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CORPORATE RISK MANAGEMENT THROUGH FINANCIAL DERIVATIVES: A REVIEW OF LITERATURE

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Abstract: *This literature review focuses on the financial derivatives[1] and its use in corporate risk management and hedging risks from different dimensions in corporate scenario. Literatures are analysed from the last three decades to uncover various aspects of financial derivatives like: the type ofrisks frequently managed through financial derivatives, most commonly used financial derivatives instruments in hedging, concerns of corporates not to go for financial derivatives, industries actively participating in derivative market are few to mention. The literature shows that a number of research work have been done in western economies like U.S, U.K, Germany, Australia, New Zealand, Sweden and others, but a very few work has been done in Indian context. Therefore an attempt has been made in form of a research work by the author to discover the hedging pattern of Indian Inc by using financial derivatives as a risk management tool along with other aspects like: motivation to use financial derivatives, reason behind not to go for financial derivatives, difference in hedging pattern between public (Govt.) and private companies etc. This literature review is part of the above said research work.*

Key Words: *Risk Management, Financial Derivatives, Hedging, Futures, Forwards, Options*

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[1] The definition given by International Monetary Fund (IMF) is available at the following web page http://www.imf.org/external/np/sta/fd/

From early nineties, a number of studies had been undertaken which attempted to provide the discipline with insights into the practice of risk management within the corporate sector. The literatures are reviewed regarding the risk management practices particularly focusing on management behaviour in presence of a potential risk and showing a detailed explanation about the financial instruments (Derivatives Instruments) adopted in management activity in managing the above-said potential risk.

The studies in use of derivatives have been undertaken covering different dimensions like Hakkarainen et al., (1997); Berkman and Bradbury (1996); Judge (1995); Alkebäck and Hagelin (1996); Bodnar and Gebhardt (1997); Bodnar et al. (1998); Pramborg (2000); El-Masry (2001, 2003) studied about the use of derivatives by non-financial firms while some studies focused on the important factors determining the corporate use of derivatives by Fatemi and Fooladi (2005). Some comparative studies are undertaken between two economies (Berkman et al., 1997); financial and non-financial firms likewise some other studies between listed and non-listed firms regarding using financial derivatives.

Block and Gallagher (1986)[2] examined the corporate use of derivatives in interest rate exposure hedging activity in United States, after in October of 1979 the Federal Reserve had changed its policy, increasing the interest rates volatility, creating an incentive for hedging activity of interest rate exposure. They contended that incentives for hedging included the predominance of floating rates on the short-term side of the credit markets and the ever-increasing debt burden of U.S. corporations. In spite of these factors, the use of hedging through interest rate futures and options resulted in a relatively immature state when they conducted their research. They used questionnaires to gather data from all Fortune 500 companies, receiving answers from 193 of them, with a rate of response of 38.6%. Results showed that approximately one out of five firms used interest rate futures and options to hedge the interest rate exposure, with a higher usage degree by larger firms and firms in traditionally commodity-oriented industries. They found two most frequently used hedging instruments were Treasury bill futures and Euro-dollar futures. Interest rate futures seemed to enjoy a greater popularity than interest rate options. Among the respondents, futures were perceived as being advantageous in terms of cost and efficiency in hedging and options were seen as providing less risk exposure and fewer administrative problems. Out of

[2]The relevant article isavailable at the following web link:http://www.jstor.org/stable/3664846

the 193 respondents to the survey, approximately eighty percent were currently nonusers of interest rate futures and options. The primary reasons given for non-utilization in their study were top management resistance, lack of knowledge, restriction on upside potential, the expense involved and legal and accounting obstacles.

The survey conducted by **Dolde (1993)**[3] on Fortune 500 companies (244 of which completed the questionnaire, with a 48.8% response rate) reported that large companies diverged greatly in the scope and sophistication of their approach to risk management from the comparatively smaller, despite bigger firms could profit of a greater portfolio diversification, making the risk exposure less urgent. Small companies reported the costs of management of financial risks as a negative voice of their budget, ignoring the benefits that could come down from such activity. Another important explanatory variable of the risk management approach was found in the view of market directions by the treasurer. Of the 244 Fortune 500 companies that responded to the survey, over 85% reported swaps, forwards, futures, or options in managing financial risk.

Berkman and Bradbury (1996)[4] presented an empirical study of the determinants of the corporate use of financial derivatives. They used a data set from New Zealand, where firms are required to report the fair value and the contract (notional) value of their off- and on-balance sheet financial instruments. Their data collection method did not have the non-response bias inherent in survey designs as they are collecting it from audited financial statements. The use of audited disclosures also enables us to develop a continuous measure for hedging activity, compared to the binary dependent variable used in prior research. Furthermore, they extended prior research by including other explanatory variables that they expected to influence the corporate hedging decision. Specifically, they tested

- The managerial risk-aversion hypothesis (Smith and Stulz, 1985);
- The relation between the use of derivatives and the level of foreign activities; and
- The need to coordinate investing and financing policies (Froot, Scharfstein and Stein, 1993).

In line with theoretical models of corporate risk management, they found that derivative use increases with leverage, size, the existence of tax losses, the proportion of shares held

[3]Please refer the article " Hedging, Leverage and Primitive Risk" available through http://papers.ssrn.com/sol3/papers.cfm?abstract_id=6660
[4]For more details the following web link can be referred: http://www.jstor.org/stable/3665985

by directors, and the pay-out ratio. The corporate use of derivatives decreases with interest coverage and liquidity. They also found that short-term asset growth, the proportion of foreign assets to total assets, and the use of alternative capital instruments are not related to derivative use.

Hakkarainen et al. (1997)[5] exhibited the results of a survey conducted in 1994 on interest rate risk management in the top 100 largest Finnish non-financial firms. The data for this study consisted of answers to a questionnaire and financial statement data. The questionnaire was mailed in 1994 to 100 firms, 84 participated. The Finnish survey found that most common features in the interest rate risk management approach were avoidance of risks and minimisation/maximization of interest expenses/income, revealing risk aversion to be the prevailing attitude in most firms. A very interesting finding was that over 40% of the responding firms had not made an effort to estimate the interest rate exposure of any item. However, the evidence suggested that large firms employ duration and gap analyses more frequently than small firms. Regarding hedging instruments, the answers show that, first of all, Finnish firms used the Interest Rate Swap (IRS), the second common instrument was the Forward Rate Agreement (FRA), and third, the Over The Counter (OTC) options.

Berkman et al. (1997)[6]made a comparative exploratory study to describe derivatives usage of a sample of New Zealand (NZ) firms compared with the results of previous US surveys. The main issue the authors addressed was whether derivatives use is a phenomenon primarily limited to the sophisticated and liquid US financial markets. The focus on a small economy such as NZ provides an interesting perspective. The objectives of financial risk management are very similar for both NZ and the US. In the same way, the data showed, surprisingly, that New Zealand companies used more frequently and in greater measure the derivatives contracts in comparison to the American enterprises: 53.1%, of respondents affirmed that they used derivatives. This result compared to 26.5% (1995) and 17.5% (1996) of the respondents in the US surveys. The data showed that in NZ, 100% of the firms with market value of equity greater than $250 million used derivatives, compared to 65% in the US. Of the firms with market value lower than $50 million, 36% of NZ firms used derivatives, compared to 12% of US firms. The survey showed, finally, that the most used financial tools,

[5]The full article can be accessed at http://onlinelibrary.wiley.com/doi/10.1111/1468-036X.00043/abstract
[6]The article can be referred at the following web address: http://www.jstor.org/stable/3666128

mainly to hedge foreign and interest rate risks, and largely from the great enterprises, were the Forward Rate Agreement followed by the Interest Rate Swaps.

Khim and Liang (1997)[7] made a study on use of derivatives on companies in Singapore. Their study was conducted by mailing questionnaires to 260 companies, randomly picked from the Singapore 1000 Service & Singapore 1000 Industrial, 1994, which may have some form of international business activities. Their study reveals the some of the interesting facts as follows:

- Foreign exchange forward cover seems to be the most popular instrument.
- Hedging strategies and objectives of financial risk management were different for firms in different industries, with different turnover, ownership, international business involvement and even listing status.
- Financial risk management decision was made using middleofthe road approach or at top management level.

Goldber, Godwin, Kim and Tritschler (1998)[8]analysed firm characteristics associated with derivatives usage. They disaggregated interest-rate from foreign-exchange derivatives, and use dichotomous and continuous measures of derivatives usage developed from the then mandated FASB disclosures. Comparing the results of probit and truncated regression analyses they found differences between the determinants of derivative adoption and the scale of derivative activity by the sample firms and differences between the determinants of usage of foreign exchange and interest-rate derivatives. Their findings are consistent with firms using derivatives to hedge. Firms hedge with derivatives to reduce risk exposure to ensure the availability of internal funds for value enhancing investments, to reduce the costs associated with financial distress, to reduce the underinvestment problem resulting from shareholder-debt holder conflicts, to reduce managers' exposure to employment risk, and to adjust capital structure. They found differences between variables associated with the decision to adopt derivatives and with the scale of usage. Positively associated with both the decision to adopt financial derivatives and the level of usage are growth opportunities (as reflected in research and development expenditures), multinationality, and leverage. The

[7] The article can be located at the following web resource http://search.proquest.com/openview/19792beca5fe3d602f78ce338f7f2ddd/1?pq-origsite=gscholar
[8] Please refer the following web address for more details http://onlinelibrary.wiley.com/doi/10.1111/1467-646X.00034/abstract

decision to enter into financial derivatives, but not the relative level of usage, is positively associated with the size of the firm and negatively associated with firm liquidity (current ratio). These findings are consistent with the existence of informational and scale economies for entering into derivatives and with greater liquidity reducing the need for hedging. They found differences in factors associated with foreign exchange and interest-rate derivatives. Levels of research and development and multinationality significantly increase usage of foreign-exchange derivatives, whereas leverage and liquidity significantly affect interest-rate derivatives usage.

Bodnar et al. (1998)[9] reported the results of the third of a series of surveys on financial risk management practice and derivatives use by non-financial corporations in United States dealing with a comparison among the three Wharton surveys, so to define the evolution of derivatives usage in the time. They analysed sample consisted of the original randomly 2000 publicly traded firms used in1994 plus the remaining 154 non-financial Fortune 500 firms added in 1995.They obtained response rate was of 20.7%. The very notable results show that the derivatives users' rate was in continuous growth passing from 35% in 1994, to 41% in 1995, up to 50% in survey in matter. The authors were interested in determining whether there was any change in the intensity of usage among firms that use derivatives; of derivatives users, 42% indicated that their usage had increased over previous year, compared to just 13% who indicated a decrease. These responses, in substance, wanted to underline as there was a greater proportion of risk managers that considered more important the benefits than the consequential costs from the use of these products. Another characteristics of American firms were figured out by the analysis of the firm size; the most derivatives users resulted the large firms (83%) followed by the medium sized firms (45%) and, finally, from the small ones (12%).

BodnarandGebhardt (1998)[10] presented a comparison of the responses to parallel surveys on derivative usage conducted on comparable samples of US and German non-financial firms. The questionnaire was mailed to 368 firms and 126 of them answered (whit an answers rate 34.24%). The results of this comparison suggest that firms in both countries primarily use derivatives to manage risks from fluctuating financial prices. Given the responses, German firms are more likely to use derivatives than US firms, across all three

[9]Please locate the following web resource for more details http://www.jstor.org/stable/3666414
[10]More details is available at the following web address http://www.nber.org/papers/w6705

classes of derivatives examined. This is consistent with Germany being a smaller more open economy, leading to greater exposure of its firms to financial price risk, especially foreign exchange rates and commodity prices. Notably, the general pattern of usage across industry and firm size is very comparable for the two countries. This suggests that the determinants of derivative use are primarily driven by economic considerations such as activities and firm characteristics and not the result of corporate culture or other country-specific differences.

They also found that in contrast, firms across the two countries differed noticeably on such issues as their primary goal to derivatives use, their choice of particular instruments in each derivative class, and the influence of their own view of the market when taking their derivative positions. Firms in the two countries differ with respect to the primary focus of risk management with derivatives, with German firms focusing more on managing accounting results and US firms focusing more on managing cash flows. This result is consistent with the greater importance of the financial accounting statements in Germany (where they also act as the basis for taxation) relative to the US (where they are purely to provide information to investors). German firms are more likely to incorporate their own view on price movements when taking derivative positions than US firms. Also German firms indicate a significantly lower level of concern about issues related to derivatives than US firms. This appears to be partially a result of stricter policies of control over derivatives activities within the firm.

Alkebäck and Niclas (1999)[11] provided survey evidence on the use of derivatives among Swedish non-financial Firms. The results were directly compared with those presented in Bodnar et al. (1995, 1996), without controlling for differences in size and industry classification. The Swedish survey found that lack of knowledge about derivatives within the firm is the main concern for Swedish corporations. The questionnaire was mailed to the financial directors of all non-financial firms listed on the Stockholm Stock Exchange. The 213 usable responses have given the survey a reasonable 76.53% response rate.

In line with Bodnar et al. (1995, 1996) and Berkman et al. (1997) they found that firms' derivative hedging activity was primarily concentrated in foreign exchange and interest rate exposure. In addition, they also found that swaps were the most commonly used instruments for interest rate exposure, whereas swaps, futures and OTC forwards were the

[11] The full article is available at the following web address http://onlinelibrary.wiley.com/doi/10.1111/1467-646X.00046/abstract

dominating instruments for foreign exchange exposure. The frequent use of futures to manage foreign exchange exposure was in contrast with Bodnar et al. (1995, 1996) and in particular Berkman et al. (1997).

Jalilvand (1999)[12] analysed the outcomes of a survey conducted in 1996 on a sample of Canadian listed non-financial companies. Jalilvand (1999) showed that scale, operational efficiency, and the level of the integration of treasury activities are important determinants for identifying Canadian and international users of derivatives. The maturity debt was also longer for users of derivatives, suggesting that derivatives may be used to reduce the adverse effect of wealth transfers from shareholders and bondholders. The author found no evidence that managerial risk aversion and ownership concentration influence corporate use of derivatives in Canada.

From the comparison between the Canadian, American and New Zealand societies, the author underlined that all of them were governed by similar influences and that they differed only in the role that every of them attributed to the alternatives forms of coverage, as the liquidity, the dividend pay-out and the use of different debt instruments.

Jalilvand, Switzer and Tang (2000)[13] provided evidence of important similarities and differences in derivatives usage between Canadian, U.S, and European risk managers, revealing that the use of derivatives products was more widespread in Canada than in United States and Continental Europe. Most firms were found to have written risk management policies, but did not benchmark their treasury performance. Moreover, Canadian risk managers were less inclined than their European and American counterparts to take positions based on their views on the market.

Loderer and Pichler (2000)[14] surveyed the currency risk management practices of Swiss industrial corporations. The aim of their research was twofold: first, to examine if the nonfinancial societies quantified their risk profile and, second, to analyse if and how they managed the currency risk that, again, would have been able to threaten their economy. The questionnaire was sent to all 165 firms listed in the Zurich Stock Exchange (ZSE) in 1996

[12]The full article is available here: http://onlinelibrary.wiley.com/doi/10.1111/j.1936-4490.1999.tb00197.x/abstract
[13]For detailed article please refer the following web link http://www.emeraldinsight.com/doi/abs/10.1108/03074350010766567
[14]For more details, please visit the following web link: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=203151

except for banks and insurance companies. For comparison purposes, the same survey was sent to 165 non-traded firms randomly selected from the 1994 and 1995. The main conclusion of Loderer and Pichler was that industrial firms did not have the abilities to define the risk of the value's profile of their company.

De Ceuster et al. (2000)[15] sent a questionnaire to 334 large corporations operating in Belgium. Their survey attained a response rate of 21.9%. The data shows that 65.7% of the 73 respondents reported that they used derivatives, 22% never used them and 12.3% gave up using them. The authors, besides, tried to determine the reasons why some of them did not use these financial tools or had stopped doing it. The results showed that 50% of non-users considered the policy restrictions imposed upon the treasurers by the board of directors is the principal factor for not using derivatives. Other often-cited reasons are the risk of the products, the significance of the exposure and the existence of other hedging alternatives.

When the authors asked about their intentions of using derivatives in the futures, only one fifth of non-user said that they were willing to consider derivatives for hedging purposes in the futures. This study, also, reported data on large typologies of covered risks (interest rate and commodity risk) and the principal derivatives instruments used by companies (Forwards Rate Agreement followed by Interest Rate Swaps, by options OTC and, finally, by structured contracts).

Prevost, Rose and Miller (2000)[16] significantly expanded and updated previous New Zealand based derivatives usage surveys and finds that the risk management patterns and objectives of firms in the small, open market of New Zealand are similar in many respects to those of firms in the much larger, more developed US, UK, and German markets. Consistent with previous New Zealand surveys, they found that New Zealand firms of all sizes are active users of derivatives; specifically, the vast majority of large New Zealand firms use derivatives, although they found a significant increase in the percentage of small firms that hedge with off-balance sheet instruments as well. This is consistent with New Zealand being a small, export- and import-orientated economy with significant exposures to interest and

[15]Full article is available at the following web address: http://onlinelibrary.wiley.com/doi/10.1111/1468-036X.00126/epdf

[16] Please refer the following web link for more details: http://onlinelibrary.wiley.com/doi/10.1111/1468-5957.00332/pdf

exchange rate movements. As in the US, UK, and Germany, they also found that most firms use 'plain vanilla' OTC forwards and options as well as swaps to hedge exchange and interest rate risk, although the use of interest rate swaps appears to have increased sharply since the earlier New Zealand surveys. They also found that firms that use derivatives in New Zealand use them often, with monthly and weekly frequencies being most common. As with firms in the US and the UK, they found the single most important reason for hedging was to minimize fluctuation in real cash flows, although the percentage of firms indicating that protecting the appearance of the balance sheet is important has increased somewhat in this survey. However, this finding is not unique to New Zealand; surveys in other countries (e.g. US and Germany) find very similar results. In contrast to the US, their survey showed New Zealand firms are most concerned about transactions costs as a constraint to hedging. Companies in New Zealand are less inclined to take market views on financial prices than in previous New Zealand surveys, which may be a response to previous widely publicized losses related to derivatives use, but have a greater tendency to take market views as compared to firms in other countries. They interpreted this finding to be consistent with the relatively high degree of financial exposure faced by firms in the small New Zealand economy. Generally, they found that the focus on control and reporting derivatives transactions in New Zealand is similar to that of firms in the US and UK and appears to be strengthening over time; the decision-making processes underlying risk management are centralized for the majority of firms, although the firms did report a greater amount of decentralization in the execution and strategy areas than for risk management policy. Their study reveals that significant amount of exposure to financial risks faced by companies in New Zealand are due to the use of derivatives and the governance of transactions appear to be evolving along with firms in larger, considerably more liquid markets.

Mallin, Ow-yong and Reynolds (2000)[17]presented the results of a 1997 survey of derivative used by some231 UK non-financial companies. The questionnaire instrument used in this research is based upon the postal survey methodology of Bodnar et al. (1995).A direct comparison between US and UK findings was under taken together with an analysis of results from other published surveys conducted in the last four years. The results of their research show that derivatives usage to hedge financial price risk is well established

[17]The full article is available at http://www.tandfonline.com/doi/abs/10.1080/13518470121892#.VcHnhfmqqko

amongst larger UK companies. Also their findings support the size effect phenomena reported in other empirical studies. The primary objective cited in using derivatives was to manage fluctuations in accounting earnings in line with German companies, a focus that is inconsistent with the theoretical view of paying attention to cash flow benefits of hedging in majority cases. The predominant issues of concern to UK financial directors are the lack of evaluation of risk of proposed derivative transactions and the level of transaction costs incurred. This is in contrasts with the greater concerns of credit risk and market risk raised by their US counterparts in Bodnar's study. A possible explanation for these concerns could be the impact of the currency crisis happening in Asia especially for firms that are exposed to the affected currencies. They also suggested a lower level of sophistication and liquidity in the then UK derivatives market possibly another reason for policy restriction on use of derivatives.

A good response rate was obtained from the analysis conducted by **Fatemi and Glaum (2000)**[18] in Germany. The questionnaire was mailed to 153 large non-financial firms listed on the Frankfurt Stock Exchange, and they received responses from 71 of these firms (answers rate of 46.41%).

The researchers carried out an analysis that could consider all the typologies of risks the German enterprises should have managed and that could describe the derivatives usage by their risks managers. The questionnaire was designed to elicit the respondents' assessments of how different goals rank in terms of their importance for risk management; "ensuring the survival of the firms" turned out the most important goal and "increasing the market value of firms" ranked as the second most important goal. Other remarkable purposes, in order of importance, that were indicated in the answers were: to increase the profitability, to reduce cash flow volatility and to reduce earnings volatility. The answers' analysis relative to financial instruments usage shows some very interesting data. The majority of respondent, 88% indicated that they used derivatives instruments. This is a much higher proportion than reported by Bodnar et al (1998) for US firms either in their 1995 survey (41%) or in their 1998 survey (50%). It is also higher than the 78% rate that Bodnar and Gebhardt (1998) reported for their sample of German firms. Among the users, 75% used only the so-called plain vanilla instruments (mainly Forwards Rate Agreement and Interest Rate Swaps) and

[18]Please find the full article at http://www.emeraldinsight.com/doi/abs/10.1108/03074350010766549

the remaining 25% utilized more complex instruments. Finally, they can deduce that 89% among players made use of these contracts only for hedging purpose of the industrials or financials or operatives' risks and only 11% did it for speculative purpose.

Ceuster, Durinck and Lodewyckx (2000)[19] surveyed the use of derivatives by non-financial firms operating in Belgium. They have sent detailed questionnaire on the corporate use of derivatives for risk management purpose, very similar to the one used by Jalilvand and Tang (1996), which was mailed to 334 largest corporations operating in Belgium. They provided descriptive evidence in regard to various questions like

- Why do firms hedge?
- Which financial risks are being managed?
- How widespread is the use of derivatives?
- Which derivatives are used for which purpose?
- How is a risk management policy implemented?
- How are performance measurement and reporting structure?

Barton (2001)[20]presented evidence consistent with the hypothesis that managers view derivatives and discretionary accruals as partial substitutes for smoothing earnings. Using 1994-1996 data for a sample of nonfinancial, non-regulated Fortune 500 firms, he estimated a set of simultaneous equations that captures managers' incentives to maintain a desired level of earnings volatility through hedging and managing accruals. These incentives include increasing managerial compensation and wealth, reducing corporate income taxes and debt financing costs, avoiding underinvestment and earnings surprises, and mitigating volatility caused by low diversification. He measured derivatives using notional amounts and discretionary accruals using the modified Jones (1991) model. The empirical results show that managers appear to trade off derivatives and discretionary accruals at the margin. That is, after controlling for incentives to smooth earnings, firms holding derivative portfolios with large notional amounts have lower absolute levels of discretionary accruals. Finally, the results also suggest that the magnitudes of notional amounts and discretionary accruals are endogenous and, therefore, most likely the result of a joint decision to manage risks and earnings. Although sensitivity tests indicate that the results supporting his hypothesis are

[19]Please find the full paper at http://onlinelibrary.wiley.com/doi/10.1111/1468-036X.00126/abstract
[20]Please refer the following link http://www.jstor.org/stable/pdf/3068842.pdf?acceptTC=true

robust, these results should still be interpreted within the limitations of the study's research design. He emphasized two particular limitations. First, hedging and earnings management are difficult to measure precisely using publicly available data and, therefore, measurement error is unavoidable. Second, the literature provides little guidance for specifying and identifyinga model that explains the trade-offs between hedging and earnings management. Despite these limitations, his study provides evidence suggesting that managers smooth their firms' earnings by adjusting the volatilities of cash flows and accruals.

Piga (2001)[21] provided original evidence on the use of derivatives by sovereign borrowers. He used the data as the extent of the use of derivatives by sovereign borrowers in developed economies which includes Austria, Belgium, Canada, Denmark, Finland, France, Germany, Netherlands, Ireland, Italy, Portugal, Spain, Sweden and UK in the year 2000.He found that swaps used both to increase the liquidity of long-term government bonds and for speculation. However, some sovereign borrowers have also used derivatives to 'window dress' their public accounts for the purpose of disguising budget deficits. One actual window-dressingtransaction by a sovereign borrower that used it to facilitate entry into the EMU is described. It is shown that the size of the artificial deficit reduction it achieved through this transaction is large. He also argued that window-dressing through derivatives might prove particularly damaging for the political stability of the EMU, the effectiveness of stabilization programmes in less developed countries, and the credibility of supranational institutions charged with monitoring the soundness of client-country economic policies.

Mallin et al. (2001)[22] put on an analysis related to the use of derivatives instruments, to the kind of covered risks and to the methodologies adopted for their evaluation comparing data with those in Bodnar et al (1995). The questionnaire was mailed to 800 UK non-financial firms that were randomly selected from Hemmington Scott's Corporate Register, which lists companies on the London Stock Exchange. The data showed that of the 231 respondents, 62.1% reported using at least one derivative instrument. As it is seen from answers, the analysis of the usage of derivatives related to company size as measured by turnover shows a significant relationship with larger companies using derivatives instruments more likely

[21]For more detail, please refer the following web link: http://onlinelibrary.wiley.com/doi/10.1111/1468-2362.00071/abstract
[22] For more detail, please refer the following web link: http://www.ingentaconnect.com/content/routledg/rejf/2001/00000007/00000001/art00004

than smaller companies. These responses supported previous surveys in those large firms but, in comparison to Bodnar et al. (1995) they showed lower derivatives usage among smaller firms. The authors asked firms to indicate the reasons they did not use derivatives. Predominantly, the most important reason was the lack of significant exposure to financial risk, followed by the cost of derivatives program, the third most frequently chosen factor was the fact that the exposure can be managed by other means. The mostly utilized derivatives instruments by UK non-financial firms were the FRA andOTC options, what their study says.

Hentschel and Kothari (2001)[23] used data from financial statements of 425 large U.S. corporations to investigate whether firms systematically reduce or increase their riskiness with derivatives. They found that many firms manage their exposures with large derivatives positions, nonetheless compared to firms that do not use financial derivatives, firms that use derivatives display few, if any, measurable differences in risk that are associated with the use of derivatives.

In this paper tried to gauge what effects derivatives have on firms' risk characteristics. Although many of the firms in their sample disclose sizeable derivative positions, these firms display risk characteristics that are similar to the risk characteristics of firms with few or no derivatives. In particular, their sample reveals no association between the volatility of a firm's stock prices and the size of the firm's derivatives position. Moreover, in their sample, a firm's exposures to variations in interest and exchange rates are not directly related to the firm's derivatives position. They have also observed that, if firms were using derivatives for speculative purposes, one would expect both more volatile returns and larger exposures for firms with large derivative positions. They have also not denied that firms cannot take large risks with derivatives. Nor didthey argue that no firms alter their exposures or volatilities through derivatives. Their findings show, however, that these effects are currently small for most firms, even those with large derivatives positions. At last the answer they have given to the question in the paper's title appears to be "typically not very much of either."

The study by **Judge (2002)**[24] introduces a different way to define hedging. This study recognised that firms can manage their risks in several ways and therefore firms that did not use derivatives might hedge through alternative means. Like other previous studies, this

[23]The detailed article is available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=252509
[24] Please refer the following link for full article: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=394990

paper empirically investigated the determinants of corporate hedging using a sample of large firms. He selected from the 1995 FTSE500 which listed the 500 largest UK companies quoted on the London Stock Exchange, ranking a company by its market capitalisation. The sample was restricted to non-financial firms because financial firms not only hedge for themselves but also for their clients, so that the final sample consisted of 441 non-financial firms. Results showed that 78% of the 186 companies exhaustively completing the questionnaire revealed to use derivatives as a tool of risk coverage, while the figure inferred by the annual report was slightly lower (67%). He also made an inference that companies use derivatives not for speculation purpose rather for risk management and hedging. In addition he found that larger firms are more indulged in hedging through derivatives in comparison to the smaller firms.

Bodnar, Jong and Macrae (2003)[25] examined the impact of institutional differences between the USA and the Netherlands on the financial risk management practices of US and Dutch firms. Matching the results of a US survey (Bodnar et al., 1998) and an identical Dutch survey created a truly comparable sample. They matched firms on the basis of sector classification and firm size. After the matching procedure, 267 US and 84 Dutch survey respondents remained. In the second step, they applied weights to the US firms to make the sample proportionally look like that of the Dutch firms. The result of this weighting scheme removes the influences of firm size and sector on derivatives usage. After the weighting, the results should more purely reflect institutional differences such as the economic and regulatory environment. They found the differences between the USA and the Netherlands in four main areas:

- the level of international involvement,
- different financial market structures,
- the level of focus on shareholder value creation, and
- the different external disclosure requirements,

While differences do exist, except in a few cases, they are not overwhelming. This suggests that the primary reasons behind derivatives use are broad economic phenomena rather than institutional differences. However, many of the differences in responses do seem consistent with institutional differences between the two countries. First, we find that

[25]Access the full article at the following web page: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=423630

Dutch firms (for all industry and size classes) hedge more financial risk. This is consistent with the fact that because of the more open economy of the Netherlands, Dutch firms experience far more foreign exchange exposure than US firms. Furthermore, they found that US firms are more concerned regarding derivatives usage. They also find that Dutch firms generally use banks for derivatives transactions, while US firms use a broader variety of counter-parties for derivatives transactions. Because of the broader array, US firms require higher counter-party ratings. Additionally, their results show that US firms focus more on accounting earnings than Dutch firms and are more willing to incorporate their own views on foreign exchange rate movements when engaging in derivatives transactions. They have interpreted this type of behaviour can be linked to the fact that US firms are shareholder oriented, whereas Dutch firms are stakeholder oriented. Their research results indicate that the institutional differences between the USA and the Netherlands have a significant effect on the risk management practices and Derivatives.

El-Masry (2003)[26] gathered data from a questionnaire sent to 401 non- financial firms listed on London Stock Exchange and 173 among them completed the questionnaire (response rate was 43.14%). In this study, corporate treasurers were asked a number of questions relating to the following areas: derivatives use, currency derivatives, interest rate derivatives, options contracts, and control and reporting policy. The main results of their study can be interpreted as a confirmation of some analysis previously effected in UK. Out of 173 respondents who returned the questionnaires, 116 (67%) gave details that they were using derivatives; in the size dimension, usage was heaviest among large firms at 56.25%, it dropped to 33% for medium-sized firms and to 10.0% for small firms; in the ownership dimension, derivatives usage was greatest among public companies at 56.25% and the derivatives use rate dropped to 6.25% for private firms. Among the reasons for which some firms did not use derivatives instruments, data indicate that 50% of firms did not use derivatives because their exposures were not significant; also, the most important reasons were: concerns about disclosures of derivatives activities; concerns about the perceptions of derivatives use by investors, regulators, analysts or the public; and costs of establishing and maintaining derivatives programmes exceed the expected benefits. This is followed by:

[26]Please refer the following for the more details:
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=397400&rec=1&srcabs=677862

exposures which are more effectively managed by other means such as risk diversification or risk shifting arrangements, lack of knowledge about derivatives and then difficulty pricing and valuing derivatives. His results reveal that centralised risk management activities were overwhelmingly most common and that, for firms using derivatives, foreign exchange (FX) risk was the risk most commonly managed with derivatives. Interest rate (IR) risk was the next most commonly managed risk. Finally, he showed that the most important reason for using hedging with derivatives was to manage the volatility in cash flows at 37% of the responding firms.

Shu and Chen (2003)[27] examined the major determinants of a firm's derivatives use for companies listed in Taiwan Stock Exchange in the period from 1997 to 1999. Their study finds that the proportion of derivatives use in Taiwan, ranging from 31% to 37%, is comparable to that of the US (35%), but less than that of New Zealand (53%). Firms' derivatives use in Taiwan asymmetrically focuses on currency/forwards derivatives. Industry breakdown illustrates that the electronic industry stands for the heavy user both in terms of number and amount. They have shown that the vital determinants of a firm's derivatives use are size, the ratio of long-term debt to total debt, the electronic industry dummy, and the export ratio. The fact that firms 'derivatives use positively correlated with size and the long-term-debt-to-total-debt ratio implies the capability-willingness hypothesis: only large firms are affordable to engage in derivatives use due to the concern of economies of scale in establishing and maintaining expertise, and these firms demand more derivatives use when they face with high financial risk in debt structure.

Nguyen and Faff (2003)[28]extended the literature investigating the motives behind the use of financial derivatives as an element of corporate policy by unveiling the different incentive (and disincentive) factors underlying the use of two most frequently used types of financial derivatives—foreign currency derivatives (FCD) and interest rate derivatives (IRD). In particular, they supplemented and enhanced recent Australian evidence with regard to derivative use reported by Berkman et al. (2002) andNguyen and Faff (2002). Their results show that leverage and firm size are the two most important factors that induce a firm to make use of financial derivatives. Additionally, usage also intensifies as leverage increases. Logically, firms'perceive financial distress costs to be particularly costly and thus represent a

[27]Please refer the full article article here: http://www.worldscientific.com/doi/abs/10.1142/S0219091503001171
[28]Full text can be referred here: http://aum.sagepub.com/content/28/3/307.short

source of risk that is worth hedging. Likewise, larger firms are more likely to be involved in derivative activities and they seem to achieve synergies in derivative transactions as the use of one type of instrument tends to be associated with the use of another. As evident throughout their analysis, the motives behind the use of interest rate derivatives better conform to hedging theories than to the motives behind the use of foreign currency derivatives. Firms appear to use interest rate derivatives to minimize the risk of financial distress and to secure internal capital for future investment opportunities. Furthermore, the use of interest rate derivatives intensifies as firms pay out more dividends. The relationship between the use of derivatives and dividend yield strengthens the role of derivatives in reducing the cost of under-investment. The use of foreign currency derivatives, on the other hand, appears to be cost-basedand related to the issuance of foreign-currency-denominated debt. Nevertheless, the results in this paper continue to support the notion that for Australian firms, managerial discretion does not appear to influence the hedging decision. Finally they inferred that the use of financial derivatives, on the contrary are strongly linked to value-enhancing motives.

Pramborg (2005)[29] compares derivative usage in Sweden and Korea. The sample was constituted of 250 Swedish firms listed on the Swedish Stock Exchange and 387 Korean firms listed on the Korean Stock Exchange. The response rate was different between the two countries (42.2% Swedish and 15.5% Korean sample), with a total response rate of 26%. The questionnaire contained questions regarding: the respondent's exposure to foreign exchange rates and whether the respondent firm hedges; the respondent's use of foreign currency derivatives (types of instruments, frequency of use, concerns); the respondent's use of other foreign exchange risk management methods (foreign debt, internal techniques); and the respondent's control and reporting procedures (decision making process, evaluation). The results suggest both similarities and divergences between the two countries. The most peculiar difference was the purpose of risks managers: Korean risk managers were more likely to focus on minimizing fluctuations of cash flows, while Swedish risk managers favoured minimizing fluctuations of earnings or protecting the appearance of the balance sheet. Swedish firms were characterized by higher levels of FX exposure for revenues, costs, and net assets as compared to Korean firms; also, the percentage of firms

[29]Here is more details: http://www.sciencedirect.com/science/article/pii/S0927538X04000794

that indicated no exposure is similar in both countries. However, the proportion of Korean firms that used derivatives was significantly lower. This result, as the author explains, may be due to the higher fixed costs incurred by Korean firms initiating derivatives programs. These higher costs could result from the relative immaturity of the then Korean derivatives markets and, perhaps more importantly, from Korean authorities' heavy regulation of OTC derivatives use. The study also reveals that a large proportion of firms in both countries used a profit based approach to evaluate the risk management function.

Brailsford, Heaney and Oliver (2005)[30] examined for the first time theuse derivative in the public sector. They observed that the proportion of Australian public sector organizations using derivatives in our sample (22 per cent) is considerably less than that evident in studies of (Australian) private sector derivative use, which is typically greater than 50 per cent. They also observe that the reasons advanced for the use of derivatives in the private sector do not readily apply to the public sector. For instance, there is little reason to expect public sector organizations to focus on wealth maximization as their prime objective or to be overly concerned with financial distress costs. In addition to maximizing value, maximizing managerial utility is often cited as a reason for derivative use in the private sector. Therefore, in this setting, where managers must strive for multiple goals of value maximization and the provision of mission goods, they argued that management utility will be an important determinant in derivatives use. Specifically, management utility will be a function of budgets and budget discrepancies. They tested hypotheses on a sample of Australian Commonwealth public sector organizations. The sample of Australian organizations they have chosen because of the advanced public sector setting and its structure, devolved financial management principles, corporatization policy, competitive neutrality policy and the recent introduction of full accrual accounting systems. The results of statistical tests suggest that, consistent with the private sector, derivative use is most likely to occur in larger organizations and those that carry liabilities. The strongest result is that the greater the level of liabilities, the greater the probability of derivative use. The introduction of liabilities to public sector organizations creates a responsibility to pay interest, which in turn increases the likelihood of budget discrepancies and the complexity of the budgeting process. These results are, of course, also consistent with the common

[30]Fullarticle can be referred here: http://onlinelibrary.wiley.com/doi/10.1111/j.1467-629X.2004.00120.x/abstract

need to manage interest rate risk. There is also some evidence, albeit not strong, that organizations that pay taxes and/or dividends or those that earn greater levels of non-government revenue tend to use derivatives more than their counterparts, which also supports the argument that the more complex the management of the budget, the greater the propensity for derivatives use.

Hinkelmann and Swidler (2005)[31] discussed in this article the basic methods by which states could hedge their tax revenues by using derivatives contracts based on aggregated macroeconomic indicators and empirical evidence as to the effectiveness of several potential hedging strategies. Their study focuses on public treasury management with the help of derivatives. They have argued that Goldman Sachswith Deutsche Bank now offers derivatives on nonfarm payroll and initial jobless claims. With the additional push for macro-market hedging instruments by Shiller (2003), it seems almost certain that there will soon be derivatives based on aggregate income indexes such as gross domestic product (GDP) and personal income as they have predicted. Thus, it is important to examine the feasibility of hedging state income with a futures or options contract based on U.S. aggregate income. Their analysis concludes with a discussion of practical issues concerning government hedging using financial derivatives and compares this strategy with the more traditional use of rainy day funds.

Oaikhenan and Osunde (2006)[32] made an exploratory empirical verification of the factors that influence the demand for rights, a form of derivative instrument in the Nigerian Stock market. Their paper discusses first the various types of derivatives. Next, an empirical model in which they explained the demand for rights using such variables suggested by theory as stock market index, a measure of the level of activity in the stock market, inflation, interest and exchange rates is specified and estimated, albeit with the very limited data series available. The results obtained were fairly robust and satisfactory. They showed that the variables utilized in the specification are indeed germane to explaining the demand for rights in the Nigerian Stock market.

[31]The article can be reffered here: http://www.jstor.org/stable/4355395?seq=1#page_scan_tab_contents
[32]Obtain more details at the following web page:
http://search.proquest.com/openview/689acd8cbd00ef7c188fd4da647f3f1f/1?pq-origsite=gscholar

Lin, Pantzalis and Park (2007)[33] provided an additional insight into firms' risk management practices risk management activities. In particular, their evidence establishes the use of derivatives as an important corporate policy with real implications in terms of valuation. It is well documented that larger and more sophisticated firms are more likely to use derivatives. They provide the additional evidence that information asymmetry has a more negative impact on firm value for firms that do not use derivatives. Their findings are consistent with the notion that large numbers of diversified firms rationally choose to use derivatives to lower information asymmetry and to thereby reduce the negative valuation effects of diversification. Their evidence compliments the earlier findings of both the risk management literature and the diversification discount literature.

Anand and Kaushik (2007)[34] analyse the derivatives usage in India, focusing on foreign exchange risk management. The questionnaire was mailed to 640 companies, which were common across two most widely used Indian stock market indices having foreign exchange exposure. In their study 55 responses were received leading to a response rate of 8.59%. Answers show that 70.4% of the respondents firms explained that they used foreign exchange risk management plan or policy or programme because risk managers had acquired the awareness that these activities not only mitigate the risks but also allow the reduction of the volatility in profits and in the cost of the capital, therefore increasing the value of the firms. Also, the firms with high debt ratio were more likely to use foreign currency derivatives. The authors, finally, classified the finalities to which the risks managers tended in their activity: the major objective of using derivatives is hedging the risk for arbitrage purpose and price discovery; the speculation as objective of using foreign currency derivative is the least preferred option.

An important survey, about the risk management policy adopted by corporations, was conducted by **Tufano and Servaes (2007)**[35]**.** It deals with a "global" study that does not consider one or more specific risks neither a particular country in which to define the investigation; the survey, in fact, has been structured to consider a plurality of risks, then brought back to three macro-sample: the market risks, the commercial risks and the

[33]The full article is available here: http://www.sciencedirect.com/science/article/pii/S0378426606002123
[34] The full article is available here: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=996641
[35]Please refer the link for full article: http://www.researchgate.net/publication/46540802_The_Theory_and_Practice_of_Corporate_Risk_Management

external event risks sample contains the Deutsche Bank's corporate customers in 39 different countries. Theanalysis of the answers by the 334 companies define many important results. Data show that 73% of the interviewed firms used one of the typologies of scenery analysis (as the stress test), from 36% to 45% utilized the measures at-Risk (id test: the VaR, the CaR and the EaR), and only 6% employed an analysis considering the shareholders' value, for example the "shareholder value analysis" (SVA).

The answers about the instruments utilized in risk management activity display that the most common instruments were: the assurance tools, the derivatives instruments to hedge the foreign risk and the interest rate risk.

Lien and Zhang (2008)[36] revealed financial derivatives markets have helped to support capital inflows into emerging market economies. On the other hand, using financial derivatives has had negative effects, leading to exacerbated volatility and accelerated capital outflow. There is a consensus that the derivatives are seldom the cause of the crisis, but they could amplify the negative effects of the crisis and accelerate contagion. The underlying reasons for the negative effects are associated with the leverage nature of derivatives transactions, non-transparent reporting of transaction risks, and unsophisticated or insufficient risk management controls in financial institutions, as well as weak prudential supervision. As for the function of derivatives markets, academic research infers how emerging derivatives markets fulfil their functions of risk reduction and redistribution and price discovery and stabilization, compared to what has occurred in mature markets. Their study supports the hedging role of emerging derivatives markets. Research on optimal hedging strategies reveals the effects of emerging market factors on the formulation and implementation of the optimal hedging ratio. They suggested such factors could include, among others,uncertaintyof the commodity production volume, existence of currency risk, and management of multiple risks.

Martin, Rojas, Eráusquin and Vera (2009)[37] conducted an empirical study through a structured survey directed to chief financial managers of companies classified among the TOP 1000 in Peru. They collected information in order to explain the effect of the

[36]The details can be extracted from here: http://www.tandfonline.com/doi/abs/10.2753/REE1540-496X440203#.VcTgZnGqqko
[37]Please refer the web page for more details: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1549864

determinants that influence the development of financial derivatives in Peru. Their results show that the use of derivatives in Peru is low and the relevant factors affecting its development are the degree of training in derivatives and the market regulation. Their outcome suggests that there should be patterns of behaviour for market agents and government entities to promote the use of derivatives, as well as provide information for future research that might contribute to establish the most adequate mechanisms for market-development purposes.

Bartram, Brown and Fehle (2009)[38] examined the use of derivatives by 7,319 firms in 50 countries that together comprise about 80% of the global market capitalization of nonfinancial companies in U.S. They claimed that their study is the first comprehensive global examination of hedging practices and the use of foreign-exchange, interest-rate, and commodity price derivatives. They also claimed that large sample increases the power of statistical tests examining the determinants of hedging, and by comparing the importance of country- and firm-level factors. Furthermore, they used the broad scope of the sample to identify reasonably sized subsamples of firms that may be of particular interest, for example, firms that have high expected financial distress costs.

They have utilized a simultaneous equations technique to examine the effect of derivatives use on other firm policies. Their analysis shows that derivatives use is significantly related to other important financial characteristics such as leverage, debt maturity, holdings of liquid assets, dividend policy, and operational hedges.

Their finding also suggests that firms with less liquid derivatives markets, typically in middle-income countries, are less likely to hedge. This finding is consistent with the assertions of some policy makers that derivatives could be important in limiting the severity of economic downturns in developing economies. The impact of this finding is reinforced by other results showing that these firms, which are typically located in countries with higher economic and financial risk, prefer to hedge more often, ceteris paribus.

Nguyen, Faff and Hodgson (2009)[39] investigated whether financial derivative usage by Australian corporations constitutes information asymmetry when proxied by profitable trading in the firms' securities by insiders. They have used data on insiders' transactions

[38]The full article is available over here:http://onlinelibrary.wiley.com/doi/10.1111/j.1755-053X.2009.01033.x/abstract

[39] Please refer the original article here: http://onlinelibrary.wiley.com/doi/10.1002/fut.20402/abstract

which are obtained from Huntleys' for listed Australian companies between August 2002 and December 2005. Their findings show that insiders who trade in companies that employ derivatives make larger purchase returns compared to insiders in nonuser firms with regard to trading identity, trading intensity, variability of usage, volume of trading, and industry effects. They have provided a plausible explanation is that asymmetry is driven by derivative traders who undertake noisy transactions in firms where risk outcomes were previously transparent. They said that excess returns are confined to purchase transactions consistent with insiders primarily selling for non-information reasons.

Aretz and Bartram (2010)[40] contributed to the literature by providing a detailed and comprehensive overview and analysis of the theoretical arguments and the corresponding empirical evidence in the existing literature pertaining to corporate risk management as a lever for shareholder value creation. In particular, they summarized theoretical arguments suggesting that shareholder wealth can be increased through corporate hedging by exploiting capital market imperfections that result in underinvestment and asset substitution problems, costly divergent interests between managers and shareholders, costly external financing, direct and indirect costs of financial distress, and taxes. They reviewed the proxy variables used to test these hypotheses, as well as present and discuss the empirical evidence of the many studies testing positive rationales of corporate hedging.

Nguyen and Faff (2010)[41] investigated the relationship between the use of financial derivatives and firm risk using a sample of Australian firms. Their results suggest that this relationship is nonlinear in nature. They found that the use of financial derivatives is associated with a risk reduction for moderate derivative users. Derivative usage among extensive derivative users, on the other hand, appears to lead to an increase in firm risk. They also found that compared to firms that do not make use of derivatives, there is no evidence that extensive derivative users are exposed to a risk level in excess of that of non-derivative users. Their results are, therefore, indicative of a hedging motive behind the use of financial derivatives.

[40]Please view the full article at http://onlinelibrary.wiley.com/doi/10.1111/j.1475-6803.2010.01278.x/abstract
[41]The detailed article is available here:
http://www.tandfonline.com/doi/abs/10.1080/09603101003636204#.VcTrQ3Gqqko

Lantara (2010)[42] made a survey on the use of derivatives among firms listed on the Indonesian Stock Exchange. The findings show that the participation rate in the use of derivatives is 28.8percent, much lower than those found in developed countries. Forthe derivatives non-users, insignificant risk exposure is reported as the most important rationale for not using derivatives. Consumer goods industry constitutes the largest proportion of firms using derivatives. The majority of respondents utilize derivatives to hedge against financial risks rather than to speculate. Foreign currency risk and interest rate risk are the most important types of risks faced with by respondents. Using the Chi-square and the Fisher's exact tests, their result corroborates the size effect hypothesis, where the use of derivatives is more popular among large firms than small firms.

Bartram, Brown and Conrad (2011)[43] used a large sample of nonfinancial firms from 47 countries and examined the effect of derivative use on firm risk and value. They control for endogeneity by matching users and nonusers on the basis of their propensity to use derivatives. They also use a new technique to estimate the effect of omitted variable bias on inferences. They find strong evidence that the use of financial derivatives reduces both total risk and systematic risk. The effect of derivative use on firm value is positive but more sensitive to endogeneity and omitted variable concerns. However, using derivatives is associated with significantly higher value, abnormal returns, and larger profits during the economic downturn in 2001–2002, suggesting that firms are hedging downside risk.

Kozarević, Kešetović, Jukan and Čivić (2012)[44] discussed scope of the use of derivatives by companies in BiH for specific purposes of financial risk management. Their aim is to provide a comparative analysis with companies from Slovenia and Croatia in order to determine if companies in BiH use the hedging instruments appropriately, and to suggest possible improvements of their practices for managing financial risks. The basic goals of the paper

[42]Please refer the following link for full article:
http://www.researchgate.net/profile/I_Wayan_Lantara/publication/264561783_A_SURVEY_ON_THE_USE_OF_DERIVATIVES_IN_INDONESIA/links/53e873e10cf25d674ea81909.pdf
[43]Please refer the following web link for more details:
http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=8369149&fileId=S0022109011000275
[44]For more detail, please locate the following web address:
http://web.a.ebscohost.com/abstract?direct=true&profile=ehost&scope=site&authtype=crawler&jrnl=15128962&AN=85436561&h=6UPOOBXJJppsiQhaE3tK9ZazXcmDq5sJK7pKqTHtZOAfDfYSN3XDS9mVpY8%2bf3MpKBW8J6pHeK0%2bIalOvmbHeg%3d%3d&crl=c&resultNs=AdminWebAuth&resultLocal=ErrCrlNotAuth&crlhashurl=login.aspx%3fdirect%3dtrue%26profile%3dehost%26scope%3dsite%26authtype%3dcrawler%26jrnl%3d15128962%26AN%3d85436561

are to explore if companies in BiH use derivatives for risk management purposes to the same extent as Slovenian and Croatian companies and to determine if BiH companies properly hedge their financial risks. The paper also aims to give suggestions to BiH companies for improvements of their risk management practices in order to ensure more efficient and effective financial risk hedging by using derivatives, primarily available through banks on BiH financial markets.

DaDalt, Lin and Lin (2012)[45] examined whether derivatives use reduces the utilization of external financing for a large sample of nonfinancial firms over the period 2002 to2004. Using the measures of net external finance as discussed in Bradshawet al. (2006), they found a negative association between corporate derivative use and the use of external financing. Further, they found the relationship is driven by differences in the use of debt, as opposed to equity financing. They also argued that their results are consistent with the argument in Froot et al. (1993) that firms hedge to avoid using costly external funds. In addition, they founded that the decreased utilization of external financing is driven by decreases in the use of additional external debt financing.

Birt, Rankin and Song (2013)[46] documented the use and disclosure of derivatives in the Australian extractives industry. They find that derivatives are used by 23 per cent of their sample, with mitigation of commodity risk and foreign exchange risk being the most common purposes for which derivatives are used. The most common types of derivatives used in the sector for hedging purposes are forward rate agreements and options. Their results indicate that derivative use is positively associated with financial risk and firm size. They also examined the relation between firm characteristics and the extent of financial instrument disclosure, using a disclosure index based on the additional requirements in IFRS 7 Financial Instruments: Disclosures. In tandem with other empirical studies their results reveal that large firms with higher leverage, which use derivatives, and are audited by a Big 4 auditor provide more extensive disclosure of financial instruments.

Beneda (2013)[47] used a regression model and seeks to find an association between lower earnings volatility (dependent variable) and the use of hedging with derivatives

[45]For full article, please refer the following web link: http://www.tandfonline.com/doi/abs/10.1080/13504851.2011.617677#.VcdIKnGqqko
[46]Please refer the full article here : http://onlinelibrary.wiley.com/doi/10.1111/acfi.12001/abstract
[47]The original article is available at: http://www.tandfonline.com/doi/abs/10.1080/09603107.2012.709599#.VcdKP3Gqqko

(independent variable)by collecting data from COMPUSTAT database with data available during any of the fiscal year-ends of 2003–2010. The results of the study indicate a strong association between the low reported earnings volatility and the firm use of derivative instruments for hedging. His study also indicates that the effectiveness in smoothing reported earnings by using cash flow hedging and the associated hedge accounting increases over the 8-year study period from 2003-10, after the implementation of SFAS No. 133, perhaps suggesting a learning curve for firm use.

Paligorova and Staskow (2014)[48] studied about the use of financial derivatives by Canadian publicly listed firms from 2006 to 2013. They found that over the period from 2006 to 2013, one-third of the Canadian firms in theirsample used interest rate swaps, FX forwards, FX futures, FX swaps or FX options. They collected data on the use of derivatives for a sample of firms listed on the Toronto Stock Exchange (TSX) for the following contracts: interest rate swaps, as well as foreign exchange futures, forwards, swaps and options. Excluding financial firms and utilities, they obtained information for the use of derivatives contracts for 1,522 non-financial firms over the 2005–13 period. They found that portion of Canadian firms that relies on derivatives contracts is significant. In total, 33 per cent of the firms in their sample use at least one of the contracts listed above; 18 percent use interest rate swaps and 24 percentage at least one type of foreign exchange contract. Of the firms that useFX contracts, 25 per cent use FX swaps, 54 per cent use FX forwards and46 per cent use either FX futures or FX options.

They also found that the use of derivatives is widespread across all sectors and it is slightly more prevalent in a crisis period. On an average, corporate hedgers have some different characteristics from non-hedgers. Their evidence indicates that hedging may be value-enhancing, since hedgers typically have higher profit and lower earnings volatility than non-hedgers. Their study finds that hedgers appear to actively manage their balance sheet by holding less cash and to access external financing in capital markets, both of which may be the result of the efficient use of derivatives contracts.

Park and Kim (2015)[49] provided empirical evidence of the relationship between financial derivative usage, debt capability and stock return using non-financial firm data during the

[48]Please refer the following URL: http://www.bankofcanada.ca/wp-content/uploads/2014/11/boc-review-autumn14-paligorova.pdf
[49]Please locate the following web address for more details: http://dx.doi.org/10.1080/1226508X.2015.1012093

period from 2002 to 2012. Empirical results support that derivative usage variable is positively correlated with corporate debt. Firms with derivatives tend to have more debt after controlling the possible endogeneity problem. This result can suggest that financial derivatives usage of the individual firm plays an important role of reducing financial costs and increasing debt capability.

Their study also reveals that derivative user firms turn out to have higher stock return especially during the period with contractionary monetary policy. Despite of the tight credit market condition, non-financial firms can achieve better stock performance by adopting financial derivatives. The unexpected monetary policy shock is negatively correlated with the corporate stock return especially during the period with contractionary monetary policy. The negative relationship between contractionary monetary shock and corporate stock return turn out to be more significant in case of the derivative non-user firms. They have deduced from the results that derivatives non-user firms are less likely to accommodate risk management process. Thus, their stock market performance is sensitively affected by monetary policy stances.

SCOPE FOR FURTHER RESEARCH:

The review clearly shows that research work regarding use of financial derivatives in corporate risk management is only confined to advanced western economies like U.S, U.K, Canada, Germany, Australia, New Zealand, Sweden, Netherlands; but very less work has been done in economies of Asia, Africa and other developing and underdeveloped economies of the world. Another important aspect comes to picture from the above review is that no such notable work has been done to identify the difference and similarities in hedging pattern between public (Govt.) and private enterprises except a research work done by Brailsford, Heaney and Oliver (2005) on Australian commonwealth public sector corporations.

CONCLUSION:

The literature reviewed from 1986 to 2015 suggest that the financial derivatives have become a celebrated and handy corporate risk management instrument in the western world. Many studies confirmed that the size effect hypothesis also applies to the use of financial derivatives which means larger firms tend to use more derivatives in comparison to relatively smaller firms. It has also been found that there exists a positive relationship

between presence of external debt or liability and use of derivatives. But review shows that there is a negative correlation between liquidity and propensity to use derivatives. Studies also suggest that the foreign currency, interest rate and commodity price risks are the most common risks hedged by the derivative instruments. About the kinds of derivative instruments used, exchange futures are the most common instrument used followed by OTC forwards and options. Literature also provides the concerns behind not using the derivatives by non-hedgers like: concerns about disclosures of derivatives activities; concerns about the perceptions of derivatives use by investors, regulators, analysts or the public; and costs of establishing and maintaining derivatives programmes exceed the expected benefits. Studies also show that there are certain country-specific reasons to use derivatives like: U.S firms very often use derivatives to manage cash flow volatilities as against German firms using derivatives to hedge accounting numbers (BodnarandGebhardt, 1998). There are evidences of use of derivatives in Government treasury management (Hinkelmann and Swidler, 2005). I believe this review will be helpful in exploring further dimensions of corporate hedging and risk management through derivatives.

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