

# FOREIGN EXCHANGE RISK AND FIRM VALUE: THE CASE OF INDIA

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## Abstract

Exchange rate swings are a key source of anxiety for businesses around the world, so it's critical for them to understand how much they're exposed to them. In an expanding economy, foreign exchange fluctuation is the most significant source of economic growth for businesses. Countries with a floating currency policy are more vulnerable to this volatility. In an expanding economy foreign exchange fluctuation is the most significant source of economic growth for businesses. Countries with a floating currency policy are more vulnerable to this volatility, which can damage a company's cash flow. Foreign Currency Exposed refers to the volatility of a company's cash flow as a result of fluctuating foreign exchange rates. The main objective of this study is to see the impact of foreign exchange risk on firm value for selected Indian Pharmaceutical companies, Oil and Gas Companies and Textile Companies. Fifteen companies covering ten years data (2009 to 2010) have been selected for the study. Descriptive Statistics and Anova model has been used. According to Anova table it can said that Foreign Exchange Risk affects Firm Value of selected Pharmaceutical Companies, Oil and Gas Companies and Textile Companies.

## INTRODUCTION

Foreign currency risk is becoming increasingly essential as world markets grow more globalised and internationalized, and it is among the most challenging and enduring issues those corporate institutions must deal with. Exchange rate volatility poses a unique set of challenges for international trade (both exporting and importing) since it introduces a new type of risk i.e. foreign exchange risk. Foreign currency risk is a significant problem that impacts most businesses, particularly those that trade on overseas markets often. This is because when a company buys a foreign asset, it is subject to two forms of risk: the first is connected to the asset's value, and the second is tied to exchange rate volatility. Risk management can increase the firm's value in two ways: by increasing free cash flows or lowering the interest rate. The increase in free cash flows can happen in a number of ways: more money might be directed to the most profitable ventures. Because of the consistency of cash flows as a result of risk management, it is possible to maintain assets in place rather than completely abandoning them if money is needed. Firm Value is a financial metric that reflects the market value of the firm as a whole, i.e. the worth to be distributed to its shareholders and debt holders.

## LITERATURE REVIEW

(Dhagat & Raju, 2016) analyzed the measurement of foreign exchange exposure for selected Indian firms. The objectives of the study were to measure the foreign exposure and its determinants for selected non financial Indian firms. The sample was drawn from 85 non financial Indian firms for the year 2000 to 2015. The panel data methodology used with fixed effect model to measure the firm's exposure by establishing the relationship with exchange rate changes and the stock returns. The study revealed that 55% variation in the stock return was explained by the variation in the exchange rates and also study found that market capitalization was relatively most significant determinants for the exchange rate exposure.

(Deniz & Ilhan, 2016) examined foreign exchange risk and financial performance of turkey. The aims of this study was to determine the effect of open positions on companies' financial performance and find out the factors that contribute to the firms' tendency of keeping short foreign exchange position. The sample includes 30 firms for the period spanning from the third quarter of 2012 to the second quarter of 2015. ANOVA test and Regression analysis has been used and found that short foreign exchange position companies had higher liquidity and asset efficiency and also companies with long foreign exchange position had lower profitability.

(Simakova & Jana, 2017) investigate the impact of exchange rate movements on firm value in visegrad countries. The main objective of this paper was to evaluate the impact of exchange rates on the value of companies listed on the stock exchanges in the visegrad countries. This paper applied Jorion's model and panel data regression for the sample period 2002-2016. The study concludes that there was a negative relationship between exchange rate and value of stock companies.

(Al-Momani & Mohammad R, 2008) evaluate foreign exchange risk management practices of Jordanian firms and the purpose of this study was to examine the relationship between foreign exchange risk management and firm size, sector and legal structure. The sample consisted of 73 listed nonfinancial firms. Kruskal-Wallis one way analysis of variances has been used. The study concludes that there were no relationships between firm size and legal structure and the management practices toward transaction exposure.

(Mbabazie & Daniel, 2014) examined the role of foreign exchange risk management on performance management of exporting firms in developing countries taking Uganda as case study. The study used Proportionate stratified sampling, Simple random sampling techniques and Spearman's rank correlation coefficient. The findings revealed a moderate applicability level of foreign exchange risk management, low level of financial performance and there was a significant positive relation between foreign exchange risk management and performance of exporting firms.

## RESEARCH METHODOLOGY

**Research Problem:** The survey of the existing literature reveals that no specific work has been carried out to examine and ascertain the effect of Foreign Exchange Exposure on Firm Value of selected Indian Companies. The present study is an attempt in this direction and therefore, aims to enrich the literature on the impact of Foreign Exchange Exposure on Firm Value of selected Indian Companies.

**Research Objectives:** The present study has been carried out with the following objective:  
To determine the effect of foreign exchange risk on firm value for the selected Indian Companies which have been selected from Pharmaceutical, Oil and Gas and Textile sectors of India.

### Sample Selection and Period of the Study:

The main objective of this study is to see the effect of foreign exchange risk on firm value for the selected companies. The study is based on Descriptive and Casual Research Design. It is based on secondary data. Five companies have been selected from each of Pharmaceutical, Oil and Gas and Textile sectors of India. Total 15 companies covering ten-year period (2009 to 2018) have been selected for the study.

Sr. No.	Name of Companies	Sector
1	Sun Pharmaceuticals Industries Limited	Pharmaceutical
2	Divi's Laboratories Limited	
3	Dr. Reddy's Laboratories Limited	
4	Cipla Limited	
5	Lupin Limited	
6	Indian Oil Corporation Limited (IOCL)	Oil and Gas
7	Oil and Natural Gas Corporation Limited (ONGC)	
8	Hindustan Petroleum Corporation Limited (HPCL)	
9	Bharat Petroleum Corporation Limited (BPCL)	
10	GAIL (India) Limited	
11	Arvind Limited	Textile
12	Raymond Limited	
13	Vardhman Textiles Limited	
14	Grasim Industries Limited	
15	Bombay Rayon Limited	

### Data Collection of the Study:

The data for the study have been collected from annual reports of the respective companies.

### Variables under Study:

The following ratios have been selected for this study

**Table 1: Variables under study**

No.	Ratio
1	Firm Value
2	Foreign Exchange Risk
3	Profitability
4	Cash Flow
5	Leverage
6	Firm Size

7	Financial Constraints
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## TOOLS AND TECHNIQUES

### 1. PHARMACEUTICAL SECTOR

**Table 2: Descriptive Statistics**

Variables	Mean	Standard Deviation	Coefficient of Variance
Firm Value	0.1240	0.0651	0.525
Foreign Exchange Risk	-0.5872	12.8774	-21.9301
Net Profit	18.5264	10.3224	0.5572
Cash Flow	115.5192	634.9993	5.4969
Leverage	0.6020	0.3841	0.6380
Firm Size	15580.612	14480.496	0.9294
Financial Constraints	0.8704	0.5741	0.6596

#### Interpretation:

The above table represents the mean and standard deviation for each variable considering 10 years. Coefficient of variance is also calculated by dividing Standard deviation by Mean. Generally, Coefficient of variance with least value gives good method of performance. Here, Firm Value has the least value of coefficient of variance which is 0.525. It shows that Firm Value is most consistent variable. Coefficient of variance with highest value sound bad. Here, Cash Flow has the highest value which is 5.4969 indicating least consistent.

**Table 3: Regression Analysis**

Variables	B	Sig.
Constant	0.031	0.099
Foreign Exchange Risk	0.00003607	0.918
Net Profit	0.006*	0.000
Cash Flow	0.000005481	0.435
Leverage	0.011	0.450
Firm Size	0.0000007855*	0.020
Financial Constraints	-0.008	0.320
R Square	0.828	
F Change	34.481	
Sig. F	0.000	

#### Interpretation:

The above table represents result of regression analysis. It shows that there is a positive significant impact of Net Profit and Firm Size on Firm Value. It also shows that there is insignificant positive impact of Foreign Exchange Risk, Cash Flow and Leverage on Firm Value whereas Financial Constraints has negative impact on Firm Value. The R-square equals to 0.828, indicating that 82.8 percent variation in Firm Value is explained by all the independent variables jointly and hence model is powerful.

**Table 4: Analysis of Variance**

Model	Sum of Square	df	Mean Square	F	Sig
Regression	0.172	6	0.029	34.481	0.000
Residual	0.036	43	0.001		
Total	0.207	49			

#### Interpretation:

The above table shows ANOVA. In the above table F value is 34.481 and p value is 0.000. Here the p value is less than the 0.05 level of significance and hence it can be said that R square is statistically significant. This is the sign that foreign exchange risk affects firm value.

### 2. OIL AND GAS SECTOR

**Table 5: Descriptive Statistics**

Variables	Mean	Standard Deviation	Coefficient of Variance
Firm Value	0.0570	0.0352	0.6175
Foreign Exchange Risk	14.0559	98.9669	7.0409
Net Profit	5.8870	5.8713	0.9973
Cash Flow	-304.4900	2974.8249	-9.7698
Leverage	2.2062	1.4980	0.6789
Firm Size	144139.2634	105162.0034	0.7296

Financial Constraints	0.2388	0.2021	0.8463
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**Interpretation:**

The above table represents the mean and standard deviation for each variable considering 10 years. Coefficient of variance is also calculated by dividing Standard deviation by Mean. Generally, Coefficient of variance with least value gives good method of performance. Here, Firm Value has the least value of coefficient of variance which is 0.6175. It shows that Firm Value is most consistent variable. Coefficient of variance with highest value sound bad. Here, Foreign exchange Risk has the highest value which is 7.0409 indicating least consistent.

**Table 6: Regression Analysis**

Variables	B	Sig.
Constant	0.063	0.000
Foreign Exchange Risk	0.00002036	0.483
Net Profit	0.005*	0.000
Cash Flow	0.0000006384	0.518
Leverage	-0.007*	0.026
Firm Size	0.00000007913*	0.011
Financial Constraints	-0.042	0.125
R Square	0.726	
F Change	19.020	
Sig. F	0.000	

**Interpretation:**

The above table shows result of regression analysis. It shows that there is a positive significant impact of Net Profit and Firm Size on Firm Value whereas there is a negative significant impact of Leverage on Firm Value. It also shows that there is insignificant positive impact of Foreign Exchange Risk and Cash Flow on Firm Value whereas Leverage has negative impact on Firm Value. The R-square equals to 0.726, indicating that 72.6 percent variation in Q is explained by all the independent variables jointly and hence model is powerful.

**Table 7: Analysis of Variance**

Model	Sum of Square	df	Mean Square	F	Sig.
Regression	0.044	6	0.007	19.020	0.000
Residual	0.017	43	0.000		
Total	0.061	49			

**Interpretation:**

The above table shows ANOVA. In the above table F value is 19.020 and p value is 0.000. Here the p value is less than the 0.05 level of significance and hence it can be said that R square is statistically significant. This is the sign that foreign exchange exposure affects firm value.

**3. TEXTILE SECTOR**

**Table 8: Descriptive Statistics**

Variables	Mean	Standard Deviation	Coefficient of Variance
Firm Value	0.0342	0.03866	1.1304
Foreign Exchange Risk	0.5324	2.7479	5.1613
Net Profit	4.5636	6.1594	1.3496
Cash Flow	-35.3528	271.8706	-7.6902
Leverage	1.7066	0.5749	0.3368
Firm Size	17010.0202	31577.0004	1.8564
Financial Constraints	0.3494	0.2110	0.6039

**Interpretation:**

The above table represents the mean and standard deviation for each variable considering 10 years. Coefficient of variance is also calculated by dividing Standard deviation by Mean. Generally, Coefficient of variance with least value gives good method of performance. Here, Leverage has the least value of coefficient of variance which is 0.3368. It shows that Leverage is most consistent variable. Coefficient of variance with highest value sound bad. Here, Foreign exchange Risk has the highest value which is 5.1613 indicating least consistent.

**Table 9: Regression Analysis**

Variables	B	Sig.
Constant	0.020	0.027
Foreign Exchange Risk	0.001	0.287
Net Profit	0.006*	0.000
Cash Flow	0.000005907	0.394

Leverage	-0.008	0.055
Firm Size	0.000000129*	0.025
Financial Constraints	0.011	0.165
R Square	0.925	
F Change	87.784	
Sig. F	0.000	

#### Interpretation:

The above table shows result of regression analysis. It shows that there is positive significant impact of Net Profit and Firm Size on Firm Value. It shows that there is a insignificant positive impact of Foreign Exchange Risk, Cash Flow and Financial Constraints on Firm Value whereas Leverage has negative impact on Firm Value. The R-square equals to 0.925, indicating that 92.5 percent variation in Q is explained by all the independent variables jointly and hence model is powerful.

**Table 10: Analysis of Variance**

Model	Sum of Square	df	Mean Square	F	Sig
Regression	0.068	6	0.011	87.784	0.000
Residual	0.006	43	0.000		
Total	0.073	49			

#### Interpretation:

The above table shows ANOVA. In the above table F value is 87.784 and p value is 0.000. Here the p value is less than the 0.05 level of significance and hence it can be said that R square is statistically significant. This is the sign that foreign exchange risk affects stock firm value.

### FINDINGS, CONCLUSION AND SUGGESTIONS

The present study found that Firm Value is most consistent variable for Pharmaceutical Sector and for Oil and Gas Sector whereas Leverage is most consistent variable for Textile Companies. Further, it is found out that Cash flow is least consistent variable for Pharmaceutical Sector and Foreign Exchange Risk is least consistent for Oil & Gas Sector and for Textile Sector. According to Anova table it can said that Foreign Exchange Risk affects Firm Value of selected Pharmaceutical Companies, Oil and Gas Companies and Textile Companies. The present study attempts to identify the effect of Foreign Exchange Risk on Firm Value of the selected leading Pharmaceutical Companies, Oil and Gas Companies and Textile Companies of India. The study concludes that exchange exposure affects the firm value.

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