

Derivative Usage In Corporate Pakistan: A Qualitative Research Of Listed Companies

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ABSTRACT

The motivation behind this study was to see why Pakistani companies are reluctant to use derivative instruments. The study aims to look into factors that influence the corporate finance managers to use derivatives. A structured questionnaire was used to obtain the response of finance managers of companies. The questionnaire aims at ascertaining the factors that influence the usage or non-usage of derivatives in corporate Pakistan. The questionnaire incorporated factors like trend of derivative usage, risk level, awareness with modern finance, correlation between hedging and firm's value, firm's performance and business cycle effect, and correlation between nature of business and financial risk. For this purpose, 67 non-financial firms were selected based on their nature of business, turnover, and risk level. Out of 67, 31 firms responded. We concluded that managerial knowledge of modern finance, development of full fledged derivatives market and measuring the risk level of corporation may enhance the derivative usage thus minimizing the financial risk of companies.

Keywords: Derivatives, Hedging, Forwards, Futures, Swaps, Hedging

INTRODUCTION

Background of the Study

Financial risk management is necessary to save organizations from losses that may occur due to the nature of business. The firms that export their products or import raw materials are more exposed to foreign exchange risk than the firms having only local sales and using domestic raw materials. The volatility of exchange rate may disturb the cash flows of such firms to a marked extent. This calls for measures to minimize the risk of foreign exchange rate volatility. Another important financial risk is interest rate risk. To finance short-term and long-term requirements of business, firms rely on debt financing. Interest rates may fluctuate in the long-run, as well as in short-run. Interest rate volatility may affect the cost of borrowings to a considerable extent, thus impairing the profitability of the corporation. Management strives to minimize the interest rate risk in order to save the organization from havoc of fluctuations in economy.

Derivatives are the financial instruments that derive their value from the value of underlying assets. Derivatives include futures, forwards, swaps and options. Futures are contracts to buy or sell an asset (commodity, currency, stocks etc.) at a predetermined price at some future date. Futures are traded on organized exchanges and standardized contracts. Forwards are non-standardized contracts to buy or sell some asset at a price set now but delivery will be made at some future date. Forwards are not traded on organized exchanges. In Swap parties, exchange loans denominated in foreign currency and pay the interest in local currency. An option is a right, not an obligation to sell or purchase an asset at a price set today (predetermined price).

Derivatives are commonly used by multinational companies for hedging purposes, i.e. to minimize the financial risk. Multinational firms are more exposed to foreign exchange risk than local companies, hedging is of great value to them. Most common usage of derivatives among multinational firms is to minimize the interest rate risk and currency risk.

The use of derivatives for corporate risk management is common in multinational companies. It is believed that hedging increases the firm's value. In the last two decades, a number of studies have examined the risk management practices within nonfinancial companies. For instance, some studies report on the use of derivatives by nonfinancial firms. Yet, another group of researchers has investigated the determinants of corporate hedging policies. These and other studies of similar focus have made important contributions to the literature

Pakistani companies rarely use derivatives to hedge against interest rate risk and currency risk. A question arises why finance managers in Pakistan don't go for derivatives. Are they not risk averse? We need to explore the reasons of less inclination of corporate managers toward hedging and derivative instruments.

The motivation behind this study is to see why Pakistani companies are reluctant to use derivative instruments. The study intends to look into factors that influence corporate finance managers to use hedging against financial risk. This study sheds light on the factors that are instrumental in corporate decision-making about risk management. The results of the research will help unearth the factors for usage or otherwise of derivatives by Pakistani companies. The results will show which type of risk is most common in Pakistani corporations, which need to be managed with the help of derivatives, and how it is being managed currently. The study is likely to open up new avenues of research in the field of risk management with special reference to Pakistan. This study attempts to answer the following questions:

- What is the risk tolerance level of Pakistani firms?
- Are managers following aggressive financing strategies?
- What is the condition of the derivatives market in Pakistan?
- To what extent are derivatives used?
- To what extent managers are motivated to use derivatives for hedging.
- To what extent do firms' characteristics (e.g. size, activity, ownership status, and organizational form) affect the derivatives hedging?
- Is derivatives use for purposes of managing risk, obtaining funding, or investing?
- What are the most common kinds of derivatives instruments used?
- What are the most common types of risks hedged?
- What is the managerial inclination towards risk?

Problem Identification

After having gone through financial statements of listed non financial companies in Pakistan, it was established that the usage of derivatives instruments (futures, forwards, swaps and options) is minimal among corporate managers. Some companies were exposed to interest rate risk and foreign exchange risk but their financial statements did not disclose the investment in derivatives. This aroused our interest to explore the questions as to why hedging was not used and was there any alternative available with the managers which they could use as a substitute for derivatives.

Fluctuations in interest rates and currency exchange rates frequently occur. It can be said with certainty if these fluctuations are not managed, loss to the firm is sure to occur. The firm not actively managing risk might have suffered loss. These losses could have been avoided.

Our preliminary investigation suggests that how corporate finance managers will manage the risk (Currency risk and interest rate risk) in the absence of hedging instruments. The corporations are fully exposed to both currency risk as well as interest rate risk. Is there any alternative available with the managers to hedge against corporate risk? Mismanagement of corporate risk will result in minimization of shareholders' wealth thus defeating the purpose of financial management.

Problem Statement

Failure to manage the corporate risk has considerable costs of financial distress to be borne by the shareholders of the firm. Financial distress if not managed may lead to failure or bankruptcy leading to liquidation of

the firm. The firms having large share of exports in sales, or firms having debts in foreign currency are more exposed to financial risk than the firms which are less leveraged or have negligible portion of sales from exports. Such firms need to manage both types of exposures i.e. interest rate risk and foreign currency risk. In the light of this our problem statement is, ‘why corporate managers in Pakistan don’t use derivative instruments? Do they think corporate risk can be managed by any other alternative way?’

Objectives of the Study

The study aims at ascertaining the managerial motivation. of derivative usage. The study will explore the traditional risk reduction methods if any on the part of managers. The study will enable us to ascertain the inclination of the managers to use derivatives. The study will be helpful in exploring the risk level and risk management strategies of firms.

Rationale of the Study

Pakistani Corporate Sector includes many companies which are exposed to risk but they rarely use the risk reduction techniques like hedging (using derivatives). The losses that occur due to mismanagement of risk (interest rate risk and exchange rate risk) are eroding the profitability of these companies. No doubt hedging has its own cost but where the exposures are large, not to opt for hedging may result in a huge loss. The study aims at providing management an insight to pursue the usage of derivatives so that managers can add value to shareholders wealth by saving the firm from financial risk.

The study may help the organizations to assess their exposure to interest rate volatility and foreign currency as well. Motivation for hedging may arise after realization of effects of mismanagement of financial risk. Unless the costs of financial risk are ascertained, motivation for hedging will be lower and vice versa. Managerial inclination towards hedging will determine the extent of derivative usage. The study will help the corporate sector in Pakistan unveiling the factors responsible for decision making about hedging.

Scope of the Study

In this study our population is non-financial firms listed on Karachi Stock Exchange. A sample of non-financial firms has been selected which have considerable exposure to foreign exchange risk and interest rate risk but usage of hedging technique is negligible. Questionnaire has been mailed to finance managers of 55 firms listed on Karachi Stock Exchange. Financial firms like investment companies and banks have been excluded from the study. Companies in sample have been selected from all important sectors of the economy or industry.

LITERATURE REVIEW

The journey of literature on financial derivatives began in mid 1990s when Phillips (1995) came up with a survey of 415 US firms. The survey was aimed at ascertaining the purpose and usage of derivatives in non financial US firms. The objectives of this study were too narrow to include the factors like managerial motivation for derivative usage and awareness with modern finance. Comparative studies on derivative usage were also conducted. Berkman, Bradbury and Magan (1997) compared the use of derivatives between non-financial firms in New Zealand and the United States. The study did not take in to account the difference between financial markets of US and New Zealand. US financial markets are more advanced while New Zealand is an emerging market.

Derivatives are commonly used for hedging. This aspect was given due attention by Khim and Liang (1997). He observed that the usage and effect of financial derivative instruments on company risk management are different for Singaporean firms in different industries, with different turnover, ownership, international business involvement and listing status. They also find that the volatility and uncertainty in the world’s financial markets have affected companies in Singapore differently. Their findings are of immense help for other emerging economies like Pakistan.

Along with hedging, derivatives are also used for speculation purpose. To ascertain the degree of usage for speculative purpose, Grant and Marshall (1997) surveyed the largest UK companies (FTSE 250) between 1994 and 1995. Their results show that derivatives are rarely used to speculate on market movements. Indeed, the study indicates that derivatives are most commonly used to reduce the volatility of firm's cash flows. The results also indicate that swaps, forwards and options are commonly used to manage foreign exchange and interest rate risks. UK is amongst the most developed financial markets. These results are not generalizable to developing or emerging markets. The study also argues that firms seem to be very aware of the need to quantify and price their derivative positions and, in a number of cases, they are using sophisticated valuation procedures. Grant and Marshall do recognize that they have a smaller sample than the US studies and that the US studies contain smaller firms that are not likely to use derivatives. However, they did not examine whether the larger or the smaller of their sample firms responded. Despite its limitations, the study of Grant and Marshall (1997) serves as a guideline for future research in the area.

The most common usage of derivative is for hedging. Joseph and Hewins (1997) examine the motives behind corporate hedging in their questionnaire survey on UK multinational corporations. Joseph and Hewins claim that the primary object for corporate hedging is cash flows. The hedging motives appear to be influenced by the management's perceptions of stakeholders' attitudes to risk and financial market behaviour. They also find a relatively weak emphasis on the financial distress motive. Our study also incorporates cash flow factor borrowing from Joseph and Hewins.

Derivatives instruments may be exchange traded (standardized) and over the counter (OTC). The choice to use either standardized instrument or OTC instruments may depend on the size of the firm. Bodnar, Hayt and Marston (1998) surveyed 530 US nonfinancial firms about the use of financial derivatives. They find that large firms tend to use OTC products, while small firms tend to use a mixture of OTC and exchange-traded products. They also find that 80% of firms use derivatives to hedge firm commitments, and 44% of firms use derivatives to hedge the balance sheet. Their results indicate that 67% of firms expressed high concern of accounting treatment of derivatives. The most important goal of hedge with derivatives is to minimise fluctuations in cash flows. They find that 76% of users have a documented policy with respect to the use of derivatives.

Pattern of derivative usage may differ in different countries. Bodnar and Gebhardt (1999) survey German nonfinancial firms and find that the incidence of derivatives usage is higher in Germany, but that the pattern of hedging across industry and size groupings are similar to US firms. However, they find that there are other distinctive differences between the two countries, including the primary goal of hedging, firms' choices of instruments and the influence of their market view when taking derivative positions. Prevost, Rose and Miller (2000) survey both listed and non-listed firms across the New Zealand market in February 1998. The paper significantly expands and updates previous New Zealand-based derivatives usage surveys and finds that the risk management practices and objectives of firms in the small, open market of New Zealand are broadly similar to those of firms in larger, more developed US and German markets in many respects.

Ceuster, Durinck, Laveren and Lodewyckx (2000) survey the derivatives usage by nonfinancial large firms operating in Belgium. They find that a significant part of large firms have engaged themselves in risk management practices and many of the respondents claim to be strategic hedgers but fail to organize the risk management control and reporting procedures in a way that one would expect from a strategic hedger.

Firm's characteristics may have effect on hedging techniques. This phenomenon was observed by Joseph (2000). He examined the relationship between the use of hedging techniques and the characteristics of UK multinational enterprises (MNEs). He finds that all the firms in the sample hedge foreign exchange (FX) exposure. The results indicate that UK firms focus on a very narrow set of hedging techniques and they make much greater use of derivatives than internal hedging techniques. The degree of utilization of both internal and external techniques depends on the type of exposure that is hedged. Furthermore, the characteristics of the firms appear to explain the choice of hedging technique but the use of certain hedging techniques appears to be associated with increases in the variability of some accounting measures. Firm's characteristics has also been due consideration in this study.

Marshall (2000) surveys the foreign exchange risk practices of large UK, US, and Asia Pacific multinational companies (MNCs). The data was collected by the questionnaire sent only to the largest MNCs in each region. He finds statistically significant regional differences in the importance and objectives of foreign exchange risk management, the emphasis on translation and economic exposures, the internal/external techniques used in managing foreign exchange risk and the policies in dealing with economic exposures. He also finds that the percentage of overseas business had no statistically significant effect on any of the responses. This is inconsistent with earlier studies which show that exposure depends on the nature of business.

This study strives to explore the trends and patterns of derivative usage in Pakistan. This also incorporates the factors emphasized by earlier studies and includes factors which are more customized to Pakistan like level of awareness, corporate risk level and corporate trends of hedging.

RESEARCH DESIGN

A questionnaire has been designed to get responses from finance managers of companies. Questionnaire incorporates all those factors (variables) which may effect the decision of managers to use derivatives. These variables include:

- Trend of derivative usage
- Risk Level of Companies
- Awareness with modern Finance
- Correlation between hedging and firm value
- Business cycle effect and firm's performance
- Correlation between internal control and hedging

Trend of Derivative Usage

This variable has been operationalized by following set of questions.

- What is the most common use of derivatives in Pakistani companies?
- Under what circumstances derivatives will be used to manage risk?
- What is the percentage of financial assets in total assets of firm?

Risk Level of Companies

Risk level of firms is very instrumental in managerial decision making for hedging. The companies with more exposure have more incentive to use derivatives than the companies with less exposure. Risk level has been assessed with the help of following questions set.

- Would you like to invest in venture capital projects?
- Are you concerned about volatility of cash flows?
- Have your firm ever experienced loss due to foreign exchange and interest rate volatility?
- What is the risk tolerance for your organization?
- What is shareholders' attitude towards risk management?

Awareness with Modern Finance

Managerial knowledge of modern finance has been assessed with the help of following question set.

- In your view which type of market imperfections exist in derivative market of Pakistan?
- Is there any alternative for derivatives available in Pakistan for managing corporate risk?
- Do you perform cost benefit analysis before opting for derivative usage?

Correlation between Hedging and Firm Value

Finance theory suggests that hedging is related to firm's value. This correlation has been assessed with the help of following question.

- Does derivative hedging creates or adds value to the firm?

Business Cycle Effect and Firm's Performance

This variable has been ascertained with the help of following questions.

- Is your company's performance in line with the industry it is operating in?
- Do economic downturns in Pakistan considerably impact your firm's profitability?

Correlation between Nature of Business and Financial Risk

Firm's exposure is highly related to nature of business it is conducting. This has been ascertained with the help of following questions.

- Do you have sales to other countries?
- Does your firm import raw material from other countries?

While designing questionnaire, due consideration has been given to firm size, industry sector, level of risk inherent in firm, and internal control. The rationale for including only non-financial firms in study is that we want to focus on those firms which are end users. Bank and financial institutions both use and sell derivatives therefore they have not been included in the study. The selected firms in sample have exports sales and some use imported raw materials for their production. Such firms have considerable exposures in foreign currency due to volatility in exchange rate. Firms were asked to state the exposures they are faced with.

Questionnaire included direct and indirect questions as well about derivative usage. Questions have been arranged in a way that makes the respondents state their risk level, their preferences for derivative instruments. Effort has been made to phrase questions in such manner that respondents feel at ease to reply. Questions relating to non public disclosure have been avoided. It has been ensured that only those questions are put to the respondents which will not threat the confidentiality of the firm. The questionnaire also incorporates the areas touched by some earlier studies

SAMPLE DESCRIPTION

In order to get responses from companies about derivative usage, 67 non financial firms were selected on the basis of their exposure to interest rate and foreign exchange. The profile of the respondent firms has also been given due consideration. Our sample includes firms from different sectors of the economy including textile, cement, sugar, transport and communication, chemical and engineering etc. We have received responses from 31 companies. Only twelve companies have replied via email while nineteen firms have been administered telephonic interviews.

RESULTS AND DISCUSSION

Out of 67 firms selected, 31 firms responded on the topic. The results are summarized as under.

As far as commonality of usage is concerned, 55% of the respondent firms use derivatives for hedging purpose i.e. for minimizing corporate risk. Only 20% firms consider derivatives suitable for speculation purpose. This shows that majority of managers are sensitive to financial risk. Majority of managers did not show their interest in venture capital projects. This depicts that new and risky projects are not considered good investment by firms. This also reflects that majority of managers is risk averse.

Cash flow volatility was found to be major concern for many corporate managers. It was interesting to observe that cash flow hedging was not popular among firms. 67% of the respondents stressed the need of managing cash flow volatility. 63% of the respondents were of the view that Pakistan need to develop a full fledged derivative market to facilitate the transactions. 77% of the firms preferred financial futures to other instruments. Majority of firms did not show interest for swaps and options.

It was found that 70% of the managers did not agree that hedging increases the firm value in Pakistan's corporate sector. They were of the view that the decision to use derivatives may not be too optimal to minimize the risk or generate speculative gains. As far as time of usage is concerned, 55% of the respondents were of the view that they did use futures when they entered into a contract for procurement with a party residing in another country. Only 10% of the firms were found to be eager to use derivatives for speculative purposes.

Firms with high turnover were found to be more exposed to financial risk. The degree of usage among large firms was higher than that of small firms. Among the derivative users, 69% firms were large in turnover and asset size. However leverage and liquidity were not considered significant by 53% of the respondent firms.

Economic conditions do have substantial effect on the firms' performance. It was found 81% of the respondents stated that economic conditions in Pakistan do affect their firm's performance. 59% managers were of the view that ownership structure and corporate risk level are highly correlated. The more diversified the ownership structure, the more efficient use of derivatives and vice versa.

Risk tolerance level may vary from firm to firm. 67% of the firms preferred low risk to high risk time. Only 22% of the firms were found ready to assume high risk. No satisfactory reply could be obtained regarding correlation of internal control and corporate risk. 73% of the respondent firms were of the view that no cost benefit analysis is done at the time of deciding the usage or otherwise of derivatives. 54% of the respondent firms agreed to the premise that level of managerial education in Pakistan is not so diverse to provide know-how of derivatives.

To talk about type of financial risk faced by respondent firms, 57% firms stated the currency risk exposure while 23% showed their concern about interest rate volatility. 66% of the firms stated that financial assets account for 5% of the total assets while 20% firms reported less than 5% of the total assets.

CONCLUSION

This study was based on a questionnaire survey which focuses on the factors affecting derivative usage. These factors included trend of derivative usage, risk level, awareness with modern finance, correlation between hedging and firm's value, firm's performance and business cycle effect, and correlation between nature of business and financial risk. The questionnaire was mailed to finance managers of 67 companies. Out of 67, 31 firms replied. On the basis of replies from corporate managers, we conclude that the trend of derivative usage in Pakistan is not so robust, mainly due to undeveloped derivatives market. The most popular derivative instruments are financial futures.

As far as risk level is concerned, the majority of managers are reluctant to assume high risk, even if returns are high. It also implies that for speculative purposes, the use of derivatives is negligible among corporations. The results show that major concern of managers is about the volatility of cash flows.

The questionnaire survey depicts that managerial awareness about modern finance is not up to the mark. Less than 40% of the respondents are comfortable with derivative usage. The majority of managers denied any correlation between corporate hedging and firm value. Firm's performance and business cycle effect has not been found influential for decision about derivative usage.

Summing up, we may opine that managerial knowledge of modern finance, development of full fledged derivatives market, and measuring the risk level of corporation may enhance derivative usage, thus minimizing the financial risk of companies.

AUTHOR INFORMATION

Mazhar Mahmood was born in 1978 in Pakistan. He has a Masters in Business Administration. During his studies, he developed an interest for research in Finance. Currently, he is enrolled as a Ph.D. student at Shaheed Zulfiqar Ali Bhutto Institute of Science & Technology (SZABIST), Islamabad Campus, Pakistan.

Dr. Kashif has a Ph.D. in management sciences from the Asian Institute of Management, Manila, Philippines. He has been teaching management science for the last 8 years and has 35 publications to his credit.

REFERENCES

1. Berkman, H., Bradbury, M.E., and Magan, S. (1997) An international comparison of derivatives use. *Financial Management* 26 (4): 69-73.
2. Bodnar, G. M. and Gebhardt, G. (1999) Derivatives usage in risk management by US and German nonfinancial firms: a comparative survey. *Journal of International Financial Management and Accounting* 10(3): 153-187.
3. Bodnar, G. M., Hayt, G. S., and Marston, R. C. (1998) Wharton survey of financial risk management by US nonfinancial firms. *Financial Management* 27(4): 70-91.
4. Ceuster, M., Durinck, E., Laveren, E., and Lodewyckx, J. (2000) A survey into the use of derivatives by large nonfinancial firms operating in Belgium. *European Financial Management* 6(3): 301-318.
5. Grant, K. and Marshall, A. P. (1997) Large UK companies and derivatives. *European Financial Management* 3(2): 191-208.
6. Joseph, N. L. and Hewins, R. D. (1997) The motives for corporate Hedging among UK multinationals. *International Journal of Finance and Economics* 2(2): 151-171.
7. Joseph, N. L. (2000) The choice of hedging techniques and the characteristics of UK multinationals industrial firms. *Journal of Multinational Financial Management* 10(2): 161-84.
8. Khim, E. M. and Liang, D. L. (1997) The use of derivative financial instruments in company financial risk management: the Singapore experience. *Singapore Management Review*: 17-44.
9. Marshall, A.P. (2000) Foreign exchange risk management in UK, USA and Asia Pacific multinational companies. *Journal of Multinational Financial Management* 10(2):185-211.
10. Phillips, A. L.(1995) 1995 Derivatives practices and instruments survey. *Financial Management* 24(2): 115-125.
11. Prevost, A., Rose, L., and Miller, G. (2000) Derivatives usage and financial risk management in large and small economies: a comparative analysis. *Journal of Business Finance and Accounting* 27(5): 733-759.