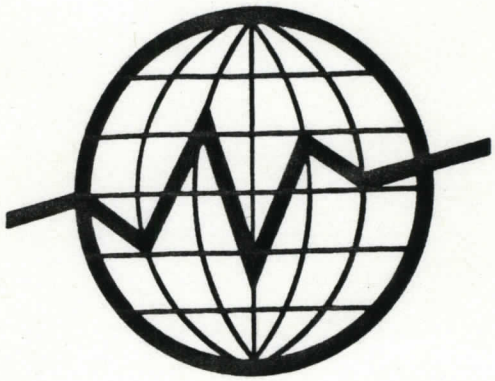
COORDINATION BETWEEN CASH AND DERIVATIVE MARKETS



INTERNATIONAL ORGANIZATION OF SECURITIES COMMISSIONS

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REPORT OF THE TECHNICAL COMMITTEE

ON

CONTRACT DESIGN OF DERIVATIVE PRODUCTS ON STOCK INDICES

AND

MEASURES TO MINIMIZE MARKET DISRUPTION

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INTRODUCTION

The Working Party on the Regulation of Secondary Markets was established in November 1990 by the Technical Committee of IOSCO. The Technical Committee mandated the Working Party to consider "Coordination Between Cash and Derivative Markets" and "Screen-Based Trading" in March 1991. At the Technical Committee meeting in September 1991, "Transparency" was added to the Terms of Reference of the Working Party. The list of members of the Working Party is published in the Annex.

The coordination between cash and derivative markets was reviewed by selecting specific questions of policy measures related to coordination and by reaching agreements on these different subjects. The paper on "Contract Design of Derivative Products on Stock Indices" was approved by the Technical Committee at its Geneva meeting in January 1992, and the paper on "Measures to Minimize Market Disruption" was approved by the Technical Committee at its Quebec meeting in July 1992. The Working Party will continue to consider specific policy measures related to the coordination between cash and derivative markets.

With the rapid development of derivative markets, coordination between cash and derivative markets has become increasingly important, not only at the domestic level, but also at the international level. The Technical Committee believes that the two papers agreed upon are highly constructive and very useful for regulatory authorities and markets in the course of proper supervision or operation of cash and derivative markets.

CONTRACT DESIGN OF DERIVATIVE PRODUCTS ON STOCK INDICES

Background

In recent years a variety of derivative products based on stock indices have developed worldwide, and will continue to be developed in the future. It is important to ensure that the design of such derivative products, both in relation to the composition of the index and the contract specification, does not impair orderly pricing in either the cash or derivative market and is appropriate to avoid the risk of disruption, including manipulation, in both markets.

In the U.S., in order to address such concerns regarding futures and options on futures, the CFTC, in the first instance is required to judge whether the underlying index meets the following requirements before it (subject to a contrary determination by the SEC) approves the introduction of the trading in such products:

i. settlement of or delivery on such contract is effected in cash or by means other than the transfer or receipt of the securities;

ii. the index is predominantly composed of the securities of unaffiliated issuers and is a widely published measure of, and reflects the market for all publicly traded equity or debt securities or a substantial segment thereof; and

iii. the trading in the futures contracts based on such index is not readily susceptible to manipulation of the prices of such contract or the price of any underlying security.

A similar analysis is applied by the SEC in evaluating stock index options.

In France, a new derivative product may not be introduced on the MATIF until the COB has expressed its opinion on the product. While examining the new contract, the COB investigates whether or not this product might exert a disruptive influence on the cash market. The COB is a member of a panel which has responsibility for determining when a component stock should be replaced and by what alternative stock.

In Japan, the MOF has the authority to approve the listing of stock index derivative products on exchanges. Prior to such approval, the MOF examines the product design in terms of the susceptibility to manipulation and the extent of influence on the cash market.

In the U.K., the composition of the FT-SE 100 is determined by a steering committee comprising representatives from the exchanges and senior practitioners. The steering committee has developed and operates guidelines for the composition of the index.

One method of minimizing disruption in either market is through contract specification. For example, in the U.S. and Japan, a "special quotation" is used as the settlement price for certain stock index futures contracts. (In addition, in the U.S. a closing quotation is used as the settlement price for other stock index futures contracts.) A similar system is adopted in France.

U.K. provisions include extending the period during which the settlement price for futures and options is determined from the cash market index values.

Other countries have introduced similar criteria and procedures in introducing new derivative products.

Contract Design of Derivative Products on Stock Indices

The needs of both investors and markets should be taken into account when a new derivative product is introduced. For stock index futures, regulatory authorities and/or exchanges also need to examine the appropriateness of product design to ensure that such design does not impair orderly pricing in either the cash or derivative market and is appropriate to avoid the risk of disruption, including manipulation, in those markets. In such examination, they need to consider whether the underlying index addresses the points specified below. Although these points should be taken into account in the design of all indices, the application of any particular point may vary depending on whether the index is broad- or narrow-based.

i. The Method of Calculation

Whether the index is calculated in an appropriate way including the weight given to component stocks so that the price movements of a few particular component stocks do not exert undue influence on the movement of the index. In addition, the index calculation formula should be available to the public.

ii. The Number of Component Stocks

Whether the index is composed of a sufficient number of stocks of non-affiliated issuers so that the price movements of a few particular component stocks do not exert undue influence on the movement of the index.

iii. The Liquidity of Component Stocks

While there may be great differences in the liquidity of component stocks, whether each component stock has sufficient liquidity so that the trading of such stock does not exert undue influence on the movement of the index.

iv. The Dispersion of Component Stocks Within a Business Sector or Across Sectors

Whether the component stocks are broadly based so that the price movement of the stocks belonging to a certain business sector does not exert undue influence on the movement of the index.

v. The Replacement of Component Stocks

Whether there is a non-arbitrary and well publicized procedure for reconsideration of the appropriateness of continuing to include component stocks, either on a regular basis or as occasion demands.

vi. The Selection of Component Stocks

In order to prevent the index from being unduly influenced by price movements of particular component stocks, whether such stocks are selected in full consideration of items (i) through (iv) above.

vii. Clearance and Settlement

Whether the procedures for clearance and settlement are prudentially designed and interact effectively with the cash market.

In examining contract design, information exchange, discussion and cooperation between and/or among the regulatory authorities, the exchange(s) on which the derivative product trades and the underlying cash markets are valuable.

In addition it is necessary to pay attention to the fact that derivative products based on foreign stock indices are traded in some countries. In light of these circumstances, international cooperation of regulatory authorities and related cash and derivative markets by means of information exchange and discussion are valuable in order not to impair orderly pricing in either the cash or derivative market and to avoid the risk of disruption, including manipulation, in both markets.

MEASURES TO MINIMIZE MARKET DISRUPTION

Background

At the time of the 1987 market crash, attention was directed to the issue of the relationship between cash and derivative markets. On the one hand, it was argued by some that the disconnection between the two markets at critical times resulted in free-falls in the two markets, and that the lack of policy measures for coordination between the two markets accelerated the price declines in both markets.

On the other hand, it was argued by others that the speed of the market declines was unaffected by the lack of such policy measures and that trading in the futures markets actually stabilized the cash markets.

Notwithstanding the divergence of views, the experience of the 1987 market crash has highlighted that the cash and the derivative markets should be considered as "one market" economically, and focused regulators' attention on the proper role for coordination of supervision of the cash and the derivative markets. Specifically, attention has been focused on the development of measures to minimize market disruption. In addressing this issue, this paper focuses on circuit breakers, price limits and the need for open and timely communication among relevant regulators and markets.

In this paper, market disruption can be defined as the effects of large, rapid market declines that threaten to create panic conditions, or disorderly market conditions, [see Brady Report (January 1988), Interim Report of the Working Group on Financial Markets (May 1988) and OECD Report ("Systematic Risks in Securities Markets", February 1991)].

Current Measures to Minimize Market Disruption

Circuit Breakers

Circuit breakers are essentially a trading halt in the cash market, and a corresponding trading halt in the derivative markets triggered by the halt in the cash market, all of which are effected based on substantial movements in a broad market indicator. Following the October 1987 market crash, a system of coordinated trading halts and reopenings was instituted in the U.S. All of the stock and futures exchanges have adopted these circuit

breakers in order to deal with large, rapid market declines which could potentially create panic conditions. Three other jurisdictions which have implemented circuit breakers are France, Switzerland and Quebec, Canada.

It has been argued that circuit breakers have the following advantages:

- They provide a "time out" to calm down frenetic trading and also to assess market participants' financial capacity; and

- They facilitate price discovery by providing a "time out" to pause, evaluate and publicize order imbalances to attract counter orders working as a cushion against excessive volatility in the market.

On the other hand, it has been argued that circuit breakers have the following disadvantages:

- They affect investors' trading strategies for risk management;

- They deprive investors of transaction opportunities, thereby shutting the exit from the market;

- They have some adverse impact on price discovery;

- They increase the divergence between stock prices and stock index futures prices; and

- They drive concerned investors to alternative markets that do not implement circuit breakers or alternative instruments.

Because circuit breakers have only been implemented over the past few years and have been triggered infrequently, it is difficult to determine whether circuit breakers are either effective or beneficial to the market. In the OECD Report, the following four propositions were agreed upon. First, circuit breakers of one form or another only come into play when a disorderly market has already arisen. Second, they can in some circumstances be helpful in moderating that disorder. Third, the procedures for reopening as well as closing markets have to be carefully considered. But, fourth, especially in an era of expanding international trading, it would be wrong to presume that their availability could guarantee the containment of systemic contagion in a major market crisis.

Shock Absorbers

In the U.S., securities markets also have implemented intermediate measures, or so called "speed bumps" or "shock absorbers", to slow securities trading when markets experience significant volatility. The New York Stock Exchange's ("NYSE") Rule 80A provides that when the Dow Jones Industrial Average Index ("DJIA") moves up (down) 50 points or more, all index arbitrage orders to buy (sell) component stocks in the S&P 500 index on the NYSE may only be executed on a minus (plus) or zero-minus (zero-plus) tick (Up-tick and Down-tick rule).

Several U.S. futures exchanges also have adopted "shock absorbers" or "speed bumps" which are also intended to slow down, but not to halt, stock index futures trading. These less restrictive trading rules consist of temporary and maximum daily price limits on the price movements at levels much narrower than circuit breaker levels. These include opening price limits for stock index futures traded at the Chicago Mercantile Exchange ("CME") or the New York Futures Exchange ("NYFE") which are set at the equivalent of 40 DJIA points and which are effectively in place only for the first ten minutes of trading; interim price decline limits set at 100 DJIA points for stock index futures traded at the CME, Chicago Board of Trade ("CBT") and the NYFE; and maximum daily price limits of 160 DJIA equivalent points for stock index futures traded at the CME, CBT, and Kansas City Board of Trade.

Price Limits

In Japan, special quotes and daily price limits are implemented in cash and derivative markets. The quote is used when there is a major order imbalance. And a special quote, keeping orders unmatched temporarily, is publicly disseminated to enable market participants to respond to order imbalances, and to prevent drastic price volatility. The price limit prevents excessive daily swings in prices by setting acceptable daily price ranges. Coordination of trading halts in cash markets and derivative markets can also be made flexibly in Japan since both markets share information very frequently and are under the administration of one regulatory body.

In France, daily price limits are also implemented in cash and derivative markets. Securities traded on the French markets are divided into three categories according to the number and volume of daily transactions and price limits vary according to the category to which the security belongs. For instance, for the more liquid category, when the price movement of a security exceeds 10% from the quoted price at the close of the previous market day, quotation is suspended for 15 minutes. After 15 minutes, transactions begin again. If the price then goes up or down by more than 5%, transactions are again suspended

for 15 minutes. The 5% threshold may apply once more before transactions are halted for the rest of the day. When transactions are suspended in the cash market on a given security, due to undue price movement, transactions on the option based on the underlying security are also suspended. Further, when more than 35% of the capitalization of the CAC-40 Index is unable to be quoted, the calculation of the CAC-40 Index is suspended and the index is replaced by a trend indicator. When less than 25% of the capitalization of the CAC-40 Index is able to be quoted, quotations on the derivative markets are suspended for half an hour or one hour when additional margin deposits are requested. Other jurisdictions, such as Germany and Italy, also implement price limits (in the case of Germany only in the cash market).

Not all markets use circuit breakers or price limits to address large, rapid declines. At least one jurisdiction, the U.K., operates neither circuit breakers nor price limits because they believe that market makers adequately adjust stock prices at the time of market disruption and therefore that a "time-out" is not necessary. In the U.K., the exchange may determine that a market movement is so sharp that quotes cannot practically be kept current; under its Fast Market Rule it may permit market makers to trade outside quoted ranges where updating quotes is deemed impractical.

Open and Timely Communication

Regulators recognize the importance of information sharing as a means of facilitating regulatory decision making during periods of large, rapid price declines. Such communications and related arrangements increase visibility to regulators of firms most at risk due to market events, highlight possible clearing and settlement problems and increase information flows regarding payment system demands. These arrangements also facilitate surveillance of derivative and cash markets and facilitate decision processes concerning what measures to take. In particular, increased communication and access to relevant information can assist in ensuring that regulatory responses do not exacerbate the situation because they are based on inadequate information.

Coordination Between Cash and Derivative Markets

The foregoing differences in approaches to circuit breakers and price limits demonstrate that, in establishing such measures, regulatory authorities and markets should take into consideration their unique market circumstances, mechanisms of trading, and legal and market customs and practices. However, with the rapid growth of derivative markets in recent years, and the concomitant arbitrage with cash markets, it is difficult in some cases to prevent market disruption through regulatory measures in only the cash or derivative market.

Therefore, regulatory authorities should keep pursuing desirable, coordinated measures between the cash and the derivative markets to minimize the effects of potential market disruption based on recognition that cash and derivative markets are one market from an economic point of view. When pursuing such measures, it is important for regulatory authorities and markets to review experiences of other jurisdictions which already have coordination measures in place between cash and derivative markets.

International Coordination

In recent years, with the liberalization and internationalization of capital markets and liberalization of capital mobilization, the world's stock markets have become increasingly linked through the cross-listing of stocks and the development of derivative products based on foreign stock markets. It can be said that the world's stock markets have become increasingly interdependent with each other.

When considering measures to minimize disruptions, regulatory authorities and markets should be mindful of the interdependence of the world's securities markets.

Therefore, regulatory authorities and markets should make efforts to achieve international consultation and coordination of policy measures in anticipation of occasional large, rapid price movements. Specifically, the market trading derivative products based on foreign cash markets, should coordinate, to the extent possible (consistent with the public interest, such as the protection of investors and the maintenance of fair and orderly markets) with the measures taken by the underlying stock markets so as not to reduce the effect of the measures, and vice versa.

Proposal for Future Work

Regulatory authorities and markets should make substantial efforts to maintain and enhance lines of communication among themselves, both at the domestic and international levels, in order to minimize the effects of potential market disruption. To that end, it would be valuable for regulatory authorities and markets to enhance mechanisms for facilitating open and timely communication among themselves. The Working Party proposes to consider and seek agreement on principles applicable to such mechanisms and to consider such principles and related issues. This Working Party will take into account and not duplicate the work done by the Working Party on Exchange of Information and Enforcement.

Off-exchange trading is a concern in some jurisdictions, since it may not be subject to the same regulatory regime as exchange trading. This matter is not addressed in this paper and may require further study.

Annex

WORKING PARTY PARTICIPANTS[1]

Chairman: Securities Bureau of the Ministry of Finance, Japan
Shokichi Takagi (Director of Secondary Market Division)
Shigeki Morinobu (Director for International Affairs)

Participants:

Australia
Australian Securities Commission
Charles M. Williams
Peter Clark

France
Commission des opérations de bourse
Didier Davydoff
Anne-Lise Bapst
Benedicte Doumayrou

Germany
Deutsche Bundesbank
Kurt Seiferth
Federation of the German Stock Exchanges
Christian Bunsen
Michael Redtke
Federal Ministry of Finance
Georg Wittich

Italy
Commissione Nazionale per le Società e la Borsa
Giuseppe Zadra
Alberto Cybo-Ottone
Paolo Mammola

Japan
Securities Bureau of the Ministry of Finance
Masamichi Kono
Yasufumi Takahashi
Shigeyoshi Fujiwara
Yoshimasa Oba

Quebec
Commission des valeurs mobilières du Québec
Guy Lemoine
Jacynthe Hotte
Joëlle St-Arnault
Marie-Noëlle Bérubé

Spain
Comisión Nacional del Mercado de Valores
Sebastian Ubiria
Francisco de Vera
Eudald Canadell
Aynoa Zulaica
Antonio Mas

Switzerland
The Commission for Regulation, Association of Swiss Exchanges
Alain Hirsch
Swiss Options and Financial Futures Exchange
Otto E. Nageli

The Netherlands
Securities Board of The Netherlands
Bert Canneman
Cor-Jan Dasselaar

United Kingdom
Securities and Investments Board
Richard Britton
Angela Jameson
Kathleen Tyson
London Stock Exchange
Sheila Nicol

United States
Commodity Futures Trading Commission
William P. Albrecht
Andrea M. Corcoran
Jane C. Kang
Corinne Brofman
Securities and Exchange Commission
Brandon Becker
Alden S. Adkins
Eugene A. Lopez

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[1] Participants at the time the Report was prepared.