

Derivatives as a Tool of Risk Management

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“Derivatives are Financial Weapons of Mass Destruction.”
– Warren Buffett, CEO of Berkshire Hathaway

ABSTRACT: *Deregulation of Markets of national economies, growth in the international trade, and ever growing technological changes has revolutionized the financial markets during the past four decades world over. The resultant of this revolution is increased market volatility, which has led to a corresponding increase in demand for risk management products. This demand is reflected in the growth of financial derivatives from the standardized futures and options products of the 1970s to the wide spectrum of over-the-counter (OTC) products offered and sold in the 1990s. The benefits of derivatives are threefold: (i) risk management, (ii) price discovery, and (iii) enhancement of liquidity. Given the seemingly important benefits, why are derivatives, and especially credit derivatives, viewed so negatively in the current financial crisis? The problem is not with the derivatives as an instrument, but with (i) the way they were traded and cleared, and (ii) how they were used by some financial institutions to increase their exposure to certain asset classes. One of the leading investors in the world, Warren Buffet claimed that economic derivatives are so unsafe that they can even be origin for financial disasters by arguing that numerous persons turn to the economic derivatives market to direct them on future funding rather than of observing at the genuine market. Financial derivatives are instrumental in the hedging method because through them, groups can exchange risk. The organizations are learning to cope with a rapidly changing environment with hedging strategies which provide buffers to the bottom line.*

I. INTRODUCTION

“Risk is a condition in which there is a possibility of an adverse deviation from desired outcome that is expected or hoped for.” In most of the risky situations, two elements are commonly found;

- a. The outcome is uncertain i.e. there is a possibility that one or other(s) may occur. Therefore, logically there are at least two possible outcomes for a given situation.
- b. Out of the possible outcomes, one is unfavourable or not liked by the individual or the analyst.

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II. DERIVATIVES

“Derivatives are financial contracts whose value is derived from some underlying asset. These assets can include equities and equity indices, bonds, loans, interest rates, exchange rates, commodities, residential and commercial mortgages, and even catastrophes like earthquakes and hurricanes”. The contracts come in many forms, but the more common ones include options, forwards/futures and swaps.

Companies are exposed to different hazards in their normal day to day operations and when borrowing the capital. For some of the hazards, management can achieve security from an insurance corporation. For instance, management can assure a plant against devastation through fire by getting a fire insurance plan from a casualty and property insurance corporation. But Capital market products which are available to management to secure against different hazards are not insurable through an insurance corporation. These hazards include hazards connected with changes in the price of an input, a reduction in price of a commodity the company sells, an increase in the cost of borrowing investments, and an unfavourable movement of exchange rate (Jana, 2010). The tools that can be applied to present these securities are identified as derivative tools, so called because they obtain their importance from whatever the agreement is based on. These tools comprise futures agreements, forward agreements, alternative agreements, swap contracts, and floor and cap contracts.

It is not an exaggeration to state that a considerable portion of financial innovation over the last 40 years has come from the emergence of derivative markets. EXCHANGE TRADED derivatives are dominated by equity derivatives and commodity derivatives. OTC derivatives are mainly in fixed income and currencies.

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Benefits

- The primary use of derivatives is to hedge one's positions i.e., to reduce or eliminate the risk inherent in commodities, foreign currencies and financial assets. Farmers who want to guarantee the prices of their future crop can sell them at any time in the futures or forward market. Exporters, exposed to foreign exchange risk, can reduce their risk using derivatives (forward, futures, and options). Pension funds who invest in securities can avoid disastrous consequences by buying insurance in the form of put options. The risk management benefits of derivatives are not limited to hedging one's exposure to risk but to a whole spectrum of risk-return combinations which can be achieved using options. For example, these features allow one to protect themselves in extremely volatile times like we are witnessing now.
- Another important benefit is the information that can be extracted from various derivatives. Price discovery is one aspect of it. Some examples include the ABX indices (i.e., portfolio of Collateralized Debt Obligations (CDOs) of subprime mortgages) which were one of the first instruments to provide information to the market on the deteriorating "subprime" securitization market¹ in the USA; exchange traded funds (i.e., ETFs) which provide information on the prices of securities ahead of the stale indexes (e.g., SPY vs. SPX); and option prices on individual equities which reveal private information more quickly into the market². Derivatives also allow market participants to extract forward looking, as opposed to historical, information. For example, it is commonplace now to back out volatility, skewness (e.g., crash risk) and kurtosis (e.g., fat tails) of an underlying asset from option prices on that asset. Such information is used, among others, by central banks in making policy decisions, investors for risk and return decisions on their portfolios and corporations for managing financial risk. Another example is the expected Central bank rate decision obtained from Central Bank Funds Futures.
- An additional positive advantage is the enhancement of liquidity. Adding derivatives to an underlying market has two effects; (i) it brings to the market additional players who use the derivatives as a leveraged substitute to trading the underlying, and (ii) derivatives provide a hedge to market makers allowing a reduction in transactions costs through a lower bid-ask rate. By and large, spot markets with derivatives have more liquidity and thus lower transaction costs than markets without derivatives.

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III. RISK MANAGEMENT

Risk management is one of the responsibilities of management as these risk management shares many features of common management, and yet is unique in several important respects (Barry, Donald and Bankim, 2003). Risk management is the human performance which incorporates identification of hazard, assessment of risk, improving plans to control it, and improvement of risk applying managerial resources (Robert and James, 2009). Risk management is demonstrated as the method of organizing, planning, directing and managing the activities and resources of a company to reduce the unfavourable impact of possible losses at the minimum probable costs.

IV. FINANCIAL RISK

Risk is a possibility in finance, that returns of investment will not be same as anticipated. This shows the probability of losing some or the entire real assets. It is normally estimated through measuring the deviations from the historical returns or normal returns of a particular investment. An important view in economics is the relation between return and risk. The bigger the amount of hazard that a financier is eager to take on, the larger the possible return. The motive for this is that financiers must be rewarded for taking on extra hazard (Patrick and Martin, 2005).

Financial risk is normally described as the unanticipated volatility or variability of returns, and therefore contains both possible worse than anticipated with excellent than anticipated returns. An enquiry into the reason for major losses would show that the losses were not due to derivatives, but the improper use of them by management that was either ignorant about the risks associated with using derivative instruments or management that sought to use them in a speculative manner rather than a means for managing risk.

Another term for speculative purposes is trading purposes. The important reason of these devices is to provide firm promises to charges for futures charges for future date for giving protection against the harmful events in future charges, to reduce the quantum of economic hazards. Not only this, they further provide more opportunities to get profit from earnings for those entrepreneurs who are prepared to take higher risks. In other words, these devices really help to move the risk from those who desire to bypass it to those who are ready to accept the similar. Currently, the economic derivatives have become progressively well liked and most routinely

utilised in the world of economics. This has developed with so phenomenal pace all over the world that currently it is identified as the derivatives rebellion.

V. FINANCIAL DERIVATIVES

Financial derivatives are devices that permit value swaps founded on pre-existing actions. Normally, the proprietor of the genuine supply goes into an affirmation with somebody who will be eager to purchase that supply at an established cost at some time in the future. The last cited is the most widespread pattern of preparation. Though, other affirmations in the market manage exist. The reason of an economic derivative is to give proprietor or buyer influence power of a large supply utilising negligible investment (Robert and James, 2009). On the other hand, occasionally, the asserted allowance selected for the economic derivative can be incorrect i.e. the future can work contrary to the supply owner. In these situations, it would have been sensible to manage with payments other than through the implementation of derivatives.

VI. THE FUNCTIONS OF FINANCIAL DERIVATIVES

Financial derivatives have two important functions. They are:

- Hedging
- Speculation

Financial derivatives are instrumental in the hedging method because through them, groups can exchange risk. Generally, this is likely through the implementation of an inherent asset or a supply that really exists. The inherent asset devotes one group the opening to protect themselves contrary to a promise risk in the future whereas the other party furthermore does the similar.

Taking the example of an electrical power generator and an electrical power distributor; the constructor cannot be certain about the future cost of his service and is thus at risk in the future (Patrick and Martin, 2005). On the other hand, the electrical power vendor cannot be certain about the accessibility of electricity. If these two groups depart their uncertainties to possibility, then they could be susceptible in the future. Although through economic derivatives, it is likely for the electrical power constructor to be certain about the method which he will obtain for his services from the electrical power vendor therefore reducing his hazard. On the other hand, the electrical power vendor is currently certain of the accessibility of electrical power through the economic derivative. Both groups have reduced their risk.

Derivatives are furthermore instrumental in the method of hedging because of the detail that they are rather straightforward in themselves and manage need not elaborate formulations of balance sheet. Derivative goods can be set up despite of the detail that those goods manage not really exist. Normally, in the economic market, derivatives are got from living trading indices (Barry, Donald and Bankim, 2003). This permits an individual or an enterprise the opening of commanding a very large buying into with only a little buying into (this is generally identified the choice margin or premium). Through this conduit of buying into, traders have the opening of hedging themselves contrary to the risk of really buying the future supply utilising their genuine value.

The second ascribe is to consider their function in speculation. Study reveals that large number of traders enlist in speculative dealing of this economic derivatives. Different organisations accept as factual that it can be likely to set up a tendency of how a specific pattern of protection will act in the future. Financers generally call this type of buying as directional playing. It must be documented that speculative dealing is very complex and if one deals badly, it can lead to gigantic losses. There are several matters that financers require to address as managing speculative dealing, they require having oversight on future eventualities, they require to workout excellent judgment on probable economic approach (Christopher, 2004).

Derivatives authorize traders to be adept to obtain payoffs without inevitably putting in too much buying into in the system. Through this conduit of business, it is likely for exact persons to deal supply that they should manage not to have. In spite of all these advantages, economic derivative furthermore arrive with their individual risks (Barry, Donald and Bankim, 2003). For example, since derivatives permit establishment of market cost through provisional entails, this can be upsetting to the market. Economic derivatives can assist in the direction of instability of pre-existing stock.

Derivatives proceed a long way in reducing the rate of instability in any given market. For example, a study undertook through the University of Pennsylvania throughout 2000 to 2001 discovered that most businesses use economic derivatives to reduce risk or hedge their risk. In this study, it was furthermore discovered that 22 per cent of the companies utilising economic derivatives organise to decrease their concern rate exposure through close to 22 per cent (Christopher, 2004). Moreover, five per cent of the businesses decreased the instability of their supply comes back through five percent. A great percentage of the companies utilised were fond of utilising economic derivatives to reduce their foreign exchange hazards. It was discovered that this specific responsibility was decreased through eleven per cent with this approach.

VII. CRITICISM

Financial derivatives permit financiers to invest in large allowances of securities with negligible investment. Whereas this environment can be regarded as a benefit, in certain examples it can become a gigantic loss. For example, it gives a large estimated worth imitating a situation where the respective shareholder will not be adept to reimburse for losses. One of the leading investors in the world, Warren Buffet claimed that economic derivatives are so unsafe that they can even be origin for financial disasters (Stephen, 2007). He clarified this claim by saying that numerous persons turn to the economic derivatives market to direct them on future funding rather than of observing at the genuine market. This can finally lead to market distortions and can be extended to other parties connecting in investments thus financial position of a country can be harshly obstructed.

Financial derivatives can furthermore be awkward in that they give enormous risk to financiers who manage them are not understand their way in this pattern of investment. The similar features which they were presumed to eradicate can become even more additional risk. Normally, inexperienced enterprise individuals can be attracted to economic derivatives because they provide them the opening to get heavy returns for little investments (Robert and James, 2009). As a result, this feature can appeal to large number of financiers even when those financiers have negligible know-how in that pattern of business. The end result of this is that need of market information and little knowledge can lead to bad economic decisions.

How managers of economic risk can apply futures and choices to hedge economic risks?

Futures can be characterised as types of economic derivatives which need one party to buy a granted protection at a particular designated day in the future. One more style of observing at it is through recounting futures as economic devices that need one party to deal their product to another group at a certain repaired cost throughout a set designated day in the future. With this pattern of fee, one can be adept to hedge their enterprises contrary to certain hazards (Gary. et al, 2001). Possibilities conversely mention to economic derivatives that present holders the alternative of buying a repaired allowance of protection or supply at a certain cost throughout a particular designated day in the future. Moreover, choices can permit financiers to deal an identified amount of supply at a particular cost at an exact time in the future. Generally, choices need a pre-existing allowance of supply generally identified the choice premium. Possibilities are helpful as an entails of hedging enterprises contrary to hazard because they influence resources.

VIII. CONCLUSION

Business is all about taking risk. What matters is how the risk is handled. Often, there are so many permutations of risks that can affect the business that it will take away most of the profits if one were to reduce/eliminate all of them. Ultimately, it is the organizational cultural and its appetite for risks that will determine risk management policies. Risk management is an important part of corporate planning; it envisages a systematic approach for identification, measurement and control of a variety of risks faced by an organization. The top management is also becoming more cost conscious and more aware of how should risk management helps to minimize expenses. The organizations are learning to cope with a rapidly changing environment with hedging strategies which provide buffers to the bottom line. Thus the organizations are having many strategies to focus on the managing on the risk that are facing in every way of its business life.

REFERENCES

- [1.] Jana, Schönborn. (2010) Financial Risk Management. Diplomica Verlag. 162-164
- [2.] Charles W. Smithson. (2003) Managing Financial Risk. McGraw-Hill Professional. 216-218
- [3.] Gupta (2008). Financial Instruments Standards. Tata McGraw-Hill. 171-174
- [4.] Christopher L. Culp. (2004) Risk Transfer: Derivatives in Theory and Practice. John Wiley and Sons. 193-197
- [5.] Gary L. Gastineau, Donald J. Smith, Rebecca Todd (2001) Risk Management, Derivatives, and Financial Analysis under SFAS. Wiley-Blackwell. 82-85
- [6.] Gary L. Gastineau, Mark P. Kritzman. (2006) The Dictionary of Financial Risk Management. John Wiley and Sons. 143-146
- [7.] Barry J. Eichengreen, Donald J. Mathieson, Bankim Chadha. (2003) Hedge Funds and Financial Market Dynamics. International Monetary Fund. 161-163
- [8.] Stephen G. Ryan. (2007) Financial Instruments and Institutions. John Wiley and Sons. 121-126
- [9.] Patrick Cusatis, Martin R. Thomas. (2005) Hedging Instruments and Risk Management. McGraw-Hill Professional. 148-151
- [10.] Robert W. Kolb, James A. Overdahl. (2009) Financial Derivatives. John Wiley and Sons. 268-271
- [11.] Verma (2008). Derivatives and Risk Management. Tata McGraw-Hill. 169-173
- [12.] Viral Acharya and Matt Richardson (2009). Restoring Financial Stability: How to Repair a Failed System. John Wiley and Sons. Ch.X.