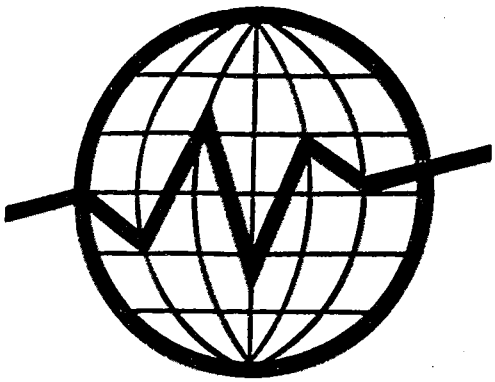
REPORT OF THE DEVELOPMENT COMMITTEE TASK FORCE ON DERIVATIVES



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INTRODUCTION

This report of the Task Force on Derivatives is a result of the formation of the Working Group on Derivatives by the IOSCO Development Committee in October 1992.[1] This, in turn, was the result of the rapid growth of derivatives markets in many countries in recent years and a growing international awareness of the importance of derivatives for price discovery, hedging, and as an integral part of today's international financial system.[2]

The Working Group began its work by sending a questionnaire on the status of derivatives markets to each member of the Development Committee in the spring of 1993. The chairman of the Working Group then formed the Task Force to assist the Working Group in the next stages of its work, namely the development of case studies and the preparation of a report based on the case studies. After evaluating the responses to the questionnaire, the Task Force and Working Group invited members of the Development Committee to submit case studies on the development or potential development of derivatives markets in their countries.

Thirteen countries which have recently developed derivatives exchanges or intend to do so submitted case studies. This report briefly summarizes the facts reported in the studies. It then presents the Task Force's observations on what the case studies reveal about the process of developing derivatives *exchanges*. Over-the-counter derivative products, while an important aspect of financial markets, are not the subject of this report.

The purpose of this report is to use the case studies as the basis for identifying some factors which inhibit and some which encourage the development of derivatives markets. It attempts to identify a few simple principles and emphasizes the iterative and country-specific process of developing market infrastructure. These relationships and principles are generally consistent with what we on the Task Force have learned from our own experiences in a variety of financial markets.

The case studies and our experience have helped us identify certain possible relationships among economic, political, financial, legal, and regulatory factors and the growth of financial markets in general and derivatives markets in particular. More importantly, they have taught us that there is no unique path to success. Clearly, any business undertaking must generate enough revenue to cover its costs, and it can only operate when the legal system permits it to operate. There is, however, no specific set of factors which fulfills these conditions.

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[1]The members of the Task Force are listed in Appendix III.

[2]Appendix I contains a discussion of the uses and functions of derivatives markets. It is part of an International Finance Corporation study entitled "Emerging Futures and Options Markets: An Overview of Issues and Prospects for Developing Countries". It was written by Steven Schoenfeld, a member of the Task Force, and some of his IFC colleagues.

There is no set of factors or conditions which guarantees success in establishing derivatives exchanges. The best we can say is that the presence of certain factors increases the probability that a successful exchange will be developed. They need not all be present, but--if none of them is--success is unlikely.

OVERVIEW OF CASE STUDIES

Case studies were received from twelve IOSCO members and one non-member. The members are Argentina, Brazil, Chile, China-Taipei, Colombia, Hungary, Kenya, Mexico, Singapore, South Africa, Thailand, and Turkey; the non-member is China. The studies represent markets in various stages of development. Brazil and Singapore have well-developed derivatives exchanges in which there is considerable international participation. South Africa and Hungary have relatively developed domestic exchanges with relatively little international participation. (Hungary also provides an interesting example of the growth of a futures exchange in a country which has only recently adopted a market-based economy.) Argentina and Chile have futures exchanges with low volume and little or no international participation. China has a number of new futures exchanges, but they are still low volume, domestic markets. Furthermore, many of them more closely resemble forward markets than futures exchanges. In the remaining six countries, there are no derivatives exchanges, but there are plans, hopes or expectations for their development.[3]

The case studies were prepared following guidelines which listed a number of economic, financial, legal and regulatory questions or factors which could have some impact on the development of derivative markets.[4] Respondents were also asked to identify those factors which they believed had facilitated or hindered such development or were likely to have such impacts in their own countries. A wide variety of responses was received.

ECONOMIC CONDITIONS

Economic conditions in the countries providing case studies reflect this variety. There is a wide range of GDP and GDP per capita. Some economies are growing rapidly; others are not. Some have very high inflation; others have stable prices. In some countries unemployment is high; in others it is low. Some countries have high budget deficits; others do not. In some countries, the government plays a major role in setting interest rates, exchange rates and/or commodity prices; in others it does not. In short, there is no consistent economic pattern which can be identified in countries with derivatives exchanges or in those countries which are planning such institutions.[5]

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[3]Several countries reported that they have active over-the-counter derivative markets, but--as mentioned above--this report does not address this aspect of derivatives.

[4]The guidelines are in Appendix II.

[5]It should be noted, however, that successful derivatives products exist only for those products whose prices are not controlled.

FINANCIAL INFRASTRUCTURE

Each country submitting a case study indicates the existence of a domestic stock exchange, a clearing and settlement system for the exchange and a banking system which can support the clearing and settlement system. There are also brokers, dealers and other intermediaries. Countries with successful derivatives exchanges generally have well developed financial infrastructures. The other countries generally indicate the need to further develop some elements of their financial infrastructure in order to support derivatives exchanges.

LEGAL AND REGULATORY FRAMEWORK

Since all the case studies are from countries with stock exchanges, they all have a legal system which permits exchanges to exist--although not necessarily for derivatives. Countries with derivatives exchanges generally have had regulatory agencies or authorities in place prior to the establishment of the exchanges. These agencies vary in structure and authority. In the case of Hungary, the futures and options exchange operated for several years without a specific regulatory framework or a specific regulatory agency for derivatives. Those countries without futures and options exchanges generally indicate the need for additional laws in this area in order to authorize the trading of derivatives and to clarify what is and is not permitted. These countries also indicate the need to establish regulatory systems for derivatives.

MARKET STRUCTURE

Market structure entails such considerations as the method of trading (open outcry vs. electronic), relationship between the derivative and cash markets, number of exchanges, and the organization of the exchanges. None of the countries submitting case studies reported the use of screen based trading, perhaps because of cost and technological constraints. In countries with functioning derivatives exchanges, the cash market for the underlying instruments typically developed prior to the derivatives markets except in Hungary and China, where cash markets are fairly new. Since the case study guidelines did not address exchange organization, little information on this aspect of market structure was reported.

TIMING OF MARKET DEVELOPMENT

Most derivatives markets have developed after the cash market for the underlying product has been well established. In countries which have until recently had planned economies, however, futures markets are seen as a way of helping develop the cash markets. Some countries indicate that the government or regulatory authority has a program for gradual development of a futures exchange and gradual opening of the market to full international participation. In the two countries with the largest derivatives exchanges, Singapore and Brazil, the pace of development was fairly rapid. In Singapore,

the derivatives exchange appears to have developed as a direct result of governmental plans. In Brazil, this was not the case.

Some of the case studies indicate expectations by the government that derivatives exchanges will develop and that the government will play some role in promoting this development and in its timing. This role is somewhat vaguely defined in some instances, particularly with respect to the separate functions of market regulation and market promotion.

KNOWLEDGE OF DERIVATIVES

The case studies were prepared by individuals who are well aware of the uses and benefits of derivatives. In most countries without derivatives exchanges, however, the studies indicated that many of the potential users and some of the relevant governmental authorities were not fully aware of these benefits.

WHY DEVELOP DERIVATIVES EXCHANGES?

All those preparing case studies were asked to explain what purposes they believed are served or would be served by developing futures and options exchanges. As part of this explanation they were asked to address the question of who are the users and potential users of these markets.

PURPOSES

Capital market development and development of the cash market were the most frequently mentioned benefits to be derived from derivatives markets. Hedging was the next most cited reason for having such markets. Some respondents also indicated that price discovery and providing business opportunities to domestic firms were among the anticipated benefits. In countries which until recently had planned economies, price discovery was especially important.

USERS

All respondents indicated a wide range of users or potential users of derivatives markets. As noted above, however, many of the potential users are not fully aware of the benefits of derivatives. All respondents stated that international participation is desired.

FACTORS AFFECTING THE DEVELOPMENT OF DERIVATIVES EXCHANGES

As stated in the Introduction, this report does not attempt to define those conditions which are necessary and/or sufficient for the successful development of a derivatives market. It would, of course, be improper to use thirteen case studies as a basis for deriving firm conclusions about such conditions. It is not, however, primarily

the limited number of case studies which prevents us from doing this. The fundamental reason is that it is unlikely that there is a full set of principles which has universal applicability. The Task Force believes that market development is more a matter of understanding *why* markets work than it is of learning and copying *how* they work in more advanced countries.

In this section, we identify some relationships and factors which appear to be important in encouraging the development of derivatives markets. We reiterate our previous statement that the presence or absence of any one of these factors will not guarantee either success of failure, but that the presence of certain factors increases the probability of success. Similarly, if none of these factors is present, the probability of success is very low.

ECONOMIC CONDITIONS

Most countries with successful futures and options exchanges have a relatively high GDP and relatively stable economies (low or moderate inflation). Such conditions would seem to be conducive to the development of almost any market. Derivatives markets, however, exist because there is instability in the prices of the underlying products even if the overall price level is relatively stable. Certainly, there would be no reason to have derivatives for products whose price is controlled by the government. Moreover, at least one country (Brazil) with a very high rate of inflation has a very successful futures exchange. In fact, the high demand for its interest rate contract is to a large extent a direct result of the volatile inflation rate in Brazil. Thus, although low inflation is clearly desirable for a variety of reasons, it is not a necessary condition for successful development of a derivatives market.

An economy with high income obviously can support more types of markets than one with low income, but GDP is not the only measure of the potential for the development of derivatives markets. An exchange which attracts international or regional participation may succeed even if there is not enough domestic participation to support the exchange. A country with a low GDP but a large agricultural sector may be able to have a successful domestic commodities exchange if it can attract a broad range of users (hedgers and speculators). On the other hand, GDP is often a useful proxy for the institutional capacity or infrastructure which facilitates the development and operation of derivatives markets.

The Task Force believes that the most important economic consideration is that the development of a derivatives exchange *must make business sense.* There must be effective demand for its services (a broad range of users). There must also be the ability to supply the services in a cost effective manner (able to withstand both domestic and international competition). These are clearly necessary conditions for the success of any private economic enterprise. For a financial enterprise, such as an exchange, the extent to which these conditions are present depends in part upon the financial infrastructure.

FINANCIAL INFRASTRUCTURE

A nation with a well-developed financial infrastructure should be in a better position to develop derivatives exchanges than one without such a system. Nevertheless, the development of at least parts of this infrastructure can be part of the development of the exchanges. In fact, the promise of futures and options markets may serve as the impetus for developing or improving the banking, clearing and settlement systems. It may also provide incentives for developing the group of financial intermediaries needed to have a modern financial system. The items listed below are especially important elements of the financial infrastructure.

Clearing and Settlement System

All exchange-traded futures and options use a clearing house to settle all transactions. The existence of a clearing house means that individual customers do not need to worry about the ability or willingness of counterparties to honor their financial obligations. Instead, the clearing house ensures the completion of both sides of the transaction. In order for a clearing and settlement system to exist, for it to be able to fulfill its obligations, and for customers to have confidence in it, several conditions must be met. These include the existence of a margining system and a system for ensuring that payments are made in a timely fashion by and to the members of the clearing system. Generally, this requires close coordination with the banking system.

Personnel

An important aspect of the financial infrastructure is well-trained financial professionals. In addition to those who take customer orders and those who execute orders, there must be qualified personnel to perform all the back office tasks such as clearing and settlement, compliance, and product development. Formal training programs are needed, but much of the learning comes from direct market experience.

International Participation

One of the important considerations in building a financial infrastructure is international participation. Foreign financial institutions can help in this regard, but there may be domestic reasons for controlling foreign entry into the market as suppliers of financial services. There would seem to be less compelling domestic reasons for limiting foreign firms' usage of derivatives markets.

The emergence of new futures and options markets comes during a period of rapid globalization and integration of financial markets. Thus, any plan to develop a new market should consider the extent to which it will be a part of, and will be affected by, the international financial system. Integration should be evaluated from two perspectives: the degree of participation by international traders and the degree of participation of domestic market users in other foreign markets.

Financial Integrity

An essential characteristic of a successful exchange is its financial integrity. The structure of the exchange and the supporting financial infrastructure must lead market users to believe in this integrity. As a derivatives exchange grows and becomes an important part of the domestic and international financial system, the importance of maintaining a high level of financial integrity grows. The impact of the failure of an important financial institution to meet its obligations can be substantial. Not only will its own clients and customers be affected, but there can be systemic effects.

There are, therefore, two aspects of financial integrity. One is that firms must be strong enough to warrant customer business. The other is that the clearinghouse system must be strong enough to protect the strong members from the weak ones. All of the items discussed above, clearing and settlement, personnel, and international participation, affect both aspects of financial integrity--as does the legal and regulatory framework.

LEGAL AND REGULATORY FRAMEWORK

If there is one necessary condition for the development of derivatives exchanges, it is that this *activity must be permitted by law and derivatives contracts must be legally enforceable*. In some jurisdictions, it will be necessary to enact statutes that make explicit that derivatives transactions are legal.

All jurisdictions with futures exchanges or with plans for them also impose or intend to impose some governmental regulation on them. The generally accepted goals of this regulation are market integrity, financial integrity, and customer protection. Regulation requires rules designed to achieve these goals. These rules govern exchange membership, exchange trading, clearing and settlement, and the activities of financial intermediaries. Some of these rules are imposed by government regulators. Others will be imposed by self regulatory organizations such as the exchanges themselves.

One of the most important regulatory issues is the extent to which a governmental regulatory agency directly regulates market participants rather than relying on self-regulation with governmental oversight. The public typically wants some governmental oversight, and there are numerous instances in which self-regulation has not worked as well as it should have. It should, nevertheless, be recognized that exchanges and other financial intermediaries have strong incentives to impose the rules they deem necessary for efficient and successful operation. They realize that the success of their business depends to a large extent upon their reputation for financial integrity, market integrity, and fair treatment of customers. Additionally, exchanges and financial intermediaries typically have the information necessary to devise cost-effective rules for achieving these regulatory goals.

Regardless of the extent to which self-regulation is used, it is important that the relationship between self-regulatory organizations, the governmental regulatory agency and other market participants be clearly defined. This includes the governmental agency's authority to oversee the self-regulatory organization, the agency's authority over other market participants and the extent to which both self-regulatory organizations and governmental agencies have joint authority over other market participants. It is also important that all other relevant aspects of the legal system, such as the laws governing bankruptcy, be examined for their compatibility with the derivatives regulatory system.

There is no one set of rules and no one regulatory structure which are essential to be a successful exchange, but *clarity of the rules and certainty as to their applicability are among the most important aspects of a successful derivatives exchange.* Those interested in establishing exchanges should do their utmost to ensure that all market participants are able to know and understand these rules. Efficient rules and an efficient division of regulatory responsibility between self-regulators and governmental regulators can lead to inefficient results unless all market participants know the rules and are confident that they will be applied evenly.

Derivatives are risk shifting instruments. They exist because price and interest and exchange rate risk exists and they help firms, individuals, and governments manage risk. Properly functioning derivatives markets will reduce the level of risk faced by many market participants. This basic function of derivatives must be remembered when establishing a regulatory framework for them. In other words, the purpose of regulation should be to permit the operation of an efficient and fair system of risk-shifting, not to eliminate risk.

Strong and efficient regulation is not the same as protecting market participants against their own mistakes or even bad luck. It is ensuring that the rules of the market are designed to promote market integrity, financial integrity and customer protection, that these rules are evenly applied, and that all market participants have a full and equal opportunity to know the rules.

MARKET STRUCTURE

Perhaps the most frequently asked question in the area of market structure is whether a new exchange should use open outcry or electronic trading. This, however, is not the most important issue in market structure or development. Nor will the answer necessarily be the same for all markets, because of the varying abilities of different potential exchanges to meet the capital and technological requirements for electronic trading. More generally, an exchange must be able to survive in the environment in which it is operating. This environment includes the state of development of the underlying cash market, the linkages with this market, the type of competition the exchange will face, the type of market participation anticipated, the availability of risk capital, the nature of potential market-makers, and the strength of the financial infrastructure. Issues such as

these should be addressed before turning to the question of the appropriate method of trading.

Specific market structure issues include whether a derivatives exchange should be part of the exchange for the underlying product (in the case of equity derivatives in particular) or whether it should be a separate entity. Most successful derivatives exchanges are separate entities, but there are advantages and disadvantages to both approaches. There is also the question of the type of organization of the exchange. Most exchanges are membership organizations. They are owned and managed by their members, but other forms of organization, such as a for-profit corporation, are possible.

All futures exchanges have had to adapt to a changing environment. They have had to address such issues as an expanded trading day, growing international participation, and a rapidly changing technology. Exchanges which continue to rely on open outcry are no exception. Open outcry trading markets today use very different technologies for many functions, such as order transmittal and record-keeping, than they did a few years ago. This is simply one example of a fundamental fact about markets, and financial markets in particular. *The efficient market structure is a moving target.* It varies from country to country and from market to market within that country. It can also change very quickly. Those planning to enter the market must be prepared to be flexible.

KNOWLEDGE OF DERIVATIVES

No market can survive unless there are enough customers who are aware of the benefits of the products offered in the market. Derivatives are no exception. Additionally, if those responsible for legal and regulatory oversight are not convinced that the products benefit society, they are likely to impose inappropriate or unnecessary regulation on the derivatives market. In most countries without derivatives exchanges, this knowledge and awareness is lacking. Accordingly, the development of derivatives markets would be aided by programs which educate potential market users and relevant government officials on the benefits and risks of using derivatives. Successful exchanges have generally devoted significant resources to such an endeavor.

TIMING OF MARKET DEVELOPMENT

There appears to be no prescription for timing market development. Cash markets usually precede derivatives, but derivatives can help in the development of the cash market. Markets can develop in accordance with a government plan or by themselves. There are some benefits from phasing in the various stages of market development, but the downside is that markets may go elsewhere as a result.

THE ROLE OF IOSCO AND OTHER INTERNATIONAL ORGANIZATIONS

IOSCO can play an important role in the development of derivatives markets by facilitating education and training and the exchange of information concerning market

development. One way in which it can do this is to act as a clearing house for requests for information and training. The International Finance Corporation and the World Bank, both represented on this Task Force, also are able and willing to provide such a service, as are many other members of the Task Force. The names of the contact person at each organization that is currently ready to supply such assistance are listed in Appendix IV.

CONCLUSION

Derivatives exchanges can be developed in a variety of ways and in a variety of forms, but they will be successful only if the conditions necessary for a successful business are present. These include broad and sufficient demand for the product and cost effectiveness. They also include adequate financial infrastructure and market structure.

Futures and options markets must operate in a legal environment which permits derivatives. A variety of regulatory and self regulatory structures are possible. Different sets of rules can be equally effective, but they should be aimed at achieving market integrity, financial integrity, and customer protection. These rules must be clear to market participants.

APPENDIX I

THE USES AND ECONOMIC FUNCTIONS OF DERIVATIVES MARKETS

I - THE USES AND ECONOMIC FUNCTIONS OF DERIVATIVES MARKETS

The Growth of Derivative Activity

The rising importance of risk management techniques using derivative instruments is a result of global economic and financial integration combined with increasing volatility in financial markets. The collapse of the Bretton Woods system and the advent of floating exchanges rates set into motion unprecedented volatility in exchange rates.[6] This condition has persisted for more than twenty years. The dramatic interest rate fluctuations of the 1970's and the 1980s evidence greater levels of volatility than occurred immediately prior to the market disruption of 1929. Inflation and recessions have similarly affected commodity prices, stock markets and interest rates.

This increased international market volatility led to a wider use of derivative instruments to help manage associated financial risks. Risk management is the central focus of derivative activity, reducing the exposure of the market participant to a number of specific risks. These include, but are not limited to, movements in commodity prices, exchange rates, interest rates and equity prices and the various cross relationships among them. New futures contracts are also being introduced for agricultural inputs (such as fertilizers) and some manufacturing by-products (such as pollution rights). Indeed, derivatives have been referred to as "a basic cog in the global economy and one of the most incredible growth industries ever."[7] At the end of 1991, the notional outstanding amount of all global derivatives, on both organized exchanges and OTC markets, was measured at US$10 trillion.[8] Totaling only US$3 billion in notional principal in 1982, the market for swaps, the most common form of derivative, has risen over 1,200-fold in ten years.[9]

Derivatives allow parties (the "end-users") to hedge risk in a manner much more closely resembling the actual risk that they are willing to assume than was ever possible with ordinary securities. "A derivative which rises in value when cattle prices increase can protect McDonalds' hamburger profits, just as one which rises in value when cattle prices go down affords protection to a cattle rancher."[10]

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[6]Jack D. Glen, How Firms in Developing Countries Manage Risk, International Financial Corporation, Discussion Paper Number 17, (Washington DC.: The World Bank, 1993), 1.

[7]Barnaby J. Feder, "Chicago's Exchanges Look Toward Electronic Salvation," New York Times, 29 November 1992, 5(F).

[8]Eli M. Remolona, "The Recent Growth of Financial Derivative Markets," Federal Reserve Bank of New York Quarterly Review 28 (1993).

[9]Scot Tucker, Interest Rate Swaps and the 1990 Amendments to the United States Bankruptcy Code: A Measure of Certainty Within Swap Market Contracts, Utah Law Review 581, 586 (1991) 3.

[10]Adam R. Waldman, OTC Derivatives: Walking the Highwire Without a "Net"? 3 American University Law Review 43 (1994).

As J. Carter Beese, Jr., A U.S. Securities and Exchange Commissioner whose work has involved the derivatives markets for a number of years, recently noted:

> The products allow investors to disaggregate risk, bear those risks they can manage, and transfer those they are unwilling to bear. More and more multinational corporations find that they can't do business without the protection derivatives offer from interest rate, raw material and currency fluctuations. Derivatives essentially allow them to hedge their ancillary risks and thus focus more of their attention on their primary business.[11]

Prior to the use of derivative products, financial institutions were limited to varying their mix of assets and liabilities for risk management. For example, in order to reduce exposure to rising interest rates, an institution might have adjusted the liability side of its balance sheet by replacing short-term borrowings with long-term borrowings. It could also have adjusted the asset side of its balance sheet by replacing long-term fixed-rate assets with shorter-term or variable-rate assets. By using derivatives, the institution can adjust its risk by entering into off-balance-sheet transactions such as interest rate swaps, Eurodollar futures, or treasury bond options.

Defining Derivatives

Traditionally, securities have been classified as either equities or bonds. Both represent standard methods for companies to raise funds in the financial markets and are referred to as primary types of investments. Stocks are equity ownership investments which entitle their buyers to a share of a company's assets. Bonds are loan instruments which entitle their buyers to the repayment of both the original sum as well as interest on that sum. Other financial instruments, which are not securities, also have an important impact on economies.

Derivatives are financial vehicles based on, or derived from, financial assets, commodities or indexes. Derivatives are often categorized according to the nature of the underlying assets or indexes from which they derive their value, whether they be debt, equity or commodity-based. Derivative products are also categorized by the type of derivative, such as futures, swaps, options, forwards or some combination of these contracts. This categorization can also be extended to refer to more complex instruments, such as reverse floating rate notes (inverse floaters) and look back options.

Some derivative products, such as options on equities, can be standardized products traded on options exchanges; an individual can easily purchase them through a broker. Like the purchase of shares of stock on an exchange, the end-user need not worry

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[11] J. Carter Beese, Jr., "Risk Management in an International Context: Lessons From the Past," Remarks at SOFFEX--Five Years in the Financial Arena (4 June 1993)(unpublished manuscript, on file with Securities and Exchange Commission).

about who is on the other side of the transaction. For instance, all futures and listed options contracts traded in the U.S. are cleared through clearing houses that become the buyer to every seller and the seller to every buyer. This study focuses on exchange-listed derivatives and their potential as risk management instruments for emerging markets, and primarily deals with the variety of market development issues which should be considered in establishing such markets.

An alternative market is the over-the-counter or OTC derivatives market. Usually, sophisticated end-users such as corporations and sovereign entities use the OTC market. In this market, end-users negotiate directly with relevant departments of industrial corporations, various financial institutions or, most frequently, money center banks. There are currently no clearinghouse arrangements in this market, consequently, the end-user must be confident that the dealer and counter-party are creditworthy and will honor their contractual commitments. Examples of instruments traded on the OTC market include currency, interest rate and equity swaps which are often customized to suit the needs of individual investors.

Generally, derivative instruments fall into two broad types, forward-type contracts and option-type contracts. Most other types of derivatives are created using one or a combination of these types of instruments. Forward-type contracts fix the price of the underlying asset. One party agrees to sell and the other party agrees to buy a fixed amount of a particular commodity, currency or other financial instrument asset at a specified price at a specified future time. Normally, no money changes hands until the delivery date and neither party pays any fee,

An option-type contract provides price insurance by giving the owner of the contract the right, but not the obligation, to buy or sell an asset as a specified price. The buyer of the contract pays a fee, the option price or premium, in order to hold the contract. Options can be used to protect buyers from adverse swings in the price of the underlying asset. The buyer can never lose more than the price paid for the option, but in some positions (e.g., uncovered calls) the option seller's losses are potentially unlimited.

Almost all derivative products, even the most complex, are constructed using either option-like or forward-like instruments or some combination of the two.

Futures

A futures contract is an agreement to purchase or sell a given asset at a future date at a present price. Contract terms are highly standardized, and profits and losses are settled daily. Margin (or collateral) is required at the initiation of a transaction.

Exchange-traded futures are a form of forward contracts where the exchange or clearing house acts as counter-party to both buyer and seller. Payment is guaranteed in case either party defaults. In fact, once the transaction has been agreed upon between

buyer and seller, the clearing house intercedes and becomes the buyer to the seller and the seller to the buyer. This guarantees the prompt fulfillment of both parties' obligations and makes it unnecessary for market participants to verify the credit-worthiness of their counterpart. Buyer and seller are required to put up collateral, or margin, equal to a certain percentage of the contract's underlying value which is marked-to-market daily.

Formal futures trading in its modern form has existed since the mid-nineteenth century and was focused primarily in the United States. However, the idea of future transactions existed informally long before that as forward contracts. As noted above, forward contracts are agreements whereby buyer and seller agree on the terms of a contract, including the price, which will be executed at a specified future date. Futures contracts are essentially the same, but they have several additional characteristics; these are: standardized contract sizes; standardized delivery and expiration dates; and standardized minimum price fluctuations. They also trade on an organized, regulated exchange. Unlike forward contracts, however, parties to a futures contract generally do not intend to take delivery and enter into the contract to hedge other commitments or to speculate on anticipated price changes.

Options

In exchange for a premium, an option contract gives the right, but not the obligation, to buy or sell the underlying asset at a price within a specific period or on a specific date at the price stipulated in the option contract (the strike price). The seller cannot refuse compliance if the buyer chooses to exercise the option. Buyers of call options for example benefit from favorable movements in the price of the underlying asset but are not exposed to corresponding losses. Put options give the buyer of the option the right to sell, call options give the buyer of the option the right to buy. Some options permit the buyer to buy/sell up to the expiration date (American-style options), others only at the expiration date (European-style options).

Due, in part, to their asymmetrical return patterns, options can be combined in numerous ways to create a virtually infinite number of structures and strategies. Options embedded in interest bearing notes, known as structured notes, are one such popular use. Option combinations can produce various trading strategies such as "straddles" and "butterflies" which are combination trades of put and call options which provide users with customized risk/return profiles. Futures exchanges tend to trade options where the deliverable instrument is a futures contract, commonly known as "options on futures" or "futures options". Options traded at stock exchanges, in contrast, tend to be "cash options," where the physical stock, commodity, or cash differential is delivered at expiration.

Assets and Instruments Traded

Very broadly defined, there are two types of underlying assets upon which derivatives are traded on futures and option exchanges. The first comprises commodities,

the second financial instruments. More narrowly defined, there are myriad asset classes within the financial instrument category. These include foreign currencies, stocks, short-term interest rates, treasury bills and bonds.

The origin of futures trading goes pack to 1730, during the Edo period of Japanese history (1600-1867). During this time, feudal lords established warehouses to store and sell rice which was paid to them as land tax. The first organized futures exchange was the Dojima Rice Market which the lords established to protect themselves from price fluctuations between harvests.[12]

In 1848, modern commodities futures and options exchanges originated in the United States with the establishment of the Chicago Board of Trade (CBT) in Chicago. The CBT was formed, by a group of 82 men representing broad business interests, to facilitate trade in grain. It was not until 1865, however, that the CBT developed standardized agreements called futures contracts and initiated a margining system to eliminate the risk of buyers and sellers not fulfilling their obligations.

Financial futures and options contracts were first listed during the 1970s when the collapse of the Bretton Woods system led to an unprecedented increase in financial market volatility. Today, these include three general types of listed contracts: interest rate contracts, foreign exchange contracts and stock index contracts.

Currency futures allow a buyer to hedge against fluctuating exchange rates by locking-in a price at which the currency can be exchanged at a specific date. Foreign exchange futures trade on most of the world's major currencies against the U.S. Dollar, as well as against numerous cross-rates.

Interest rate futures in many developed markets now span much of the yield curve spectrum, from short- to long-term. These contracts allow a buyer to hedge against sudden interest rate changes by locking-in a certain interest price for the period of the contract. Short-term contracts include time deposits and treasury bills, while long-term contracts include treasury notes and government bonds.

Stock index futures, introduced in the early 1980s, are contracts to buy or sell the current face value of a stock index at a future date.

> Before the introduction of stock index futures, investors who wished to trade on broad market movements had to buy and sell large portfolios of stocks. The transaction costs of such strategies were extremely high and execution was slow. Now, investors can carry out the same trades in the stock index futures market with a single transaction. Institutional investors have come to rely on stock index

[12]Leo Melamed, Forward, in Keith Park and Steven Schoenfeld, The Pacific Rim Futures and Options Markets (Chicago: Probus Publishing Company, 1992) , viii.

futures to hedge their portfolios and to allocate their assets among different asset classes.[13]

Options exist on interest rates, exchange rates, individual stocks, stock indexes and commodity and financial futures contracts.

Economic Role of Derivatives and Futures & Options Markets

Derivatives have tended to be controversial in many parts of the world because of the widespread belief that derivative markets are dominated by speculative activities which threaten the soundness of the financial system as a whole. It is also believed that derivative markets are subject to manipulation.[14] While these criticisms are addressed elsewhere in this study, in brief, education of derivative users within a proper regulatory framework can greatly reduce such concerns. More importantly, however, derivatives offer at least four important benefits to users, to financial markets and to overall economies. These functions and benefits are defined below.

Risk Transfer

One of the primary economic functions of derivatives is the transfer of market risk, that is, the risk of an adverse change in the price of an asset or portfolio of assets. Derivatives improve economic efficiency by permitting users to identify, isolate, and manage separately the fundamental price risks inherent in individual financial dealings. A party exposed to an unwanted risk can pass that risk onto another party better able to bear that risk. While derivatives efficiently transfer price risk, they can create other risks. In addition, OTC derivative end-users and dealers are exposed to credit risk. It should be noted that in recent years, financial market regulators have enhanced cooperative efforts to address fears that derivatives markets expose the global financial system to additional systemic risk. Systemic risk, especially with regard to OTC derivatives, falls outside the scope of this study, but these concerns have been extensively discussed in several important documents. Recent studies which elaborate on the risks of derivatives, both on and off exchange, include those by the Group of Thirty (G-30), the Commodity Futures Trading Commission (CFTC), the Bank of England and the Bank for International Settlements (BIS).[15]

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[13]Daniel and Diane Siegel, The Futures Markets (Chicago: Probus Publishing Company, 1990), 153.

[14]Robert J. Mackay, "Efficient Regulation of Futures Markets: Private Contract, Self-Regulation and Oversight," Budapest Commodity Exchange Project 2000, a report by The Chicago Mercantile Exchange and The Chicago Board of Trade as commissioned by the U.S. State Department, Trade and Development Program, 1.

[15]Global Derivatives Study Group of the Group of Thirty, "Derivatives: Practices and Principles," July 1993. Commodity Futures Trading Commission, "OTC Derivative Markets and Their Regulations," October 1993. Bank of England, "Report of an Internal Working Group," April 1993. Bank for International Settlements," Report on Recent Developments in International Interbank Relations," 1992.

This risk transfer function can, for example, enhance the ability of financial institutions to serve their customers' needs. Derivatives can make it easier for lending institutions to offer borrowers the types of loans they want. The 30-year fixed-rate mortgage is a case in point. Many borrowers prefer 30-year fixed-rate mortgages to 15-year or adjustable-rate mortgages. However, the 30-year fixed-rate mortgage carries considerably greater interest rate risk to lending institutions--particularly in an environment of interest rate volatility. Derivatives enable lenders to cope better with the risks of holding fixed-rate mortgages by enabling them to hedge their market exposure using treasury bond futures or options, and therefore transferring some of the risk to others.

Price Discovery

Price discovery is the process of arriving at the price at which one person will buy and the other will sell. When futures markets are deep and when they are subject to competitive prices, the prices discovered on the futures exchanges are considered to be accurate reflections of the supply of, and demand for, a commodity. Because the prices discovered on the exchanges are published in the financial media, every producer, trader, and other market participant knows what prices to expect in the cash market. The price discovery process can be negatively affected, however, when a few market participants account for a substantially larger amount of business than other participants.

There are several conditions that should be met in order for buyers and sellers to have confidence in using futures for price discovery. Among these conditions are the following:

a) The contracts traded on futures and options exchanges must be in conformity with conditions in the underlying physical market, and limit the possibilities for price distortion.

b) The commodity exchange market place needs to be reliable. Reliability is ensured through the clearing house and regulatory system, both of which increase the costs of use of the market and impose conditions on users such as their being able to meet financial standards and reporting requirements.

c) Futures and options contracts must be traded on liquid markets, i.e., markets where users can easily find a counterpart to their transactions. In this regard, users with non-hedge-related interests are needed as the volume of hedge-related business alone is not always sufficient to ensure market liquidity. However, futures and options contracts are representative price discovery mechanisms only if participation in the commodity exchange is balanced between hedgers and speculators.

d) Futures and options trading must be transparent to limit the possibility of market distortions.[16]

Transaction Integrity

In some economies with underdeveloped legal and commercial infrastructures, commodities and futures exchanges can play an important role as credit intermediaries, therefore stimulating exchange and market-based price formation. Even in the developed world, many financial institutions use established futures exchanges because of the credit integrity which exchange clearing houses provide. Thus, the financial strength of exchanges themselves should be an important area of focus of the international financial community.

Users of Futures and Options Markets

There are many different users of futures and options markets, with diverse objectives and time horizons. The broad and active participation of these different users creates the liquidity essential for successful listed derivatives products.

The overlapping categories of users can be broadly categorized as commercial users, professional users, and speculators. They include producers, consumers, processors/fabricators, trade houses, brokerage companies, banks, managed derivatives funds, institutional investors, professional traders and arbitrageurs, and individual speculators, both on the floor ("locals") and retail customers. These classifications are not mutually-exclusive, as professional users might take speculative positions, speculators might temporarily hedge certain positions with off-setting derivative transactions, and commercial users occasionally "overhedge", and therefore speculate.

Commercial Users

Commercial users of futures and options include participants in the underlying cash markets (commodity or financial) who use derivatives to hedge market exposure, allocate assets, or otherwise better conduct their primary business strategy. For example, an investment bank with a corporate bond underwriting commitment could use 10-year Treasury Note futures to hedge against adverse market movements during the offering period. Similarly, a gold production company could use the options market to hedge its inventory of mined and unmined gold against falling prices, thus ensuring more stable cash flows. An equity fund manager who has just received a cash inflow which needs to be invested can efficiently acquire exposure to the market by buying stock index futures prior to investing in individual stocks. These three examples all share the key distinction of commercial users of futures and options; they participate in the markets to offset or avoid price risk.

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[16]United Nations Conference on Trade and Development (UNCTAD) Secretariat, Technical and Regulatory Conditions Influencing Participation in, and Usage of, Commodity Exchanges by Both Buyers and Sellers of Commodities, UNCTAD/COM/16, 22 April 1993, 9.

Professional Users

This category includes brokerage firms, market-making firms and arbitrage operations. It is distinguished from commercial users in that participation in the derivatives market is the primary business activity of such institutions. This category is distinguished from speculators in that professional users tend to avoid market price risks, and primarily attempt to participate either as intermediaries for commission, or traders for the profits of market-making or arbitrage. In the course of their business. professional users are frequently exposed to basis risk, sometimes exposed to price risk, and sometimes take speculative positions, but their primary activity remains based on executing multiple transactions.

These professional users add liquidity to the market by attracting and executing customer orders, and improve the efficiency of the markets through competitive market making and cash/futures and intra-market arbitrage.

Speculators

This category includes all participants who engage in futures and options trading in order to profit from price movements. This category encompasses managed futures funds, large and small retail customers of brokerage houses, proprietary trading desks of banks and investment banks, and individual traders on exchange floors, commonly referred to as "locals".

Because speculators take market risk positions, speculation is part of a well-functioning and efficient futures and options market. A speculator in a futures market trades with the objective of achieving profits through the successful anticipation of price movements. The time horizons of speculators differ greatly from hedgers, other commercial users and professional users, and therefore tend to act as a bridge between large market users and other market users with different time horizons. Thus, speculation is a necessary component since speculators add liquidity to the market and, therefore, add to market efficiency.

In an emerging market context, the creation of listed futures and options markets can help channel speculative activity (which may be focused on individual stocks and bonds, real estate, money and currency markets, or precious metals) into organized and regulated exchange activity. This can help institutionalize speculative activity, by creating greater liquidity for all market participants, and thus mobilizing speculative funds for the benefit of the economy as a whole.

APPENDIX II

GUIDELINES FOR CASE STUDIES

GUIDELINES FOR CASE STUDIES

A. BACKGROUND

1. Describe the macroeconomic situation in your country.
    a. per capita GDP
    b. rate of growth of GDP
    c. unemployment
    d. inflation
    e. government budget deficit

2. Describe the role of government in determining the following:
    a. interest rates
    b. exchange rate
    c. foreign investment
    d. commodity prices

3. Describe the legal framework in your country and how it facilitates or inhibits the development of derivatives markets.
    a. What changes, if any, are needed in order to have a derivatives market or to encourage the growth of the existing market?
    b. Are tax changes needed?

B. MARKET INFRASTRUCTURE

1. Describe the capital market in your country.
    a. banking system
    b. stock exchanges
    c. regulation of capital markets

2. Describe the clearing and settlement system.
    a. planned changes, if any

3. Describe the system of brokers/dealers or other intermediaries who do or could participate in derivatives markets.

C. OBJECTIVES

1. What are (or were) the objectives to be achieved in developing a derivatives market in your country?
   a. price discovery
   b. hedging
   c. facilitate development of cash market
   d. contribute to development of capital market
   e. provide business opportunities to domestic financial firms

2. Who are the users or potential users of these markets?

3. Is international participation desired?

D. REGULATORY SYSTEM

1. Describe the existing regulation, if any, of derivatives in your country.
   a. regulatory agency
   b. role of self-regulatory agencies
   c. goals of regulation
   d. brief description of major rules

2. What regulatory changes, if any, are planned?

E. CURRENT STATUS OF DERIVATIVES MARKETS

1. What is the status of derivative products and markets in your country?
   a. over-the-counter products
   b. exchanges and products traded on exchanges
   c. history of these markets and products
   d. Who uses these markets and products?
   e. Who can use them?

F. GENERAL

1. What are the major factors which have contributed or could contribute to the successful development of derivatives markets in your country?

2. What are the major factors inhibiting the development of derivatives markets in your country?

3. What lessons for other countries, if any, can be drawn from your country's experiences?

4. What role can IOSCO play in the development and regulation of derivatives markets in emerging capital markets

APPENDIX III

THE TASK FORCE ON DERIVATIVES

THE TASK FORCE ON DERIVATIVES

William P. Albrecht, Chairman	Professor of Economics, The University of Iowa
Yaman Asikoglu	President, Capital Market Board of Turkey
Alger B. Chapman	Chairman, Chicago Board Options Exchange
Chung-Hsing Chen	General Counsel, Securities and Exchange Commission (China-Taipei)
Andrea Corcoran	Director, Division of Trading and Markets, Commodity Futures Trading Commission (US)
Thomas E. Kilcollin	Executive Vice President, Chicago Mercantile Exchange
Jacques Loubert	Secretary General, Conseil du Marche a Terme (France)
Gary Perlin	Director, Financial Sector Development, World Bank
Mary Schapiro	Commissioner, Securities and Exchange Commission, (US)
Steven A. Schoenfeld	Investment Officer, Capital Markets, International Finance Corporation
Paul Thompson	Senior Executive, Securities and Investments Board (UK)
Prasarn Trairatvorakul	Deputy Secretary General, Securities and Exchange Commission (Thailand)
Barbara Wierzynski	Vice President and General Counsel, Futures Industry Association

APPENDIX IV

PERSONS TO BE CONTACTED FOR TECHNICAL ASSISTANCE

PERSONS TO BE CONTACTED FOR TECHNICAL ASSISTANCE

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