

ПОЛЗИТЕ ОТ ФИНАНСОВИТЕ ДЕРИВАТИ
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BENEFITS OF FINANCIAL DERIVATIVES
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Abstract

This paper presents an aggregated picture of financial derivatives industry activity, illustrating key trends, speculation, hedging and risk management. Derivatives are financial contracts that are designed to create market price exposure to changes in an underlying commodity, assets or event. The use of derivative instruments in corporate risk management has grown rapidly in recent years, caused partly by financial deregulation and partly by the success of the financial industry in designing a great variety of OTC and exchange-traded contracts.

The innovation and growth of derivative instruments was the result of satisfaction of demand of market players for a means to hedge price risk. Derivatives have become an integral part of the financial markets because they can serve several economic functions. Derivatives can serve as investment vehicles and can provide a way to make bets that are highly leveraged and tailored to a specific view.

Key words: *financial derivatives, speculation, hedging & risk management.*

JEL Codes: *E44, G1, G18*

INTRODUCTION

Market deregulation, increasing global trade, continued technological development and introduction of sophisticated technology has modernized the financial market. Today's sophisticated international markets have helped foster the

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rapid growth in derivative instruments. Derivatives have been associated with a number of high-profile corporate events that roiled the global financial markets over the past three decades.

A derivative is defined by the BIS (1995) as “a contract whose value depends on the price of underlying assets, but which does not require any investment of principal in those assets. Derivatives are financial instruments that do not confer ownership, but rather a promise of ownership. There are three basic kinds of derivative securities: forwards and futures; swaps; and options but today there is a large number of derivatives that were developed from this basic types.

Adding some of the wide variety of derivative instruments available to a traditional portfolio of investments can provide global diversification in financial instruments and currencies, help hedge against inflation and deflation, and generate returns that are not correlated with more traditional investments. The two most widely recognized benefits attributed to derivative instruments are price discovery and risk management. Although the primary function of derivatives is to mitigate the risks, on the financial market many investors use these instruments for speculative activities in order to make profits.

The striking growth of financial derivatives suggests that market participants find them to be useful tools for risk management. Derivatives first emerged as hedging devices against fluctuations in commodity prices and commodity linked derivatives and were the sole forms of such products for a long time, they were replicated for financial instruments as well in the post-1970 period due to growing instability in the financial markets.

Derivatives can be used for risk reduction and efficient portfolio management. The key starting point is to establish an appropriate overlay strategy defining its objectives, the associated cost and benefits as well as key risks. In order to make money with many derivatives, investors must accurately predict the direction in which the market or index will move and the minimum magnitude of the move during a set period of time. A mistake here almost guarantees a substantial investment loss.

METHODOLOGY

In the research and development of this paper a combination of qualitative and quantitative methodology has been implemented. To achieve the object of this paper, the financial derivatives data has been collected. At first, historical and comparative data are involved. The secondary information is mostly from websites,

books, journals, etc. Also, a lot of facts and data from foreign recent financial derivatives and risk management literature are taken into consideration.

LITERATURE REVIEW

Financial derivatives have become increasingly important players in financial system. This importance has spawned a large academic literature focused on issues pertinent to financial derivatives, risk management, hedging and speculation. De Marzo and Duffie [1995] explore the incentives of managers to undertake hedging activities. They demonstrate that due to the risk – adverse characteristics of managers, they are motivated to disclose hedging information on the basis of their career concerns. Investors believe current market price exceeds managers' assessments of the true price when the offering of common stock is announced.

Bose, Suchismita conducted research on [2006] found that Derivatives products provide certain important economic benefits such as risk management or redistribution of risk away from risk-averse investors towards those more willing and able to bear risk.

Derivatives are divided into three groups of instruments: futures/forwards, options and swaps. According Simon Vine [2005], the main difference between financial derivatives is that the future and option are quoted on exchanges, and the forwards and swaps in the interbank market (over the counter market – OTC). The exchange-traded derivatives' markets satisfy all requirements of transparency, liquidity and risk monitoring and are looked at and controlled by the Exchange Trade Authority and the Clearing House [BIS, 1995].

Part of the reason for the success of financial derivatives is that they provide opportunities for hedging, speculation and arbitrage. From the viewpoint of economic theory, derivatives can be beneficial by "completing the market" and by helping ameliorate the effect of asymmetric information [Sanjeev Arora, 2012]. Financial risk management using derivatives is the subject to numerous case studies on international level that focus on microeconomic sphere. The calculation and estimation vary from author to author, and distribution channels impact financial results. Presented below are a couple of case studies regarding the results if using derivatives to hedge or not on firm's risk.

In 1999, Wayne R. Guay examines in his paper derivatives' roles in firms initiating derivatives use. The results are consistent with firms using derivatives to hedge, and not to increase, entity risk. Firm risk, measured using several methods

declines following derivatives use. Faseruk and Mishra [2008] examine the impact of US dollar exchange rate risk on the value of Canadian non-financial firms.

In 1999, Wayne R. Guay examines in his paper derivatives' roles in firms initiating derivatives use. The results are consistent with firms using derivatives to hedge, and not to increase, entity risk. Firm risk, measured using several methods declines following derivatives use. Realized risk reductions and decisions to initiate derivatives programs vary across firms with the expected benefits from hedging. The findings emphasize the importance of hedge accounting rules that incorporate the impact of derivatives and hedged items simultaneously.

On their journey of innovation, derivatives have often been held to be too complex to understand. Policy makers around the world are now having a relook as the problems being posed by derivatives viz. lack of homogeneous rules and accounting standards; the excessive freedom allowed to market players to innovate and the lack of complete statistics for exchange-traded and OTC transactions [Dr. Teena Shivnani, Vrinda Goel, 2014].

ANALYSIS AND DISCUSSION

1. FINANCIAL DERIVATIVES INDUSTRY

The derivatives market is, in a word, gigantic, often estimated at more than \$1.2 quadrillion. Some market analysts estimate the derivatives market at more than 10 times the size of the total world gross domestic product, or GDP. The derivative market can seem like a world unto itself. The market is so large and so different from the other markets that it has its own language.

The market can be divided into two, that for exchange-traded derivatives and that for over-the-counter derivatives. The defining feature of the exchange traded derivatives is that they are standardized contracts. Each contract will have a fixed expiration date; each contract will be for the same amount of quantity. Another prominent feature of centralized exchanges is information transparency which makes it possible to obtain invaluable data on the commitment of traders. Trading volume, open interest, as well as the ratio of longs to shorts, divided between commercial and non-commercial entities, provides a very good perspective of the market's overall position and profile. In contrast, OTC market data such as prices and other trading information is not made freely available to the public and can only be estimated through surveys conducted by the Bank of International Settlements.

In exchange-traded markets, derivatives contracts are standardised with specific delivery or settlement terms. Electronic trading system has become increasingly popular in many major exchanges. The exchange traded derivatives provide another major advantage. In case of exchange traded derivatives, neither party is directly facing a counterparty risk. This is because neither party is actually directly dealing with the other party. Exchange-traded derivative trades are publicly reported and cleared in a clearing house. The clearing house will be obliged to honour the trade if the seller defaults. The solvency of the clearing house was protected by marking all positions to market daily through a system of margins. The primary objective of futures market is to provide a facility for hedging against market risk. Derivatives exchanges serve three important economic purposes: risk shifting, price discovery, and enhancing efficiency by providing a focal point where buyers and sellers can easily meet. None of these purposes can be properly served if prices on the exchanges do not accurately reflect the forces of supply and demand. One of the distinctive features of a centralized derivatives exchange is that the exchange (or the exchange's clearinghouse) acts as a counterparty to every trade. Thus, those who use the exchange do not have to worry about the creditworthiness of the counterparties to their trades.

Table 1. Exchange-traded future, by location of exchange
Notional principal, in billions of US dollars

Instrument, location of exchange/market risk category/maturity	Open interest			
	Dec 2015	Mar 2016	Jun 2016	Sep 2016
FUTURES				
ALL MARKETS	25,054	25,443	25,203	27,888
-Interest rate	24,817	25,213	24,983	27,654
Short - term	23,276	23,591	23,298	25,871
Long - term	1,541	1,622	1,685	1,783
-Foreign exchange	237	230	220	234
NORTH AMERICA				
- Interest rate	15,501	15,653	16,031	18,489
Short - term	14,648	14,767	15,098	17,515
Long - term	853	886	933	974
- Foreign exchange	143	130	135	144

EUROPE	7,033	7,083	6,403	6,634
- Interest rate	7,033	7,078	6,399	6,6285
Short - term	6,575	6,576	5,886	6,052
Long - term	459	503	513	577
- Foreign exchange	4	4	5	5
ASIA AND PACIFIC	1,578	1,762	1,660	1,688
- Interest rate	1,562	1,743	1,638	1,663
Short - term	1,337	1,514	1,404	1,436
Long - term	225	229	234	227
- Foreign exchange	16	19	22	25
OTHER MARKETS	795	814	974	936
- Interest rate	720	738	915	874
Short - term	716	734	909	869
Long - term	4	4	5	5
- Foreign exchange	75	75	59	60

Source: <http://www.bis.org/statistics/derstats.htm> (Updated January, 2017).

By contrast, derivative trades in OTC markets are bilateral in nature. All contract terms such as delivery quality, quantity, location, date and prices are negotiable between the two parties. Transactions can be arranged by telephone or other communication means. Prices are not reported publicly.

Futures contracts and options are mostly traded on the stock exchange while forward contracts, swaps and various types of options are traded in OTC markets between financial institutions and their corporate clients.

Table 2. Exchange-traded options, by location of exchange

Notional principal, in billions of US dollars

Instrument, location of exchange/market risk category/maturity	Open interest			
	Dec 2015	Mar 2016		
OPTIONS				
ALL MARKETS	38,392	47,564	42,497	38,914
-Interest rate	38,261	47,410	42,342	38,776

Short - term	37,828	46,892	33,098	31,534
Long - term	433	519	400	355
-Foreign exchange	131	153	91	71
NORTH AMERICA	26,735	35,621	33,588	31,960
- Interest rate	26,669	35,538	33,497	31,889
Short - term	26,413	35,210	33,098	31,534
Long - term	256	328	400	355
- Foreign exchange	66	83	91	71
EUROPE	11,450	11,636	8,496	6,550
- Interest rate	11,447	11,634	8,494	6,548
Short - term	11,282	11,454	8,311	6,369
Long - term	165	180	183	179
- Foreign exchange	3	2	2	2
ASIA AND PACIFIC	14	13	22	22
- Interest rate	11	11	19	18
Short - term	-	-	2	-
Long - term	11	10	17	18
- Foreign exchange	2	2	3	4
OTHER MARKETS	194	294	391	382
- Interest rate	134	227	331	320
Short - term	133	227	331	320
Long - term	0	0	0	0
- Foreign exchange	60	66	60	62

Source: <http://www.bis.org/statistics/derstats.htm> (Updated January 2017).

Participants in derivatives markets are often classified as either “hedgers” or “speculators”. Hedgers enter a derivative contract to protect against adverse changes in the values of their assets or liabilities. Specifically, hedgers enter a derivative transaction such that a fall in the value of their assets will be compensated by an increase in the value of the derivative contract. Hedger invest on both sides to avoid loss. Most producers and trading companies enter the derivatives markets to shift or reduce the price. A speculator assumes the price risk, hoping to gain risky profits by holding certain positions (long or short). Speculators

are indispensable for the existence of hedging business, and they came into markets as a necessary result of the growth of the hedging business. It is speculators who take over the price risks shifted from the hedgers, and thus become the major bearers of the risks in the derivatives markets. Speculation is an indispensable lubricant in the derivatives markets. Indeed, frequent speculative transactions make hedging strategies workable.

3. FINANCIAL DERIVATIVES AND RISK MANAGEMENT

Because derivatives are a form of insurance or risk management, the cost of trading in them has to be low or investors will not find it economically sound to purchase such "insurance" for their positions.

Risk management is a two-step process - determining what risks exist in an investment and then handling those risks in a way best-suited to investment objectives. Some risks can be easily managed using the element building block derivatives, but other risks require the services of a financial engineer to design a custom solution.

Managing risk is important to a large number of individuals and institutions. The most fundamental aspect of business is a process where we invest, take on risk and in exchange earn a compensatory return. The key to success in this process is to manage your risk return trade-off. One of the most important applications of financial derivatives is to risk management (process of identification, analysis and either acceptance or mitigation of uncertainty in investment decision-making). Risk management is a two-step process - determining what risks exist in an investment and then handling those risks in a way best-suited to investment objectives. Some risks can be easily managed using the element building block derivatives, but other risks require the services of a financial engineer to design a custom solution.

Market risk refers to the sensitivity of an asset or portfolio to overall market price movements such as interest rates, inflation, equities, currency and property. Derivatives can be used for risk reduction and efficient portfolio management. The key starting point is to establish an appropriate overlay strategy defining its objectives, the associated cost and benefits as well as key risks.

Specifically, derivatives can be used as a means of engaging in risk transfer, or the shifting of risk to another firm from the firm whose business creates a natural exposure to that risk. Sometimes derivatives provide a lower-cost way to effect a particular financial transaction and it is sometimes possible to circumvent regulatory restrictions, taxes and accounting rules by trading derivatives, to

ameliorate conflicts of interest between shareholders and bondholders, to improve the co-ordination between financing and investment policy and maximise the value of the manager's wealth portfolio.

Risk management is the art of using lessons from the past to mitigate misfortune and exploit future opportunities—in other words, the art of avoiding the stupid mistakes of yesterday while recognizing that nature can always create new ways for things to go wrong.

Hedging has traditionally been defined as a strategy for reducing the risk in holding a market position while speculation referred to taking a position in the way the markets will move. Today, hedging and speculation strategies, along with derivatives, are useful tools or techniques that enable companies to more effectively manage risk.

Financial derivatives help economic agents to improve their management of market and credit risks. They also foster financial innovation and market developments, increasing the market resilience to shocks. The main challenge to policymakers is to ensure that derivatives transactions being properly traded and prudently supervised. This entails designing regulations and rules that aim to prevent the excessive risk-taking of market participants while not slowing the financial innovation aspect. And it also calls for improved data quantity and quality to enhance the understanding of derivatives markets. In volatile markets, an option can provide leverage, especially when the price of the underlying asset moves in a favourable direction. And speculating lets investors bet on an asset's future price.

Investors typically use derivatives for three reasons: to hedge a position, to increase leverage or to speculate on an asset's movement. Hedging a position is usually done to protect against or insure the risk of an asset. Leverage can be greatly enhanced by using derivatives. Derivatives, specifically options are most valuable in volatile markets. When the price of the underlying asset moves significantly in a favourable direction, then the movement of the option is magnified.

Speculating is a technique when investors bet on the future price of the asset. Because options offer investors the ability to leverage their positions, large speculative plays can be executed at a low cost.

3. LEGAL FRAMEWORKS FOR FINANCIAL DERIVATIVES

The first question that arises is that banks, insurance companies and other financial services companies that offer derivatives are under regulations that mandate them to have minimum capital requirements met. Then why is that more

regulation is required for derivatives markets? There are two primary reasons for this:

- Firstly, the exotic derivatives products that have been created in the recent past do not have any regulation. The regulators were simply not able to foresee such products being created and as such regulation failed to deliver
- Secondly, the minimum capital rules have certain complex provisions which can be circumvented using derivative products like credit default swaps etc.

Therefore, the regulation of derivatives markets in the world is a much needed phenomenon. A nation which intends to have derivatives markets will normally require legislation which addresses several issues. The law should make it clear those derivatives which are in compliance with established regulations are legal instruments. This, in turn, requires legislation which gives a governmental agency the necessary regulatory powers. These include the power to establish regulations, the power to monitor compliance with regulations and the power to enforce regulations.

The biggest challenge facing derivative regulation is the complexity of the products being offered. In most countries where any form of legislation has been enforced on derivatives, it is suboptimal and non-transparent.

Financial derivatives markets conduct their operations within a highly complicated regulatory framework. The Basle Committee on Banking Supervision and the Technical Committee of the International Organization of Securities Commissions (IOSCO) have been working to enhance the prudential supervision of the derivatives operations of banks and securities firms. In July 1994 the Basle Committee and IOSCO jointly released documents providing guidance on the sound risk management of derivatives activities. Since 1995, the two Committees have published yearly surveys of disclosures about the trading and derivatives activities presented in the annual reports of global banks and securities firms. This effort is designed to encourage greater transparency in this important area.

The need for a governmental agency with the authority to regulate derivatives exchanges is almost universally accepted, and all countries with derivatives exchanges have such agencies. The question of regulatory structure, however, also involves questions of the relationship between the governmental agency or agencies and SROs.

CONCLUSION

Derivatives are invented in response to some fundamental changes in the global financial system. They, if properly handled, should help improve the resilience of the system and bring economic benefits to the users. The aim is to minimise the risks associated with such trades while enjoying the benefits they bring to the financial system. An important challenge is to design new rules and regulations to mitigate the risks and to promote transparency by improving the quality and quantity of statistics on derivatives markets.

The lucrative nature of financial derivatives compensation makes entering the industry an attractive proposition for successful money managers. Derivatives play a useful and important role in hedging and risk management, and derivatives markets contribute to the development of the financial infrastructure of a country by providing the links among cash markets, hedgers, and speculators.

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