<sup>49</sup>

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<sup>47</sup> "Triple witching hour" began to have a negative connotation on September 21, 1984, following a decrease of 1.32% in the Dow Jones Industrial Average on that Friday's expiration. John J. Curran, *"Witching Days" Without a Curse*, FORTUNE, Jan. 20, 1986, at 110.

<sup>48</sup> An additional advantage of the new final settlement procedure is that opening orders on the NYSE are facilitated through the facility of the Opening Automated Report System (OARS) on the NYSE which gathers and then nets opening orders.

<sup>49</sup> See, e.g., *Hearings Before the Subcomm. on Securities of the Senate Comm. on Banking, Housing and Urban Affairs*, 105th Cong., 2d Sess. 54 (1990); Letter to Richard Breeden, Chairman SEC from William Brodsky, President CME, dated April 1, 1990; Letter from Richard Breeden, Chairman, SEC, to William Brodsky, President, CME (May 23, 1990) (on file with author); and Letter from William Brodsky, President, CME, to Richard Breeden, Chairman, CFTC (May 31, 1990) (on file with author). See also, Hans R. Stoll and Robert E. Whaley, *Program Trading and Expiration Day Effects*, FIN. ANALYSTS J., Mar.-Apr. 1987, at 16-18 [here-

A number of empirical studies have analyzed the impact of expirations on stock prices in the United States and in Europe.<sup>50</sup> The consensus of these studies is that the increased volatility surrounding stock index derivative expirations is small, transient, and analogous to the price effect of large block transactions on stock prices. For example, Stoll and Whaley<sup>51</sup> estimate that, prior to 1987, the average price effect (as measured by the magnitude of price reversals immediately following the expiration) of stock index expirations was only forty percent of the value of the index at the close. Since June of 1987, the price effect of stock index expirations in the United States has decreased to an even lower number of around twenty percent.<sup>52</sup> Part of this decrease may be attributed to the fact that price pressure effects related to expiration are now spread between Thursday's close and Friday's open.

In summary, the price disruptions sometimes caused by stock index expirations have never been significant or long-lived. These disruptions reflect the price adjustments made by market makers who supply liquidity and are therefore exposed to greater risk in very active stock markets.

#### D. The Relationship Between Stock Market Volatility and Stock Index Derivatives

Episodes such as the stock market declines of October 1987 and October 1989, and triple-witching hours have caused some regulators, members of the press, the investment community, and the general public to believe that stock price volatility of financial markets has risen in the last two decades.

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inafter Stoll and Whaley I]; and Hans R. Stoll and Robert E. Whaley, *Expiration-Day Effects: What has Changed?*, FIN. ANALYSTS J., Jan.-Feb. 1991, at 58-72 [hereinafter Stoll and Whaley II].

<sup>50</sup> For sources in the United States, see Stephen P. Ferris et al., *A Transaction Data Study of Stock Returns and Trading Activity During Option Expiration Periods*, 5 ADVANCES FUTURES & OPTIONS RES. 149 (1991); Robert Klemkosky, *The Impact of Option Expirations on Stock Prices*, 13 J. FIN. & QUANTITATIVE ANALYSIS 507 (1978); Stoll and Whaley I, *supra* note 49, at 16-28; and Stoll and Whaley II, *supra* note 49, at 58-72. For Canada, see Trevor W. Chamberlain, *Expiration-Day Effects of Index Futures and Options: Some Canadian Evidence*, FIN. ANALYSTS J., Sept.-Oct. 1989, at 67-71. For the U.K., see Peter S. Pope and Pradee Yadav, *The Impact of Option Expiration on Underlying Stocks: The UK Evidence*, 19 J. BUS. FIN. & ACCT. 329-44 (1992). For Norway, see Steve Swidler et al., *Option Expiration Day Effects in Small Markets: Evidence from the Oslo Stock Exchange*, 3 J. FIN. ENGINEERING 177-95 (1994).

<sup>51</sup> Stoll and Whaley I, *supra* note 49, at 16.

<sup>52</sup> Stoll and Whaley II, *supra* note 49, at 58. See also, Chao Chen and James Williams, *Triple-witching Hour, the Change in Expiration Timing and Stock Market Reaction*, 14 J. FUTURES MARKETS 275 (1994).

There is a related and widespread perception that this increase in volatility does not originate from fundamental economic forces, and that it is the result of destabilizing speculative or other trading activity. Increased price volatility is sometimes blamed on: the fickleness of non-rational investors who follow "fashions and fads,"<sup>53</sup> large financial institutions that use computer-based trading programs to manage portfolios of stocks, or the introduction of and trading in stock index futures and options.

The view that trading in stock index futures exacerbates stock price volatility has been analyzed extensively — most prominently in the wave of studies published shortly after the market decline of October 1987. These include well-known studies by the SEC, CFTC, the NYSE, and a Presidential Task Force.<sup>54</sup> Several explanations have been proposed to uphold this view.

One argument is that stock index arbitrage strategies<sup>55</sup> transmit volatility from a stock index futures market to the underlying stock market. The fallacy in this argument is that stock index arbitrage merely transmits to stock prices information which has reached the futures market a few minutes ahead of the underlying stock market. This information would have affected stock prices even in the absence of a futures market. In other words, the role of index arbitrage is largely relegated to that of a "messenger."<sup>56</sup> The only distinctive impact which futures trading may have in its role of messenger is to impose a faster, and hence, more abrupt adjustment of stock prices to

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<sup>53</sup> Robert Shiller, *Fashions, Fads and Bubbles in Financial Markets* (Feb. 6, 1986) (unpublished manuscript on file with author). See also, Franklin R. Edwards, *Portfolio Insurance and Other Investor Fashions as Factors in the 1987 Stock Market Crash*, 1988 NBER MACROECON. ANN. 287-96. See also, ROBERT R. NATHAN ASSOCS., REVIEW OF INITIAL TRADING EXPERIENCE AT THE CHICAGO BOARD OPTIONS EXCHANGE 61-68 (1974).

<sup>54</sup> NICHOLAS KATZENBACH, NEW YORK STOCK EXCHANGE, AN OVERVIEW OF PROGRAM TRADING AND ITS IMPACT ON CURRENT MARKET PRACTICES (1987); SECURITIES AND EXCHANGE COMMISSION, THE OCTOBER 1987 MARKET BREAK (1988); BRADY REPORT, *supra* note 21; and CFTC REPORT ON STOCK INDEX FUTURES AND CASH MARKET ACTIVITY DURING OCTOBER 1987 (1988).

<sup>55</sup> Stock index arbitrage refers to simultaneous trades in stock index futures and in portfolios of the underlying stocks. Arbitrageurs profit from disparities which arise between futures and spot prices. Since stock index arbitrage smooths out these disparities, it makes both markets more efficient.

<sup>56</sup> Hans R. Stoll and Robert E. Whaley, *Stock Market Volatility and Index Futures: Message Versus Messenger*, 4 J. PORTFOLIO MGMT. 20-22 (1987-88) and Hans R. Stoll and Robert E. Whaley, *The Dynamics of Stock Index and Stock Index Futures Returns*, 25 J. FIN. & QUANTITATIVE ANALYSIS (1990) (a careful description of the temporal relation between stock index futures and spot prices). See also, Merton Miller, *Index Arbitrage and Volatility* (1990) (unpublished draft on file with author) for a compelling presentation of the role of stock index arbitrage.

new information. The resulting increase in the short-run volatility of stock prices is aggravated when the equity markets are unable to absorb large variations in the order flow on short notice.<sup>57</sup> This phenomenon is not unlike the impact that "block trading" had on the stock market in the late 1960's and early 1970's as the ramifications of this practice were being recognized by retail brokers and investors.

A second argument for the proposition that stock index futures are destabilizing is based on the hypothesis that stock index futures drain liquidity by "siphoning away trading from the underlying stocks."<sup>58</sup> In the long-run, this could increase stock market spreads and destabilize stock prices. However, the dramatic growth of trading volume in stocks since the inception of stock index derivatives supports the competing hypothesis.<sup>59</sup> Thus, far from draining volume from the stock market, stock index derivatives nurture trading in stocks and improve liquidity. Stock index derivatives have attracted a larger pool of market participants and offer investors efficient and cost effective risk-sharing opportunities.

The cumulative evidence from empirical studies provides meager support for the negative perception of stock index futures or even for the belief that stock market volatility has increased.<sup>60</sup> The majority of these studies support the view that stock index derivatives improve the liquidity of underlying markets, and exert a stabilizing influence on these markets in the long run.

Edwards<sup>61</sup> was one of the first to study the effect of the introduction of stock index futures. He examined daily returns of stocks from 1973 to 1987, and concluded that stock index futures had no destabilizing effect. This conclusion was corroborated by numerous studies, that looked at daily and intra-day volatility, published in the wake of the October, 1987, market decline. One recent study by Kamara, Miller and Siegel examined unconditional and conditional stock price volatilities for the period from 1976 to 1988 and also concurred in Ed-

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<sup>57</sup> See B. Wade Brosen, *Futures Trading, Transaction Costs, and Stock Market Volatility*, 11 J. FUTURES MARKETS 153 (1991).

<sup>58</sup> Hon Choi and Avanidhar Subrahmanyam, *Using Intraday Data to Test for Effects of Index Futures on the Underlying Stock Markets*, 14 J. FUTURES MARKETS 293-322 (1994).

<sup>59</sup> Studies have also shown that stock spreads do not widen but narrow following the introduction of derivatives such as stock options.

<sup>60</sup> See G. William Schwert, *Why Does Stock Market Volatility Change Over Time?*, 44 J. FIN. 1115 (1989) and G.W. Schwert, *Stock Volatility and the Crash of 87*, 3 REV. FIN. STUD. 77 (1990).

<sup>61</sup> F.R. Edwards, *Does Futures Trading Increase Stock Market Volatility?*, FIN. ANALYSTS J., Jan.-Feb. 1988, at 63-69.

wards' findings.<sup>62</sup> Similarly, Bessembinder and Seguin<sup>63</sup> have analyzed the long-run effect of stock index futures on conditional and unconditional volatility. They find that futures decrease the conditional, *i.e.*, expected volatility of stock prices. A notable exception to these results is Harris,<sup>64</sup> who found that volatility of daily returns of S&P 500 stocks to be greater than that of non-S&P 500 stocks since 1982. However, he estimated that the difference in volatility was not economically significant.

Concerns about stock index futures and apparent fear of their negative effects on the stock market spread to Japan. Japanese officials, eager to protect equity market values against the perceived risk of stock index futures, instituted costly regulatory measures which were imposed by the powerful Ministry of Finance. These measures had a perverse effect. Overall trading was not diminished, but the Osaka Security Exchange (OSE) lost much of its trading volume in Nikkei 225 Stock Average futures and options to the Singapore International Monetary Exchange (SIMEX), where trading has not been hampered by excessively high margins and high fixed commissions<sup>65</sup> as well as market interruptions based on ad hoc decisions when volatility increases. A belated attempt to recapture this volume by introducing a new Nikkei index - the Nikkei Stock Index 300 - structured with less prohibitive trading costs has not yet undone the damage.

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<sup>62</sup> Avraham Kamara et al., *The Effect of Futures Trading on the Stability of Standard and Poor 500 Returns*, 12 J. FUTURES MARKETS 645 (1992). See also, A. Craig MacKinlay and Krishna Ramaswamy, *Index Futures Arbitrage and the Behavior of Stock Index Futures Prices*, 1 REV. FIN. STUD. 137-58 (1988); A. Craig MacKinlay and Krishna Ramaswamy, *Program Trading and the Behavior of Stock Index Prices* (1987) (Working paper series 30-87, Rodney White Center for Financial Research, Wharton School, University of Pennsylvania); Jennifer Quinn et al., *Program Trading and Index Arbitrage*, in REPORT ON MARKET VOLATILITY AND INVESTOR CONFIDENCE app. F (1990); Merton H. Miller, *Index Arbitrage and Volatility*, in REPORT OF THE COMMITTEE ON MARKET VOLATILITY AND INVESTOR CONFIDENCE (1990), Sanford J. Grossman, *Program Trading and Market Volatility, Report on Interday Relationships*, FIN. ANALYSTS J., July-Aug. 1988, at 18-28; and Sanford J. Grossman, *An Analysis of the Implication for Stock and Futures Price Volatility of Program Trading and Dynamic Hedging Strategies*, 61 J. BUS. 275 (1988).

<sup>63</sup> Hendrik Bessembinder and Paul J. Seguin, *Futures Trading Activity and Stock Price Volatility* (1992) (working paper No. 91-12 Mitsui Center, University of Michigan).

<sup>64</sup> Lawrence Harris, *S&P 500 Cash Stock Price Volatilities*, 44 J. FIN. 1155 (1989).

<sup>65</sup> See Merton H. Miller, *The Economics and Politics of Index Arbitrage in the U.S. and Japan*, 1 PACIFIC-BASIN FIN. J. 3 (1993); and Obiyathulla Bacha and A. Fremault Vila, *Futures Markets, Regulation and Volatility: The Case of the Nikkei Stock Index Futures Markets* (Nov. 1992) (unpublished draft, on file at Boston University).



### E. Margins and Stock Market Volatility

Margin requirements on stock transactions were first instituted by the United States Congress in 1934 in the aftermath of the Crash of 1929. The restrictions on margins limited the level of credit which buyers of stocks could secure from brokers. There were several justifications proposed for the margin requirements. First, it was argued that high margins would redirect capital away from stock investments to more "productive" investment. Second, high margins would limit default losses sustained by brokers. Lastly, high margins would drive away from the stock market overleveraged speculators who were thought to exert a destabilizing influence on stock prices.<sup>66</sup>

The Federal Reserve was granted jurisdiction over the level of initial margin but the level of maintenance margins was left at the discretion of securities exchanges.<sup>67</sup> The Federal Reserve changed the initial margin level only twenty-two times between 1935 and 1974, when the initial margin was set at fifty percent of the price of the stock. This level has not changed since then. The Federal Reserve now believes that fine-tuning margins is not an appropriate tool to control speculation and price volatility. In testimony before the Committee on Banking, Housing, and Urban Affairs, Chairman Greenspan stated that "the primary purpose of margins [is] to protect the clearing organizations, brokers, and other intermediaries from credit losses that could jeopardize contract performance."<sup>68</sup>

Until quite recently, initial and maintenance margins in futures markets were set by the futures exchanges and their clearinghouses. In 1993, however, the Federal Reserve was given authority over futures margins for stock index products.<sup>69</sup> The Federal Reserve promptly delegated this authority to the CFTC in the same way that they had done to the SEC years ago regarding stock index and individual stock options.<sup>70</sup> Futures exchanges continue to set their margins, but under the supervision of the CFTC.

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<sup>66</sup> See Virginia G. France, *The Regulation of Margin Requirements*, in *MERGERS AND MARKET INTEGRITY* 15 (Lester G. Telser ed., 1991).

<sup>67</sup> Initial margins are the minimum deposits which customers must deposit on purchases of stocks financed by brokers or on short-sales of stocks. Maintenance Margins specify the level of the margin account below which the broker must issue a margin call to replenish the customer's account and bring it back to the maintenance level.

<sup>68</sup> *Hearing on the SEC/CFTC Jurisdiction and Margin Before the Subcomm. on Securities of the Senate Comm. on Banking, Housing and Urban Affairs*, 105th Cong., 2d Sess. 46 (1990) (statement of Alan Greenspan, Chairman of the Federal Reserve Board).

<sup>69</sup> Commodity Exchange Act, 7 U.S.C. § 2 (1992).

<sup>70</sup> 58 Fed. Reg. 26,979 (May 6, 1993).

The different history of regulation of stock and futures margins reflects important differences between the two. Stock margins constitute a down payment on the current purchase of an asset. Stock margins therefore imply an extension of credit. Futures margins, on the other hand, are purely performance bonds. A futures transaction is not a transfer of assets and therefore involves no extension of credit. Futures margins are the good faith deposits required by exchanges to ensure performance of a futures contract. This essential difference between stock and futures margins is epitomized by the observation that, while stock markets could operate without a margin mechanism, futures markets cannot operate without one since every position, long or short, hedged or unhedged, requires performance bond "margins."

Stock and futures margins were a dead issue by October 1987. An extensive literature on the relationship between margins and price volatility<sup>71</sup> had shown that using margins to fine-tune price volatility is ineffective at best and counterproductive at worst. This view was echoed in a 1984 study by the Federal Reserve System.<sup>72</sup> The common verdict of the studies was that low margins do not cause price instability, and that margin increases are not stabilizing. These studies documented how margin changes initially occur in reaction to preceding changes in price volatility and found that the correlation between margin changes and subsequent price volatility is insignificant and temporary. The studies also concluded that the only apparent effect of margin increases is to decrease trading volume and impair liquidity.<sup>73</sup> This tends to increase short-term price volatility because price adjustments are more abrupt in thin markets.

Furthermore, it was generally well understood that futures exchanges and futures brokers (known as futures commissions merchants) have a strong natural incentive to set margins at prudent levels to avoid customer defaults. Consistent with this, a number of

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<sup>71</sup> Comprehensive surveys of these and more recent studies are Don M. Chance, *The Effect of Margins on Volatility of Stock and Derivative Markets: A Review of the Evidence* (Apr. 1990) (working paper, on file at the Center for Study of Futures and Options Markets, Virginia Polytechnic Institute and State University); and Virginia G. France, *The Regulation of Margin Requirements: A Survey* (1990) (mimeograph). See also, Theodore E. Day and Craig M. Lewis, *Initial Margin Policy and Volatility in the Crude Oil Futures Market* (1992) (mimeograph); Girard Gennotte and Hayne Leland, *Low Margins, Derivative Securities and Volatility* (1992) (unpublished manuscript, on file at the University of California at Berkeley); FEDERAL RESERVE BANK OF CHICAGO, CHICAGO FED LETTER: FUTURES MARGIN AND EXCESS VOLATILITY No. 46 (1991).

<sup>72</sup> BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM, *A REVIEW AND EVALUATION OF FEDERAL MARGIN REQUIREMENTS* 159-65 (1984).

<sup>73</sup> H.R. REP. NO. 6, 100th Cong., 2d Sess. 3 (1988).

empirical analyses of the efficacy of futures margins found that futures exchanges and brokers set their margins at prudent levels.<sup>74</sup>

The events of October 19, 1987 nevertheless revived concerns about stock index futures margins. Critics argued that unregulated and unduly low stock index futures margins had contributed to price volatility. In spite of the strong empirical record on the effectiveness of futures margins, the SEC and the Brady Commission proposed to increase stock index futures margins to prevent further stock market turbulence.

In its report, the Brady Commission<sup>75</sup> also called for the "harmonization" of stock and stock index futures margins, a thesis which generally ignored the basic differences between stock margins and futures margins. First, as noted above, stock and futures margins have different functions: stock margins restrict the amount of credit extended to customers; futures margins are a performance bond. Second, the risks and expected default losses differ between the stock and futures markets. The risks are smaller for futures because the volatility of a stock index price is lower than the volatility of individual stocks.<sup>76</sup> This is because a stock index represents a diversified basket of stocks. Further, default risk is smaller for futures positions because futures margin variation payments are made daily or even more frequently when prices become volatile. In comparison, stock investors who buy on margin have five complete business days (the length of time it currently takes to clear transactions) to comply with the initial margin requirement set by Regulation T. Settlement of accounts with margin balances lower than maintenance level normally takes two to three days.

After October 1987, regulators persuaded futures exchanges to increase their stock index margins to levels well beyond prudent levels. Between October 1987 and June 1992, speculative margins on S&P 500 more than quadrupled from \$5,000 to \$22,000. In June, 1992, the speculative margins were reduced to \$12,000, and were reduced even lower to \$8,000 in 1993. But, because of renewed regulatory concerns, the S&P 500 margins were increased again in February 1994 to \$11,250. In light of the historical distribution of daily S&P 500 price changes, the relative size of current S&P 500 margins (\$11,250) remains substantially larger than the margins of other futures contracts.

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<sup>74</sup> See France, *supra* note 66, at a15-47.

<sup>75</sup> See generally, BRADY REPORT, *supra* note 21.

<sup>76</sup> FEDERAL RESERVE BANK OF CHICAGO, CHICAGO FED LETTER: SETTING FUTURES MARGINS: WHO? . . . AND HOW HIGH? No. 9 (1988).

At the current level of margins in the S&P 500, the stock market would have to drop more than 22.5 S&P points (equal to approximately 165 in the Dow Jones Average, or approximately four percent) to exhaust the margin on deposit. But the nature of the exchange's intraday margins variations system with intraday mark-to-market calls would require new funds to replenish the performance bond "margin" on deposit in any case.

The successive margin increases imposed by regulators since October 1987 have disregarded the empirical evidence on the relationship between margins and volatility, and the past record of margin performance. In the history of the CME (which dates back to 1898), no clearing member firm has ever defaulted on its obligations to the Clearing House or to its customers. Even after the crash of October 1987, no futures firms failed. This strongly suggests that futures exchanges have been successful in setting stock index futures margins at "prudential" levels.

## VII. REGULATORY REQUIREMENTS FOR THE OFFER AND SALE OF FOREIGN STOCK INDEX FUTURES AND OPTIONS

While the international trading world has gotten smaller and easier to access, stringent United States regulatory requirements exist for any person attempting to offer or sell a futures contract based on a foreign securities index or group.<sup>77</sup> The remainder of this paper will address those regulatory requirements while also reviewing the regulatory developments which led to the current requirements for the appraisal of stock index futures and options. Also, it will examine some of the regulatory developments and the issues which remain with respect to other equity derivatives.

### A. Who Regulates Equity Derivatives?

The dynamic growth in stock index derivatives has also been accompanied by regulatory uncertainty. The confusion arises from the jurisdictional boundaries of the Commodity Futures Trading Commission (CFTC) and the Securities and Exchange Commission (SEC). Stated generally, the CFTC has jurisdiction over commodity<sup>78</sup> futures

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<sup>77</sup> *Domestic Offer and Sale of the Financial News Composite Index Futures Contract*, CFTC Interpretative Letter No. 85-5, [1984-1986 Transfer Binder] Commodity Futures L. Rep. (CCH) ¶ 22,751, at 31,125 (Sept. 5, 1985).

<sup>78</sup> The CEA defines a commodity as agricultural products and all services, rights and interests in which contracts for future delivery are presently or in the future dealt. Commodity Exchange Act, 7 U.S.C. § 1a(3) (1992).

contracts and options on futures contracts,<sup>79</sup> including futures on stock indices and options on futures on stock indices.<sup>80</sup> The SEC has jurisdiction over securities and options on securities,<sup>81</sup> including options on stock indices.<sup>82</sup> However, if an instrument is both a security and a futures contract, the CFTC has sole jurisdiction.<sup>83</sup> But, if an instrument is both a futures contract and an option on a security, then the SEC has sole jurisdiction.<sup>84</sup> The problem is that the Commodity Exchange Act (CEA) does not define “contracts . . . for future delivery” or “option”<sup>85</sup> and “[equity derivative] instruments may have aspects of [both options and futures contracts].”<sup>86</sup>

### B. The Johnson-Shad Agreement

In December 1981, the Chairmen of the CFTC<sup>87</sup> and SEC<sup>88</sup> announced an agreement (the Johnson-Shad Agreement, hereinafter referred to as the “Accord”) defining which equity index instruments were subject to the jurisdiction of the respective agencies. The substance of their agreement, with certain changes, was passed by Congress in 1982 as part of the CFTC reauthorization process.<sup>89</sup> The provisions of the Accord respecting stock index futures are found in Section 2(a)(1)(B) of the CEA.<sup>90</sup> Section 2(a)(1)(B) provides that any application to trade futures on a stock index, in addition to meeting the requirements for designation of a contract market,<sup>91</sup> must also meet the following minimum requirements:

1. The stock index futures contract must be settled in cash;

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<sup>79</sup> Commodity Exchange Act, 7 U.S.C. § 2(i) (1982).

<sup>80</sup> Commodity Exchange Act, 7 U.S.C. § 2a(ii) (1982).

<sup>81</sup> 15 U.S.C. § 78c(a)(10) (1992); Commodity Exchange Act, 7 U.S.C. § 2a(iv)(1).

<sup>82</sup> Commodity Exchange Act, 7 U.S.C. § 2a(iv)(1) (1982).

<sup>83</sup> *Chicago Mercantile Exchange v. Securities and Exchange Commission*, 883 F.2d 537 (7th Cir. 1989).

<sup>84</sup> *Id.*

<sup>85</sup> Lester Telser, *Futures and Actual Markets: How They Are Related*, 59 J. Bus. 85 (1986).

<sup>86</sup> *Chicago Mercantile Exchange*, 883 F.2d at 538.

<sup>87</sup> Philip McBride Johnson was the Chairman of the CFTC.

<sup>88</sup> John S.R. Shad was the Chairman of the SEC.

<sup>89</sup> The Commodity Exchange Act implements the terms of the Accord. See 7 U.S.C. § 2a (1982).

<sup>90</sup> Commodity Exchange Act, 7 U.S.C. § 2a(ii) (1982) (giving the CFTC jurisdiction over stock index futures meeting the requirements enumerated therein).

<sup>91</sup> A contract market is a board of trade or exchange that has been designated by the Commodity Futures Trading Commission to serve as a market for the trading of a particular commodity futures contract. See *General Guide*, 1 Commodity Futures. L. Rep. (CCH) ¶ 131 (Feb. 1994). The requirements for designation of a contract market are found in the Commodity Exchange Act, 7 U.S.C. § 7 (1992).

2. Trading in such contract "shall not be readily susceptible to manipulation of the price of such contract . . . nor to causing or being used in the manipulation of the price of any underlying security, option on such security or option on a group or index including such securities;"
3. The stock index "shall be predominately composed of the securities of unaffiliated issuers and shall be a widely published measure of, and shall reflect, the market for all publicly traded equity or debt securities or a substantial segment thereof, or shall be comparable to such measure."<sup>92</sup>

In addition to the above requirements, Section 2(a)(1)(B)(iii) of the CEA requires the CFTC, upon application by a board of trade for designation as a contract market, to provide an opportunity for public comment on whether such contracts meet the three minimum requirements set forth above.<sup>93</sup> Finally, Section 2(a)(1)(B)(iv) of the CEA requires the CFTC, for any application submitted after December 9, 1982, to transmit a copy of the application to the SEC for review. The CFTC cannot approve the application of a stock index futures contract (or option thereon) if the SEC determines that the contract fails to meet any of the three above requirements of Section 2(a)(1)(B)(ii) of the CEA.<sup>94</sup>

The requirements of Section 2(a)(1)(B)(ii) of the CEA were designed to permit innovative financial instruments "while at the same time [assuring] that futures trading is limited to broad-based . . . indices that are not conducive to manipulation or disruption of the market for the underlying securities."<sup>95</sup>

The central theme of Congress in its oversight responsibilities of futures markets is to "ensure fair practices and honest dealing . . ." with "control over manipulative activity in futures markets."<sup>96</sup> When reviewing the Accord, the House Committee on Agriculture stated:

It is the hope that the jurisdictional accord will turn the focus of debate from the issue of which agency has or should have jurisdiction [to] the merits of the proposals made to the agencies. This resolution should serve the public interest, in general, and business, commerce and investments, in particular, by removing impediments to useful new instruments

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<sup>92</sup> Commodity Exchange Act, 7 U.S.C. § 2a(ii) (1982).

<sup>93</sup> *Id.*

<sup>94</sup> *Id.*

<sup>95</sup> See Letter from Kenneth M. Raisler, General Counsel, CFTC, to Richard H. Rowe, Esq., Proskauer Rose Goetz & Mendelson (Apr. 19, 1984) (on file with author) [hereinafter Raisler Letter], citing S. Rep. No. 390, 97th Cong., 2d Sess. 6 (1982). See also H.R. Rep. No. 565, 97th Cong., 2d Sess., pt. 1, at 39 (1982).

<sup>96</sup> Memorandum from Kenneth M. Raisler, General Counsel, CFTC to the Securities and Exchange Commission (Dec. 23, 1983) (on file with author), citing S. Rep. No. 1131, 93d Cong., 2d Sess. 14 (1974). See also S. Rep. No. 850, 95th Cong., 2d Sess. 12 (1978).

so that in meritorious cases their benefits could be made available without undue delay.<sup>97</sup>

The main concern of the SEC with regard to stock index futures and options thereon is the prevention of manipulation in the underlying securities markets.<sup>98</sup> According to the SEC:

[i]n varying degrees, all three requirements [of the Accord] serve to ensure that trading in a proposed futures contract based on a stock index or group not be readily susceptible to manipulation, not to causing or being used in manipulation the price of the underlying securities or related options.<sup>99</sup>

As Chairman Johnson observed, "the cash settlement requirement of Section 2(a)(1)(B)(ii) serves as an anti-manipulative device, [t]his feature [cash settlement] greatly reduces the potential for manipulation since futures contracts cannot be converted into a cash market instrument."<sup>100</sup>

The second requirement of Section 2(a)(1)(B)(ii) states that the index must not be readily susceptible to manipulation. Several SEC "no objection" letters concerning various applications for contract market designation as a stock index future are illustrative of what factors the SEC reviews when considering the application.<sup>101</sup>

Manipulation in the securities markets generally refers to practices "intended to mislead investors by affecting market activity."<sup>102</sup> According to Chairman Johnson, if an index "contains a substantial

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<sup>97</sup> H.R. Rep. No. 565, 97th Cong., 2d Sess., pt. 1, at 40 (1982).

<sup>98</sup> *Hearings Before the Subcomm. on Securities of the Senate Comm. on Banking, Housing and Urban Affairs*, 97th Cong., 2d Sess. 38 (1982) (statement of Chairman Shad). See *Hearings Before the Subcomm. on Telecommunications, Consumer Protection and Finance of the House Comm. on Energy and Commerce*, 97th Cong., 2d Sess., pt. 1, at 120 (1982) (statement of Chairman Shad noting that the compromise was designed to avoid manipulation in the underlying securities).

<sup>99</sup> *Hearings Before the Subcomm. on Telecommunications, Consumer Protection and Finance of the House Comm. on Energy and Commerce*, 97th Cong., 2d Sess., pt. 1, at 147 (1982) (letter from Edward Greene, SEC General Counsel, to the Honorable Timothy Wirth). See also *id.* pt. 2, at 243; *Hearings Before the Subcomm. on Securities of the Senate Comm. on Banking, Housing and Urban Affairs*, 97th Cong., 2d Sess. 12 (1982) (joint explanatory statement); *id.* at 56 (statement of John S.R. Shad, Chairman of the SEC).

<sup>100</sup> *Hearings Before the Subcomm. on Telecommunications, Consumer Protection and Finance of the House Comm. on Energy and Commerce*, 97th Cong., 2d Sess., pt. 1, at 272, 273 (1982) (statement of Chairman Johnson).

<sup>101</sup> Letter from Brandon Becker, Director, SEC Division of Market Regulation, to David R. Merrill, Deputy General Counsel, CFTC (July 18, 1994) (on file with author) [hereinafter Becker Letter]. See also Letter from William H. Heyman, Director, SEC Division of Market Regulation, to Joanne T. Medero, General Counsel, CFTC (Aug. 23, 1991) (on file with author) and Letter from Richard G. Ketcham, Director, SEC Division of Market Regulation, to Paula Tosini, Director, CFTC Division of Economic Analysis (July 5, 1985) (on file with author).

<sup>102</sup> *Santa Fe Industries, Inc. v. Green*, 430 U.S. 462, 476 (1977).

number of different stocks having huge capitalization bases," the chance of manipulation in the underlying securities markets would be "extremely remote."<sup>103</sup> And, as the SEC has noted,

[S]ecurities with active and deep trading markets, as well as with broad public ownership, are more difficult to manipulate than securities having less active and deep markets . . .<sup>104</sup>

The third enumerated requirement of Section 2(a)(1)(B)(ii) is that the index must be composed of a substantial segment of the market for all public debt and equity securities. Chairman Johnson described what constitutes a "substantial segment":

A group of stocks is considered a substantial segment of the market if it represents a recognizable broad industry sector, comprised of numerous securities not dominated by a single (or very few) issuer(s) such as utilities, business machines, airlines, etc.<sup>105</sup>

The underlying concern of the SEC with respect to the requirement for a "substantial segment" of the market is to ensure that a stock index futures contract will not function as a surrogate for trading in individual securities or options of those securities.<sup>106</sup> This requirement also serves to meet the alleged competitive concerns raised by the regulatory differences between the futures and securities markets or possible insider trading concerns regarding a security underlying an index through transactions in the futures market (or option market thereon).<sup>107</sup>

With the strong concern by the SEC on the possibility of manipulation of the underlying securities markets and the emphasis on the desire for broad-based indices, the Accord settled the questions concerning the jurisdictional issues regarding the approval of large composite indices. However, the Accord left unanswered the jurisdictional issues regarding the regulation of industry sector indices.

### C. Domestic Industry Sector Indices

Shortly after the Accord was reached and prior to the time Congress enacted the Accord into law, the CME ignited a controversy

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<sup>103</sup> *Hearings Before the Subcomm. on Telecommunications, Consumer Protection and Finance of the House Comm. on Energy and Commerce*, 97th Cong., 2d Sess., pt. 1, at 273 (1982) (letter from Philip M. Johnson to the Hon. Timothy Wirth).

<sup>104</sup> Securities Exchange Act Release No. 19,975 (July 21, 1983), 48 Fed. Reg. 33,389, 33,390.

<sup>105</sup> *Hearings Before the Subcomm. on Telecommunications, Consumer Protection and Finance of the House Comm. on Energy and Commerce*, 97th Cong., 2d Sess., pt. 1, at 273 (1982).

<sup>106</sup> Letter from William H. Heyman, Director, SEC Division of Market Regulation, to Paula Tosini, Director, CFTC Division of Economic Analysis (July 5, 1985) *cited in* Becker Letter, *supra* note 99.

<sup>107</sup> *Id.*



when it filed applications to trade futures on a series of S&P stock "sector" indices.

The SEC reviewed the CME's application for the S&P Consumer Staples Index futures contracts and did not object to the application. The CFTC then approved the application in 1983. In reviewing the CME application for the futures contracts on the S&P Energy Index, the SEC objected to the application.<sup>108</sup> The CFTC eventually approved the CME application over the SEC's objection.<sup>109</sup>

During the review of these applications, the CFTC and SEC had quite different interpretations of the Accord. As previously discussed, the Accord's requirements were established with broad-based indices in mind. Since the agencies had not specifically addressed the case of industry sector indices in the Accord, they had differences over how the Accord should be interpreted in reviewing the application for these indices. Therefore, in order to avert possible litigation between the agencies, on January 18, 1984, they issued a Joint Interpretation and Policy Statement regarding the designation criteria for futures contracts involving non-diversified stock indices of domestic<sup>110</sup> issuers (Joint Interpretation). The Joint Interpretation set forth the following criteria:

1. The index must have at least twenty-five constituent stocks.
2. The aggregate capitalization must be at least seventy-five billion dollars.
3. No single stock may have a capitalization exceeding twenty five percent of the aggregate capitalization of the index.
4. In a cap-weighted index, the three largest stocks may not exceed forty-five percent of the aggregate capitalization of the index.<sup>111</sup>

The Joint Interpretation became effective as of January 18, 1984, for both future applications and those submitted prior to January 18, 1984 which had not yet received approval for designation by the CFTC.<sup>112</sup> The Joint Interpretation also stated that a domestic industry sector index must not only meet these requirements at the time of

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<sup>108</sup> Note that the SEC's statutory veto power did not apply to the S&P Energy Index because the CME's application had been submitted before December 1992. See 7 U.S.C. § 2a(ii) (1982).

<sup>109</sup> Letter from Jane Stuckey, Secretary, CFTC to Clayton Yeutter, President, Chicago Mercantile Exchange (Feb. 22, 1983) (on file with author).

<sup>110</sup> This agreement only involved United States stock indices and did not speak at all to the designation of foreign industry sector indices. See Letter from Jane Stuckey, Secretary, CFTC to Clayton Yeutter, President, Chicago Mercantile Exchange (Jan. 11, 1984) (on file with author).

<sup>111</sup> Designation Criteria for Futures Contracts and Options on Futures Contracts Involving Non-Diversified Stock Indexes of Domestic Issuers, 49 Fed. Reg. 2884 (1984).

<sup>112</sup> *Id.* at 2885.

designation, but also must continue to meet the requirements after approval for designation.<sup>113</sup>

The other S&P industry sector indices in which the CME sought approval for designation were not approved for futures trading because they failed to meet one or more of these requirements.

Because the requirements pertaining to stock index futures imposed by the Accord and the Joint Interpretation do not apply to stock index options traded on securities exchanges, the SEC has approved applications by securities exchanges to trade narrow-based index options based on the stocks of a single industry or industry group that might not have satisfied the criteria for contract market designation set forth in the joint interpretation.<sup>114</sup> For a decade, the SEC considered such applications by securities exchanges on a case-by-case basis. In June 1994, the SEC approved the following listing standards for options on narrow based stock indices:

1. The index must include at least ten component stocks, each of which must be traded on a United States exchange or Nasdaq.
2. The component stocks comprising the top ninety percent of the index, by weight, must have a minimum market of seventy-five million dollars and a monthly trading volume of at least one million shares per month.
3. The component stocks constituting the bottom ten percent of the index, by weight, must have a minimum market capitalization of fifty million dollars and a monthly trading volume of at least five hundred thousand shares per month.
4. No individual stock may represent more than twenty-five percent of the weight of the index. Where the index has fewer than twenty-five stocks, the top five stocks may not constitute more than sixty percent of the weight of the index.
5. No more than twenty percent of the stocks in the index, by weight, may be comprised of foreign securities or American Depositary Receipts ("ADRs") that are not subject to a surveillance agreement between the United States options exchange and the foreign exchange where the stocks are traded.
6. The index value must be disseminated at least once every fifteen seconds during trading hours. The index must be cash settled, and its settlement value must be based upon the opening prices of the component stocks on the primary exchange (or Nasdaq) on which they are traded.<sup>115</sup>

Why does the SEC give more lenient treatment to stock index option contracts over stock index futures contracts? The SEC did not

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<sup>113</sup> *Id.*

<sup>114</sup> 59 Fed. Reg. 30,062 (1994).

<sup>115</sup> *Id.* at 30,063.

address the differences in its release concerning the establishment of the new options guidelines.<sup>116</sup> However, insight can be gained by looking at the 1983 letter from the SEC to the CFTC, in which the SEC objected to the approval of the CME applications in the S&P Energy Index futures contract, the S&P High Tech Index futures contract, the S&P Utilities Index futures contract, and the S&P Financial Index futures contract.<sup>117</sup> The objections raised in the letter focused on two of the three provisions of the Accord.

Since the indices were all cash settled, the SEC had no problem with that provision. The SEC stated that in reviewing an equity index futures contract for potential manipulation, the following five areas are reviewed:

1. the number of securities in the index;
2. the capitalization of the securities in the index;
3. the depth and liquidity of the secondary market for those securities;
4. the diversification of the group or index; and
5. whether the index is price or capitalization weighted.<sup>118</sup>

After comparing the index to the five areas above, the SEC makes a determination of whether it feels the contract is susceptible to manipulation. The SEC does not provide an analysis of the impact of the raw numbers. The overall premise of the SEC is that the fewer stocks in an index, especially if one stock is heavily weighted, the more susceptible it is to manipulation. In only one case in the SEC letter does the SEC give a specific possibility for manipulation - the S&P High Technology Stock Index. The SEC was concerned that IBM had a weighing of almost forty percent. The SEC was concerned about the possibility of a "mini-manipulation,"<sup>119</sup> even while acknowledging that this strategy would be riskier in the futures markets than if done in the market for IBM options. This fear should be lessened in light of the intermarket coordination efforts that were established between the regulators and the options, futures, and stock exchanges after 1987.

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<sup>116</sup> *Id.*

<sup>117</sup> Letter from George A. Fitzsimmons, Secretary, Securities and Exchange Commission to David Horner, Director, CFTC Division of Economics and Education (Nov. 29, 1983) (on file with author) [hereinafter Fitzsimmons Letter].

<sup>118</sup> *Id.*

<sup>119</sup> In this context, the SEC described a "mini-manipulation" arising when a person with a substantial pre-existing futures position attempted to move the prices of one of the securities in the index in order to profit his futures position. The SEC's rationale was that because of the highly leveraged nature of the index, a very small movement in stocks constituting even a modest percentage in the index could provide substantial profits to the person attempting to manipulate the market.

The SEC's basis for the "substantial segment" test is to prevent trading in the futures markets from disrupting the securities markets and undermining the scheme of regulation in place under federal securities laws.<sup>120</sup> In this regard, the SEC has expressed two public interest concerns: insider trading and using the futures markets as a surrogate for trading individual stocks or options on the underlying stocks.

In objecting to the application for the S&P Energy Index futures contract, the SEC was concerned that since Exxon constituted fifteen percent of the index, the index could be used to profit from inside information concerning that security.<sup>121</sup> Again, the SEC acknowledged that this would involve *more* risk than trading in the underlying market of Exxon common stock or in the market for Exxon options. The risk relates to the various other stocks in the index and their collective impact on the index. The SEC implies that a person trading on inside information could hedge this risk by investing in each of the underlying securities. As the CFTC noted in its approval of the Energy Index futures contract, one with inside information could just as easily trade those stocks (or their options) most closely related in price to the one to which the inside information pertains. Since this would be more efficient in the market for the underlying securities or individual stock options than in an index of stocks in the futures market, why would the trader choose the riskier strategy? And, if this strategy would be legal and more efficient in the cash or options market, why is the SEC more concerned with the less likely possibility in the futures market?

The SEC is also concerned that the futures contract may be used as a surrogate for trading in the individual stocks or options thereon. The SEC conceded that an investor that is bullish on the entire industry, but not any particular stock, is well-suited to trading in the futures contract. The SEC's stated major concern (which it did not prove) was the *perception* by registered representatives and their customers that movements in the index are sufficiently close to those in the underlying cash and options market. The CFTC also noted that similar concerns were raised by the SEC with respect to interest-rate futures at the inception of trading in these instruments, and these contracts are often dependent on a smaller number of individual securities, albeit United States Treasury Securities, than the forty common stocks in the S&P Energy Index. Therefore, absent the demonstration of an

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<sup>120</sup> Fitzsimmons Letter, *supra* note 115.

<sup>121</sup> Fitzsimmons Letter, *supra* note 115.

empirical basis, the CFTC reasoned that this is not a legitimate concern of the SEC.

There have been few developments in recent years, since United States futures exchanges have not introduced new sector indexes, primarily due to lack of investor demand. The securities options exchanges have introduced several sector indexes such as energy, telecommunications, financial, utilities, and high technology with a limited degree of success.

#### D. Foreign Stock Index Futures

Although there are no specific rules for foreign stock index futures, the CFTC and SEC use the statutory requirements for domestic stock index futures found in Section 2(a)(1)(B)<sup>122</sup> to determine whether to allow the foreign stock index futures contract to be offered and sold to United States investors. This is the case whether a United States exchange wants to designate a foreign stock index futures contract (or option thereon) as a contract market or whether a foreign exchange is seeking approval for the sale of the foreign stock index futures contract (or option thereon) to United States customers.

##### *1. Foreign Boards of Trade Offering Stock Index Futures in the United States.*

Foreign futures markets (hereinafter referred to as a foreign board of trade) generally do not wish to be designated as a contract market, because they would then fall under the jurisdiction of the CFTC and the CFTC rules pertaining to domestic exchanges in addition to the rules of their own country's regulators. To facilitate the sale of foreign stock index futures in the United States, the CFTC has initiated a procedure whereby the foreign board of trade may apply to the CFTC for certification that its futures contract meets the requirements of the Accord<sup>123</sup> without seeking or obtaining designation from the CFTC as a contract market. The foreign board of trade must also

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<sup>122</sup> See, e.g., Letter from Kenneth Raisler, General Counsel, CFTC, to Richard Rowe, Esq., Proskauer, Rose, Goetz & Mendelsohn (Apr. 19, 1983) (on file with author). The letter granted approval for the Toronto Futures Exchange TSE "300" Composite Index Futures Contract.

<sup>123</sup> The legislative history of the CEA provides:

[N]othing in the provisions [of the CEA] prevents a foreign board of trade from applying to the CFTC for certification that its futures contracts conform with the requirements of the [CEA] where, by its terms, the [CEA] establishes minimum requirements for a specifically identified contract. For example, a foreign board of trade may seek certification from the [CFTC] that a futures contract offered by it that is based upon a group or index of American securities meets the minimum requirements specified in subparagraphs (a) through (c) of Section 2(a)(1)(B)(ii) of the [CEA], without seeking or obtaining designation of the [CFTC] as contract market. Any such certification is to be conducted under the procedures in the

adhere to the requirements of Part Thirty of the Commission's regulations.<sup>124</sup>

In addition, the foreign board of trade may be required to provide additional information deemed necessary by the CFTC and SEC.<sup>125</sup> In fact, the CFTC has enumerated the information to be included in any "no-action"<sup>126</sup> request by a foreign board of trade which is seeking approval for a foreign stock index futures contract *without* designation as a contract market. The following list of information allows the CFTC and the SEC to review the application to determine if the foreign equity index futures contract or options meet the requirements of Section 2(a)(1)(B)(ii):

1. The terms and conditions of the contract and all other relevant rules of the exchange, and if applicable, of the exchange on which the underlying equities are traded, which have an effect on the over-all trading of the contract, including circuit breakers, price limits, position limits or other controls on trading;
2. Surveillance agreements between the foreign boards of trade and the exchange(s) on which the underlying equities are traded;
3. When applicable, information regarding foreign blocking statutes and their impact on the ability of the United States government agencies to obtain information concerning the trading of such contracts; and
4. Information and data relating to:
  - (a) The computation, availability, and timeliness of the index;
  - (b) The total capitalization, number of stocks, and weighting of the stocks by capitalization and, if applicable, by price, in the index;
  - (c) Breakdown of the index by industry segment;
  - (d) Procedures and criteria for selection of individual stocks for inclusion in, or removal from the index;
  - (e) Method of calculation of the cash-settlement price and the timing of its public release;
  - (f) Average daily volume of trading by calendar month in each of the underlying equities for a six month period of time, and separately, the daily volume in each underlying stock for six expirations (cash-settlement dates) or for the six days of that period on which

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provision of the [CEA] establishing such minimum requirements. H.R. Rep. No. 565, 97th Cong., 2d Sess., pt. 1, at 85 (1982).

See also, Becker Letter, *supra* note 99.

<sup>124</sup> 17 C.F.R. §§ 30.01-30.11 (1994).

<sup>125</sup> See Economic and Public Interest Requirements for Contract Market Designation, 57 Fed. Reg. 3518, 3523 (1992) (to be codified at 17 C.F.R. pt. 5).

<sup>126</sup> A "no-action" position is an assurance from the CFTC staff that, based upon representations made by the inquirer, the staff would recommend that the Commission take "no-action" with respect to the activity described in the inquiry as it related to the CEA and regulations thereunder.

cash-settlement would have occurred had each month of the period been an expiration month.<sup>127</sup>

## *2. Domestic Exchanges Offering Foreign Stock Index Futures*

While the above list of information was not published by the SEC and CFTC until January 30, 1992, the SEC and CFTC had been requiring this information of domestic exchanges seeking approval for designation of foreign stock index futures as contract markets well before this time. Although not required by the CEA, the SEC and CFTC have nevertheless preconditioned the approval for contract designation until the domestic futures exchange received a surveillance information sharing agreement with the foreign securities exchange where the underlying stocks are traded.

A case study illustrating this point can be seen in the CME's application for the designation of futures on the Nikkei 225 Index as a contract market. The CME applied for designation with the CFTC on August 26, 1986. Shortly after receiving the application, the CFTC advised the CME that the SEC would object to the application unless the CME entered into a surveillance information sharing agreement with the Tokyo Stock Exchange.<sup>128</sup> The Tokyo Stock Exchange did not initially want to enter into this type of an agreement with the CME — for competitive reasons. The CME was finally able to enter into an agreement with the Tokyo Stock Exchange on June 1, 1988 — almost two years later!

The SEC notified the CFTC that it would raise no objection to the application on April 25, 1988 — prior to the signing of the surveillance agreement.<sup>129</sup> The SEC knew that the CME had used its best efforts to reach an agreement with the Tokyo Stock Exchange. The SEC was able to rely upon the Memorandum of Understanding (MOU) that it had entered into with the Japanese Ministry of Finance on May 23, 1986. This MOU was an agreement between the two government agencies to facilitate each agency's respective requests for surveillance and investigation information.<sup>130</sup> The SEC was also assured by the Japanese that the MOU included stock indices.

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<sup>127</sup> Economic and Public Interest Requirements for Contract Market Designation, 57 Fed. Reg. 3518 (1992).

<sup>128</sup> For a summary of the events, see Letter from Leo Melamed, Chairman, CME, to Takashi Suzuki, Managing Director, Nihon Keizai Shimbun (June 3, 1987) (on file with author).

<sup>129</sup> The CFTC did not approve the contract until after the agreement had been signed.

<sup>130</sup> *Report of the SEC to the House Comm. on Energy & Commerce on the Internationalization of the Securities Markets*, [1986 Transfer Binder] Fed. Sec. L. Rep. (CCH) ¶ 84,294 (Oct. 29, 1986).

Although the benefits of a surveillance information sharing agreement are obvious, these agreements are often difficult for domestic exchanges to procure because of competitive reasons. In the CME's case, the Tokyo Stock Exchange did not decide to enter into the agreement until it was only a month away from launching its own Tokyo Stock Price Index futures contract (TOPIX). By waiting almost two years for approval, the CME lost any competitive lead it might have gained over the Tokyo Stock Exchange.

In my opinion, it was unfair and contrary to United States interests to permit the Tokyo Stock Exchange effectively to block approval of the CME's application, thereby damaging the ability of the United States markets to compete with Japanese markets with respect to stock index futures. And, since it was lawful for United States investors to purchase individual Japanese stocks traded on the Tokyo Stock Exchange (without any surveillance agreement in place), no significant regulatory purpose was served by requiring the surveillance information sharing agreement. The delay simply prevented United States investors from hedging their Japanese stock positions with Nikkei futures contracts on the CME.

As previously mentioned, nothing in the CEA explicitly requires a surveillance agreement between exchanges. It simply requires that the proposed futures contract will not be readily susceptible to manipulation nor to being used to manipulate any underlying security. Even though it might appear that the SEC has created a level playing field by "requiring" both foreign markets and domestic exchanges to have surveillance information sharing agreements with the underlying securities exchange (or at least requiring the domestic exchange to use its best efforts to procure an agreement), the competitive realities present a huge burden to domestic exchanges which can result in a very uneven playing field.

### *3. Must Diversified Foreign Stock Index Futures be Judged by Domestic, Non-Diversified Stock Indices Standards?*

A recent trend of the SEC seems to be to judge diversified stock indices of foreign issuers according to the Joint Interpretation, which establishes the designation criteria for *non-diversified* stock indices of *domestic* issuers<sup>131</sup> of futures contracts. The SEC has also recently treated diversified foreign stock indices (for trading on United States options exchanges) with relatively few stocks in the index (fifteen for

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<sup>131</sup> See Becker Letter, *supra* note 99 (stating the SEC has no objection to the designation of IBEX-35 futures contracts).



one index and ten stocks in another index) as narrow-based indices in light of the limited number of stocks in each index.<sup>132</sup>

The recent no-action relief granted to the Spanish futures exchange, MEFF RV,<sup>133</sup> for futures trading based on the IBEX-35 index<sup>134</sup> illustrates this recent practice by the SEC. The thirty-five stocks represent over eighty percent of the total market capitalization and include thirteen major industry groups. The largest stock represents fourteen percent of the total weight of the index, while the top five stocks represent approximately fifty percent of the index weight.<sup>135</sup>

In a letter to the CFTC dated July 18, 1994,<sup>136</sup> the SEC stated that it had no objection if the CFTC grants a no-action position to permit the offer and sale of IBEX-35 futures to United States citizens. In applying the three statutory requirements of Section 2(a)(1)(B), the SEC devoted most of its attention to the third requirement that the index reflect a substantial segment of the market "to ensure that a securities index futures contract will not function as a surrogate for trading in individual securities or options on those securities."<sup>137</sup>

After noting that the total capitalization of the stocks comprising the IBEX-35 was approximately ninety-five billion dollars, representing over eighty percent of the total market capitalization, and that the largest stock comprised approximately fourteen percent of the total index value, the SEC concluded that the IBEX-35 met the statutory requirement because it reflects a substantial segment of the market for Spanish equity securities. In a footnote, the SEC measured the IBEX-35 against the designation criteria for futures contracts involving *non-diversified* stock indices of *domestic* issuers as described

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<sup>132</sup> See Order Approving and Notice of Filing and Order Granting Accelerated Approval of Amendments 3 and 4 to a Proposed Rule Change by the Chicago Board Options Exchange, Inc., Relating to the Listing of Options and Long-Term Options on the CBOE Israeli Index and Long-Term Options on a Reduced-Value CBOE Israeli Index, 59 Fed. Reg. 36,804 (1994) and Notice of Filing and Immediate Effectiveness of Proposed Rule Change by the Chicago Board Options Exchange, Inc. relating to Options on the CBOE Mexico Index, 59 Fed. Reg. 33,557 (1994).

<sup>133</sup> The MEFF Sociedad Rectora de Productos Financieros Derivados de Renta Variable (MEFF RV) is an official exchange and clearing house subject to regulatory oversight by the Comision Nacional del Mercado de Valores (CMVW). The MEFF RV is also a self-regulatory body which employs its own staff to review compliance with its rules and to investigate customer complaints. See Becker Letter, *supra* note 99.

<sup>134</sup> The IBEX-35 index is based on the prices of the thirty-five most liquid stocks traded on the four official Spanish exchanges.

<sup>135</sup> See Becker Letter, *supra* note 99.

<sup>136</sup> See Becker Letter, *supra* note 99.

<sup>137</sup> See Becker Letter, *supra* note 99.

above. Although the IBEX-35 satisfied those criteria, the SEC suggested that its classification as a broad-based index was a close question because the largest five stocks account for fifty percent of the index weighing. It thus appears that the SEC will attempt to apply those criteria even to a diversified index of foreign stocks.<sup>138</sup> It is clear that a diversified stock index futures contract will be under close scrutiny from the SEC, as is stated in the recent letter from the SEC to the CFTC regarding the IBEX-35 application:

In evaluating the potential for manipulation of the IBEX-35 futures contract, the Division is concerned that the Index is comprised of only thirty-five stocks. As a general matter, in comparison to an index with a large number of stocks (*e.g.*, more than one hundred stocks), if an index is composed of a small number of stocks, it may be easier to manipulate the index by manipulating the prices of the underlying stocks. For this reason, the Division scrutinizes with more particularity indexes that are composed of a small number of stocks and will not comment favorably on them unless it can be demonstrated convincingly that the index represents a substantial capitalization and the component securities are actively traded.<sup>139</sup>

Therefore, to receive designation as a contract market or a no-action letter allowing for offer and sales of a stock index futures contract, an exchange must meet the stringent requirements of Section 2(a)(1)(B)(ii). When the futures contract is based on an industry sector stock index, it must also meet the requirements of the Joint Interpretation. The SEC has suggested that a diversified stock index futures contract with less than one hundred underlying stocks may also have to meet the additional requirements of the Joint Interpretation, although there appears to be no support for that approach in the statutory language.

#### 4. *Part Thirty Rules*

Exchanges and other persons interested in the offer and sale of foreign futures contracts and options on futures contracts must also adhere to the Part Thirty rules of the CFTC.<sup>140</sup> The Part Thirty rules were first published on August 5, 1987, and became effective on Feb-

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<sup>138</sup> See Becker Letter, *supra* note 99 (referring "to an index with a large number of stocks," *e.g.*, more than one hundred stocks).

<sup>139</sup> See Becker Letter, *supra* note 99 (citing Letter from William H. Heyman, Director, SEC Division of Market Regulation, to Joanne T. Medero, General Counsel, CFTC, dated Oct. 16, 1991 which raises no objection to the offer and sale to United States citizens of futures contracts overlying the French CAC 40 Index).

<sup>140</sup> Foreign Futures and Foreign Options Transactions, 17 C.F.R. § 30.1-30.11 (1992).

ruary 1, 1988.<sup>141</sup> These rules were put into effect to facilitate the access of United States customers and firms to futures contracts in other jurisdictions and to facilitate the mutual recognition of United States brokers in foreign markets.<sup>142</sup> Prior to these rules, the sale of foreign futures to United States customers was largely unregulated.<sup>143</sup> Two of the most important sections of Part Thirty are briefly discussed below as they relate to the offer and sale of foreign stock index futures and options thereon.

One of the most important provisions of the rule is Section 30.3(a), because it lifted the ban on the offer and sale of foreign options on futures contracts.<sup>144</sup> Rule 30.3(a) makes it unlawful for any person to engage in the offer or sale of any foreign commodity option until the CFTC, by order, authorizes the foreign option to be sold in the United States.<sup>145</sup> The approval is made on a case-by-case basis. In determining whether to grant the petition, the CFTC examines the following criteria:

1. the existence of mechanisms for information-sharing and the ability to confirm, among other things, transactions and prices;
2. the arrangements in place for assuring that sales practice abuses in such options do not occur;
3. the forums available for the redress of customer complaints; and
4. the regulatory environment in which such foreign options are traded.<sup>146</sup>

With respect to options on stock index futures contracts, the specific requirements for approval are those discussed above (*i.e.*, compliance with Section 2(a)(1)(B)(ii)).

The other section of Part Thirty that is of special interest in the sale of foreign stock index futures contracts and options thereon is Section 30.10.<sup>147</sup> Part Thirty rules require persons engaged in the offer and sale of foreign futures contracts to United States citizens to register with the Commission. Section 30.10 provides an exemption to

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<sup>141</sup> Foreign Futures and Foreign Options Transactions, 52 Fed. Reg. 28,980 (1987) (to be codified at 17 C.F.R. pt. 30).

<sup>142</sup> CFTC INTERMARKET COORDINATION REPORT 30 (1991) (report to Congress as required by the Market Reform Act of 1990).

<sup>143</sup> *Id.* (noting that sales were only subject to a general anti-fraud provision).

<sup>144</sup> In 1978, in response to widespread scandals involving sales of unregulated commodity options, the CFTC banned sales of essentially all commodity options, domestic and foreign, to persons in the United States. John Riley and David Hartman, *Offers and Sales of Foreign Commodity Futures Contracts and Options to Persons Located in the United States*, 7 INT'L L. LETTER 4 (1992).

<sup>145</sup> 17 C.F.R. § 30.3(a) (1992).

<sup>146</sup> *Id.*

<sup>147</sup> 17 C.F.R. § 30.10 (1992).

this general rule for foreign persons located outside the United States "based upon substituted compliance by the firm with comparable regulatory requirements imposed by the foreign jurisdiction."<sup>148</sup> To review for "comparability relief," the CFTC will examine:

1. registration, authorization or other form of licensing, fitness review or qualification of persons through whom customer orders are solicited and accepted;
2. minimum financial requirements for those persons who accept customer funds;
3. protection of customer funds from misapplication;
4. record-keeping and reporting requirements;
5. minimum sales practice standards, including disclosure of the risks of futures and options transactions and, in particular, the risk of transactions undertaken outside the United States; and
6. procedures for auditing compliance with the requirements of the regulatory program.<sup>149</sup>

Section 30.10 is very specific with regard to what activities are permitted in soliciting United States customers pursuant to this relief from registration. To go beyond the specific criteria requires registration with the CFTC or specific relief from registration from the CFTC.<sup>150</sup>

In summary, the Part Thirty rules have contributed to the globalization of the equity index futures and options market by allowing the offer and sale of foreign equity index futures contracts and options thereon to United States investors through grants of exemptive relief from the CEA's registration requirements by the CFTC.

The SEC and CFTC have approved several major international stock indices for trading in the United States, such as, the United Kingdom's FTSE 100, the French CAC 40, the Spanish Meff RV IBEX-35, Japan's Nikkei 225, the Australian All Ordinaries Index, and the German Dax index. The review process can be a lengthy one — sometimes taking as long as several years.

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<sup>148</sup> CFTC INTERMARKET COORDINATION REPORT, *supra* note 144, at 31.

<sup>149</sup> CFTC INTERMARKET COORDINATION REPORT, *supra* note 144, at 31.

<sup>150</sup> See, e.g., *Limited Marketing Activities from a United States Location by Certain Firms and Their Employees or Other Representatives Exempted Under Commodity Futures Trading Commission Rule 30.10*, Commodity Futures L. Rep. (CCH) ¶ 2705A (Oct. 28, 1992). Rule 30.10, among other things, limits the duration and frequency of marketing activities firms and limits sales via this exemptive relief to institutions and high net worth individuals.

E. Recent Jurisdiction and Other Developments in Equity  
Derivatives Since the Joint Interpretation & Policy  
Statement Agreements of 1984

Since the Joint Interpretation of 1984, several equity derivative products have been developed. Each application by an exchange for approval by the CFTC (futures exchanges) or SEC (options and securities exchanges) is carefully scrutinized by the CFTC and SEC (and by other exchanges) to determine whether the instrument is a futures contract or a securities contract. This section will briefly describe some of the instruments that have had an impact in the equity derivatives markets.

In 1988, the Philadelphia Stock Exchange (PHLX), the Chicago Board Options Exchange (CBOE), and the American Stock Exchange (AMEX) each submitted applications to the SEC to list Index Participation products (IP's).<sup>151</sup> IP's are products based on the current value of an index of stocks. They are of infinite duration and entitle the holders to receive cash payments on a quarterly basis equivalent to a proportionate share of regular cash dividends declared on the component stocks of the underlying index.<sup>152</sup> The CFTC, CME, and the CBT, among others, commented to the SEC that these products were futures contracts and would fall under the jurisdiction of the CFTC.<sup>153</sup> On April 11, 1989, the SEC approved the contracts. In approving the contracts, the SEC claimed jurisdiction stating that the products were securities and were not contracts for future delivery.<sup>154</sup> The following day the CME and CBT filed a petition for review of the Commission's Order in the United States Court of Appeals for the Seventh Circuit, arguing that the IP's were futures contracts under the jurisdiction of the CFTC.<sup>155</sup> The PHLX, CBOE, and AMEX began trading in IP's on May 12, 1989, after a petition by the CME and CBT to stay the SEC Order was denied on May 11, 1989. On August 18, 1989, the Seventh Circuit declared that the instruments were futures contracts. Judge Easterbrook's decision held

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<sup>151</sup> See Exchange Act Release No. 25,495, 53 Fed. Reg. 10,311 (Mar. 23, 1988) (Philadelphia Stock Exchange); Exchange Act Release No. 26,058, 53 Fed. Reg. 35,247 (Sept. 2, 1988) (Philadelphia Stock Exchange); Exchange Act Release No. 25,799, 53 Fed. Reg. 22,754 (June 13, 1988)(CBOE); Exchange Act Release No. 25,644, 53 Fed. Reg. 16805 (May 5, 1988)(AMEX); and Exchange Act Release No. 25,942, 53 Fed. Reg. 28,929 (July 25, 1988)(AMEX).

<sup>152</sup> *Id.*

<sup>153</sup> See, e.g., Letters from Jean A. Webb, Secretary, CFTC, to Jonathan G. Katz, Secretary, SEC (Apr. 29, 1988; June 1, 1988; and July 8, 1988) (on file with author).

<sup>154</sup> *Order Approving Proposed Rule Changes to the Listing and Trading of Index Participations*, Securities Exchange Act Release No. 26,709, 54 Fed. Reg. 15,280 (Apr. 11, 1989).

<sup>155</sup> Petition No. 89-1763.

that the instruments had an element of futurity even though the contracts lacked another traditional attribute of futures contracts - bilateral obligations.<sup>156</sup> The SEC appealed the decision, but later dropped the appeal as the three options exchanges modified their products to conform with the court's decision. The experience with these redesigned products has been that only the AMEX's SPDR offering has shown any measure of success to date.

Also entering the marketplace in the last few years are put and call warrants on foreign stock indices. These warrants are underwritten by independent issuers and are traded on a stock exchange. For example, several broker-dealer parent companies issue put and call warrants on various foreign stock indices on the AMEX. The put warrants give the holder the right to receive from the issuer the cash amount of any decline in the index below the specified strike level; the call warrants give the holder the right to receive the cash amount of any increase in the index above the strike price level. The warrants are generally "American-style" and can be exercised into United States dollars on any business day prior to expiration. In order to offer these warrants, a firm must file a registration statement in accordance with the Securities Act of 1933, or be exempt from registration. The Exchange on which the warrants are listed submits rule changes to the SEC for approval. In reviewing such foreign index product, the SEC generally uses the same scrutiny as with exchange created index options — requires a surveillance information sharing agreement between the listing and the home country exchange.

Another important and recent development in the area of equity derivatives is that of "FLEX options." FLEX options are options (including those on equity indexes) traded on an exchange in which the parties determine the strike price and expiration date. This development allows a customer to customize an exchange-traded product to best fit its specific needs. The CBOE has been successful with this product which responds to the needs of sophisticated investors to have an exchange traded and cleared product with some customized terms.

Another very interesting development in equity derivatives recently occurred in Australia. On May 16, 1994, the Sydney Futures Exchange Limited (SFE) began trading "Share Futures." Share Futures are futures contracts on an individual underlying stock traded on the Australian Stock Exchange and included in the SFE's Share Price

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<sup>156</sup> In its opinion, the court stated that new products such as the IP may have aspects of options and futures contracts and that the Court "must decide whether tetrahedrons belong in square or round holes." *Chicago Mercantile Exchange*, 883 F.2d at 539.

Index - a composite stock index futures contract which began trading on the SFE in February 1983. As previously mentioned, futures contracts based on individual stocks are not allowed on United States futures exchanges.<sup>157</sup> The SFE currently offers Shares Futures based on three listed companies: Broken Hill Proprietary, National Australia Bank, and News Corporation. The SFE received approval for these contracts from the Australian Securities Commission (ASC).<sup>158</sup> The SFE and the Australian Stock Exchange jointly oversee the cash settlement procedure for the Share Futures. The cash settlement procedure was reported as "smooth" for the June 1994 and July 1994 settlements.<sup>159</sup> The SFE listed four additional Share Futures contracts in September 1994<sup>160</sup> and may list one on shares of United States and other non-Australian issues. This is an important development inasmuch as the creation of a futures market in individual stocks of United States companies outside the United States, when prohibited within the United States, could have significant international competitive ramifications.

#### F. Summary

Securing permission to trade a stock index futures contract on an industry sector or a foreign country's equities is a daunting project. The SEC exerts powerful restraints on the expansion of products by futures exchanges while permitting options exchanges, regulated by the SEC, to offer options on narrowly based sector indices and foreign equity indices with a small number of issues.

Both the regulatory and competitive rationales for the uneven treatment of futures and options exchanges has evaporated. A complementary relationship has grown up between the options and futures markets. They have recognized their mutual interests and created cross-margining systems to facilitate hedging and arbitrage transactions. They have developed cross-market surveillance systems to protect the markets. The time has come for the regulators to drop the artificial barriers.

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<sup>157</sup> 7 U.S.C. § 2a (1982) (CFTC jurisdiction limited to designation based on "a group or index of securities").

<sup>158</sup> In Australia, the futures market is regulated by the SFE and the ASC. Australian Corporations Law, ch. 8 *cited in* SFE Bulletin (Sydney Futures Exchange Ltd.) July-Aug. 1994.

<sup>159</sup> SFE BULLETIN (Sydney Futures Exchange Ltd.), July-Aug. 1994 at 2.

<sup>160</sup> The companies underlying these four new contracts are MIM Holdings, Western Mining Corp., BTR Nylex, and Westpak Bank.

## **IX. CONCLUSION**

Stock index futures and options have revolutionized the way stock markets around the world operate. Due to their versatility and efficiency, they have been a positive and dynamic force in promoting the growth and liquidity of the underlying stock markets.

These versatile instruments have promoted the internationalization of the equity markets and have allowed international investors access to certain markets where the use of the underlying market is often impeded by regulatory or operational issues. We can expect to see continued growth in the number of countries where these products are traded, growth in the overall volumes, and continued innovation in their use. It is critical that the regulatory scheme in the United States recognizes this trend and provides a framework which allows these markets to grow and prosper.