

Value of Financial Derivative Contracts Disclosed by NIFTY50 Companies and Its Relation with Ownership and Leverage

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Abstract:

The companies enter into derivative contracts to hedge their financial risk such as risk arising due to changes in the foreign exchange rates, interest rates, prices of commodities. The contracts may be exchange traded options and futures; or over the counter contracts forwards and swaps. When the companies enter into derivative contract, it results into an asset. According to the guidance note issued by ICAI, the value of the derivative contract is shown at fair value in the balance sheet. When the fair value is positive, the derivatives are carried as assets and when such value is negative, the derivatives are carried as liabilities. This guidance note is not applicable to banking, financial services and insurance (BFSI) companies. Among the NIFTY50 companies, there are 39 non-BFSI companies. For the financial year ending 31st March, 2022, 11 companies have no derivative contracts, 8 companies are disclosing as fair value as liability and 20 companies are disclosing as asset. The study found that there is no statistically significant difference in the fair value of derivative contracts for government companies, companies having Indian private ownership and foreign companies. It is also observed, there is no statistically significant relationship between the fair value of the derivatives and leverage of the companies.

Keywords: Financial Derivatives, Fair Value, NIFTY50, Ownership, Leverage

INTRODUCTION:

Risk is the most common characteristic of every business enterprise. This risk arises due to changes in demand and supply of commodities in the economy which may lead to wide variations in the prices of commodities. In order to manage the wide variations in prices the need for the derivative contracts arise. In last few decades, there has been many-fold increase in the volume of international trade and business due to wave of globalisation and liberalisation across the globe. This has led to rapid and unpredictable variations in the prices of commodities, financial assets prices, interest rates and exchange rates, etc. and these unpredictable variations in prices are called financial risks. In the present highly uncertain business environment, the importance of risk management has become more essential than ever before. Hence in order to mitigate the financial risks, the companies are using the financial derivative contracts.

Financial derivative contracts are the contracts that derive their value from any underlying asset. The underlying assets are the financial instruments which are linked to a specific financial instrument and through which specific financial risks such as interest rate risks, currency risks, equity risks, credit risks and commodity price risk, etc can be traded in the financial markets in their own rights.

The companies using financial derivative instruments have been disclosing the contract's notional value in the annual reports. However, according to the guidance note on "Accounting for Derivative Contracts" by the Institute of Chartered Accountants of India (ICAI), effective from 1st April 2016, the companies are required to disclose the fair value in the balance sheet. The fair value of derivative contracts is as an asset or liability. When the fair value of a derivative is positive, it is an asset, and when it is negative, it is a liability. This current study examines whether the financial derivative instruments used as hedging tools are assets or liabilities for the large listed companies in India.

REVIEW OF LITERATURE:

Liyuan, W. (2019), conducted research on accounting issues of derivative financial instruments under network conditions. It has become the consensus of the major standard-setting bodies that derivative financial instruments should be included in the statement and measured at fair value. With the deepening development of market economy and the advent of the Internet era, China's derivative financial market has also ushered in a new period of development. Therefore, it was concluded that there should be a combine network technology to break through the traditional accounting recognition and measurement model, and reflect derivatives accounting information comprehensively and

objectively in time.

Guo, Z. (2022), made a study on the background and concept of structured financial products, in-depth analysis of the internal structure of structured financial products and product applications, and the future development prospects of this kind of financial products. It was concluded from the study that Structured financial products as a new financial product, relies on its structural model by combining the basic financial instruments and derivative financial instruments, with its characteristics of both fixed income securities relatively safe and financial derivatives to hedge risk, the benefits of asymmetric characteristics, has become popular with investors in our financial markets' products.

Hsiao, Y.J & Tsai, W.C. (2018) made a study to determine whether individuals with higher levels of financial literacy are more likely to be active participants in the derivatives markets. The empirical results, based upon an official National Survey undertaken by the Financial Supervisory Commission of Taiwan, revealed that even after controlling for stock market participation rates, financial literacy represents a significant benefit to individuals since it helps them to lower the entry barriers to purchasing complex derivatives products. It was found that household wealth, gender, residential location and diverse sources of information have significant effects on participation rates in the derivatives markets. Furthermore, when taking into consideration issues of accessibility or measurement error, the positive effects of financial literacy on derivatives market participation are found to remain unchanged.

Bhagwat et al. (2012) analysed the Indian Financial Derivatives Market and its standing in the Global Financial Derivatives Market. The research objective was to investigate the roots of derivatives trading by tracing its historical past, types, regulatory and policy changes, trend and growth, prospects, and challenges of India's derivative market. The research found that price volatility of financial assets, international integration of financial markets, advanced risk management tools, advancements in financial engineering, and the availability of risk management strategy options have contributed to the global expansion of financial derivatives. According to the study, derivatives substantially influence the financial system and function as a tool for risk management.

Suhendra et al. (2022) analysed the relationship between derivative transactions and earnings management for 91 non-finance companies in Indonesia and Thailand from 2013- 2017. It has been concluded from the study that derivative transactions hurt the value relevance of earnings.

Vashishtha and Kumar (2010) conducted a case study on the Growth of India's Financial Derivatives Market. The research aimed to examine the origins of derivatives trading by tracing its historical evolution, kinds of traded derivatives products, regulatory and policy changes, trends and growth, prospects, and problems of India's derivative market. The research is divided into four components. The research concluded that the stock derivatives market significantly influences price discovery. Increased price volatility of financial assets; growing integration of national financial markets with international markets; the development of more sophisticated risk management tools; the availability of a broader range of risk management strategies to economic agents; and innovations in financial engineering have fuelled the growth of financial derivatives globally and in India.

Phan et al. (2014) evaluated the effect of derivatives in boosting the firm value of U.S. oil and gas exploration and production businesses from 1998 to 2009. This research first focused on Tobin's Q and documented a "hedging discount" in rising oil and gas prices. In contrast, some evidence is that hedging increases company value during falling prices.

Barton (2001) conducted a study to know whether financial derivatives affect earnings management decisions. For this study, the data had been taken for the period 1994-96 for a sample of Fortune 500 firms. It was found from the study that there is a significant negative association between the notional value of derivatives and discretionary accruals.

Nnam et al. (2020) researched the impact of financial instrument disclosure on the financial performance of Nigerian listed manufacturing enterprises. The study's goals are to investigate the impact of derivative financial assets disclosure on Nigerian listed manufacturing businesses' return on assets and establish the effect of derivative financial liabilities disclosure on the return on assets of Nigerian listed manufacturing firms. The ex-post facto research design was used to attain the study's goal. Data for this research were gathered from secondary sources, including the annual reports and accounts of chosen banks. Multiple regression analysis was employed to examine the hypotheses. The study's results indicated that derivative financial asset disclosure substantially influences the return on assets of Nigerian listed manufacturing businesses. However, derivative financial liability disclosure has no significant effect on the return on assets of Nigerian listed manufacturing firms. Furthermore, the research indicated that while looking for the financial performance of manufacturing businesses in terms of their financial instruments, investors should not focus too much on derivative liability since it does not substantially impact manufacturing company performance. Enterprises and investors should pay attention to derivative assets since they have a positive and substantial impact on the financial performance of publicly traded manufacturing firms.

Choi & Mao (2015) researched Earnings Management and the Fair Value of Derivative Hedging. The analysis is based on a sample of non-financial S&P 500 corporations from 1996 to 2006. The overall findings of the research indicate that a significant change in a derivative accounting rule may affect the amount and volatility of reported profits.

From the study of the literatures, it has been found that the derivative instruments are used to manage the financial risk

of the companies. The studies are made to study the determinants and value relevance of derivative instruments by classifying the companies using derivative instruments and companies not using derivative instruments. But the fair value of derivative instruments disclosed by the companies are not studied. Finding this gap, the current study analyses the fair values of the derivative instruments disclosed by the Indian companies.

OBJECTIVES:

The major objectives of the study are:

- To study the characteristics of the distribution of the fair value of financial derivative disclosed by the sample companies
- To study the relation between the fair value of financial derivative and ownership structure of the companies
- To study the relation between the fair value of financial derivative and leverage

HYPOTHESES:

The null hypotheses are:

H01: The fair value of the financial derivative disclosed is independent of the ownership structure of the companies

H02: The fair value of the financial derivative disclosed is independent of the leverage of the companies

RESEARCH METHODOLOGY:

Sources of Data:

Data which have been used for the study are collected from the annual reports of the sample companies.

Sample Design:

The study period is the financial year 2021-22. The sample companies are non-finance companies among the NIFTY50 companies. The reason for excluding the finance companies is, the guidance note is not applicable for such companies.

Variables:

Dependent Variable for the study is the fair value of financial derivative disclosed in the balance sheet

Independent Variables are the categorical variables – ownership of the companies (Government companies, Indian Private Sector Companies, Foreign Companies) and continuous variable – leverage measured as the ratio of interest expenses to sales.

Statistical Techniques:

Descriptive statistics to analyse the characteristics of a statistical distribution Variance Inflation Factor used to test the multicollinearity i.e., the inter-dependence among the independent variables.

Multiple Regression technique is used to find the nature of the relation between the independent variables and the dependent variable.

DATA ANALYSIS:

Descriptive Statistics:

The descriptive statistics explain the statistical characteristics of a distribution and the measures include the central tendencies, dispersion, skewness and kurtosis. The table 1 shows the statistics for the distribution of the fair value of financial derivative disclosed by the 39 companies for the financial year ending 31st March, 2022.

Table 1: Descriptive Statistics of the distribution of Fair Value of Financial Derivative

Mean (in Rs. Million)	55.341
Median (in Rs. Million)	8
Minimum (in Rs. Million)	-30820
Maximum (in Rs. Million)	5740
Std. Dev. (in Rs. Million)	5200.4
Skewness	-5.2103
Kurtosis	28.922

(Source: Compiled from the output of Software)

The table 1 shows the basic statistics of the distribution of the fair value of financial derivative disclosed by the 39 companies. It is observed that for some companies the fair value is '-ve' indicating that the financial derivative which is used as hedging instruments by the companies are becoming liabilities for them. The distribution is highly dispersed and negatively skewed. The kurtosis statistic shows that the distribution is leptokurtic.

Multicollinearity Test:

There are four independent variables – Govt (for Government Ownership), Private (for Indian Private Ownership), Foreign (for Foreign Ownership) and Int_Sales (for leverage measured as Interest to Sales). One of the pre-requisites for the regression analysis is there need not be significant relation among the independent variables and for this multicollinearity test is done. For the test, variance inflation factor (VIF) is observed. The table 2 shows the VIF for the four variables:

Table 2: Variance Inflation Factor (VIF) for the independent variables

Independent Variable	VIF
Govt	1.497
Private	1.814
Foreign	1.488
Int_Sales	1.079

(Source: Compiled from the output of Software)

The rule of thumb is less than 10 for VIF for concluding that the independent variables are not interdependent. From table 2 it is observed that the VIF are less than 10 and hence the independent variables are not inter-dependent.

Regression Analysis:

The relation between the dependent variable (fair value of the financial derivative) and the four independent variables are studied using the regression analysis. The result of the OLS regression is shown in table 3:

Table 3: Regression Coefficients and P Values

	Coefficient	Std. Error	t-ratio	p-value
const	490.943	2136.55	0.2298	0.8196
Govt	-878.620	3058.73	-0.2872	0.7757
Private	-404.181	2430.12	-0.1663	0.8689
Foreign	-349.273	3291.08	-0.1061	0.9161
Int_Sales	-1315.29	9359.67	-0.1405	0.8891
P Value (F Statistic) 0.9988			Adjusted R ² -0.114	

(Source: Compiled from the output of Software)

The variables are said to be explanatory for the dependent variables when the p values of the t-statistic are less than 0.05 and the model is said to be fit when the p-value of F-statistic is less than 0.05. From the table 3 it is observed that none of the independent variables individually and jointly are not statistically significant related with the fair value of financial derivatives disclosed by the companies. Thus, both the null hypotheses are accepted.

FINDINGS:

The major findings from the study are:

- The distribution of the fair value of financial derivative disclosed by the 39 companies is highly dispersed, negatively skewed and leptokurtic
- The fair value of financial derivative instrument which is used to hedge risk is a liability for some companies.
- The fair value of financial derivative instruments of the companies are independent of the ownership and the leverage.

CONCLUSION:

The financial derivative instruments are used by the companies to hedge their financial risk. The derivative instrument remains as asset when the movement of the value of the underlying assets are rightly predicted. However, the study found that some companies for which the fair value of the derivative instruments are liabilities instead of an asset as expected. The companies are increasing their risk when the fair value is becoming a liability. There are factors other

than the ownership structure and leverage which cause the highly dispersed and skewed distribution of the fair value of financial derivative.

REFERENCES:

1. Barton, J. (2001). Does the Use of Financial Derivatives Affect Earnings Management Decisions?. *The Accounting Review*, 76 (1), 1–26.
2. Bhagwat, S., Omre, R. & Chand, D. (2012), “An Analysis of Indian Financial Derivatives Market and its Position in Global Financial Derivatives Market”, *Journal of Business Management & Social Sciences Research (JBM&SSR)*, Volume 1, No.2 November 2012, ISSN No: 2319-5614.
3. Choi, J.J., Mao, C.X. & Upadhyay, A.D. (2015). Earnings Management and Derivative Hedging with Fair Valuation: Evidence from the Effects of FAS 133. *The Accounting Review*, 90 (4), 1437–1467
4. Guo, Z. (2022), “Derivatives and Personal Finance: Structured Financial Products”, *Frontiers in Business, Economics and Management*, ISSN: 2766-824X | Vol. 5, No. 2, 2022.
5. Hsiao, Y.J & Tsai, W.C. (2018), “Financial literacy and participation in the derivatives markets”, *Journal of Banking and Finance* 88 (2018) 15–29
6. Liyuan, W. (2019), “Research on Accounting Issues of Derivative Financial Instruments under Network Conditions”, *IOP Conf. Series: Materials Science and Engineering* 631 (2019) 052018
7. Nnam, H.I. & Nwaorgu, I.A. (2020). Effect of Financial Instrument Disclosure on Financial Performance of Listed Manufacturing Firms in Nigeria. *10th Accounting and Finance Conference Book of Proceedings*, 10 (2)
8. Phan, D., Nguyen, H. & Faff, R. (2014). Uncovering the asymmetric linkage between financial derivatives and firm value — The case of oil and gas exploration and production companies. *Energy Economics*, 45, 340–352, <http://dx.doi.org/10.1016/j.eneco.2014.07.018>
9. Suhendra, S., Murwaningsari, E. & Mayangsari, S. (2022), The Derivative on the Value Relevance Through Tax Avoidance and Earnings Control, *Linguistics and Culture Review*, 6(S1), pp. 510-529. <https://doi.org/10.21744/lingcure.v6nS1.2085>
10. Vashishtha, A. & Kumar, S. (2010). Development of Financial Derivatives Market in India- A Case Study. *International Research Journal of Finance and Economics*, 37 Websites of the Sample Companies