Netting Foreign Exchange Exposure: A Study on Selected Indian IT Companies

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Abstract

With the globalisation of Indian economy and simultaneously dismantling the trade barriers facilitated the domestic economy to integrate with international economy. This made Indian business to expand globally and more prominently. The foreign capital flooded into India. This eventually increased the revenues and expenses, and inturn inviting greater exchange rate exposures by adversely impacting the company financials. In the light of the above, Indian firms are resorting to use financial risk management tools and techniques to mitigate the Forex exposures. Thus the current paper evaluates the impact of currency appreciation or depreciation on market price share of select IT companies and risk management tools and techniques used by them to net their exposures.

Keywords

Risk Management Tools, Foreign Exchange Exposure, Sensex, Regression Analysis

I. Introduction

In the past one decade, the rising interest rates, raw materials costs, and oil prices; withdrawal of incentive schemes by Govt.; and slowdown in Global and Asian economies hindered the growth in exports. Whereas the same factors aggravated imports volume causing depreciation in rupee value leading to a high burden on corporate borrowings in-turn affecting the stock market.

The Indian economy has undergone significant changes during 2001-2008 with the increasing importance of foreign trade, as well as capital flows. The country became one of the major hubs for exporting Information Technology (IT) consulting services. On the other hand, the Indian IT firms have also started experiencing the Foreign exchange rate risk.

Ideally, exchange rate i.e. the supply and demand position of the currency would dependent on balance between exports and imports between the two countries. Indian economy has experienced high volatility in terms of fluctuating exchange rates, and inturn increasing the need of foreign exchange risk management by companies which are involved in foreign currency transactions by means of hedging strategies.

II. Need for the Study

In the light of the above, the current paper focuses on the hedging strategies used by select Indian IT companies to minimise the risk of Foreign exchange exposure as these companies will get majority of their earnings through exports in U.S. dollars.

III. Scope of the Study

This research covers about 3 renowned company scrips from IT industry of the Indian Stock Market trading at Bombay Stock Exchange of India (BSE India). Analysis will be done for 10 years from 2005 -2014. This period covers almost two cycles and also considered as highly robust period in the Indian Stock Market.

Following 3 companies are selected as the representatives from this industry:
1. Tata Consultancy Services
2. Infosys Ltd
3. Wipro Ltd.

IV. Objectives of the Study

- To determine the volatility of Dollar Vs Rupee by calculating the change in exchange rate during the period 2005 – 2014.
- To study the impact of exchange rate on Sensex.
- To study the impact of exchange rate on select Indian IT companies Market Price of Share (MPS).
- To study the tools and techniques used by Indian IT majors to net their foreign exposures.

V. Data and Methodology

The study is based purely on secondary data collected accordingly
1. Tools of risk management used by companies are collected from Annual reports of the concerned companies.
2. Monthly averages of SENSEX and MPS of companies are collected from BSE India website.
3. Monthly averages of Dollar Vs Rupee are collected from respective exchange rate data providers.

The data is analysed by using Regression Analysis to examine the relationship between Forex rate, Sensex and MPS of Concerned companies; the impact of Forex on Sensex and MPS of the Concerned companies. The research performs a linear regression analysis by using the least squares method to fit a line through a set of observations. With this the study analyzes how a single dependent variable is affected by the values of one or more independent variables.

VI. Data Analysis

The following table shows the average annual exchange rates and their rate of change during the study period:

Table 1: U.S. Dollar Vs Rupee Exchange Rate Average during 2005-14

Year	Forex Rate (Rs./$)	Change in %	Year	Forex Rate (Rs./$)	Change in %
2005	44.1		2010	45.73	-5.52
2006	45.31	2.744	2011	44.99	-1.62
2007	41.33	-8.78	2012	53.37	18.63
2008	43.51	5.275	2013	54.36	1.86
2009	48.4	11.24	2014	60.41	11.13

Source: X-Rates.com

From the above table it is clearly evident that the Forex rate is changing continuously and randomly year on year by giving an indication of uncertainty which brings Forex exposure into the markets and inturn companies operating with imports and exports.

The following table summarizes the Average Sensex and Market prices (Rs.) of the select IT scrips during the year from 2005-14

Table 2: Average Annual Prices of Sensex and MPS of Select IT Companies

Year	Forex (Rs./$)	SENSEX	TCS	Infosys	Wipro
2005	44.1	7386.04	1248.39	2783.61	797.67
2006	45.31	11445.14	1602.39	2546.00	537.03
2007	41.33	15551.55	1166.07	2277.07	542.55
2008	43.51	16568.89	954.80	1776.69	486.34
2009	48.4	14418.65	568.37	1481.37	337.95
2010	45.73	13605.19	715.58	2189.90	556.64
2011	44.99	18187.59	1095.81	2961.62	472.61
2012	53.37	18631.09	889.07	2748.34	400.63
2013	54.36	18271.67	1330.36	2520.24	392.14
2014	60.41	20262.74	1923.34	3097.03	470.06

Source: BSE Historical Prices

The regression analysis for the above data is performed in order to know the impact of Foreign exchange rate exposure on Sensex and MPS of select IT companies. The relationship between the independent variable Forex and the dependent variables SENSEX, MPS of TCS, Infosys and Wipro are summarized in Table 3 as follows

Table 3: Regression Analysis Output

	SENSEX	TCS	Infosys	Wipro
Multiple R	0.6047	0.4300	0.4091	0.4648
R Square	0.3651	0.185	0.1674	0.2161
Standard Error	3277.9	388.48	497.97	119.03
F Stat	4.6134	1.8152	1.6083	2.2048
Significance F	0.0539	0.2145	0.2403	0.1758
T Stat	2.1479	1.3473	1.268	(1.485)
p-value	0.0539	0.214	0.241	0.1760
Intercept Coefficients	-3385.8	249.56	750.25	971.78

Source: Calculated values

The regression equation between Forex rate and Sensex is as follows

SENSEX (Y_1) = -3385.8 + 390.826 $(X_1$ or Forex rate)

The overall Goodness-of-fit measures R^2 = 0.3657 which means that only 36.57% of the variation of SENSEX is explained by Forex rate. In addition, Standard Error of 3277.95, t Ratio of 2.14 and p-ratio of 0.064 are indicating that the dependent variable is statistically insignificant at a significant level of $\alpha = 0.05$ as $P > 0.05$.

The regression equation between Forex rate and MPS of TCS is as follows

TCS (Y_2) = -249.57 + 29.05 $(X_1$ or Forex rate)

The overall Goodness-of-fit measures R^2 = 0.1849 which means that only 18.49% of the variation in MPS of TCS is explained by Forex rate. In addition, Standard Error of 388.48, t Ratio of 1.3473 and p-ratio of 0.214 are indicating that the dependent variable is statistically insignificant at significant level of $\alpha = 0.05$ as $P > 0.05$.

The regression equation between Forex rate and MPS of Infosys is as follows

Infosys (Y_3) = 750.25 + 35.06 $(X_1$ or Forex rate)

The overall Goodness-of-fit measures R^2 = 0.1674 which means that only 16.74% of the variation in MPS of Infosys is explained by Forex. Standard Error of 497.78, t Ratio of 1.268 and p-ratio of 0.241 are indicating that the dependent variable is statistically insignificant at significant level of $\alpha = 0.05$ as $P > 0.05$.

The regression equation between Forex rate and MPS of Infosys is as follows

Wipro (Y_4) = 971.78 – 9.8113 $(X_1$ or Forex rate)

The Overall goodness-of-fit measures R^2 = 0.2161 which means that only 21.61% of the variation in MPS of Wipro is explained by Forex. Standard Error of 119.04, t Ratio of (1.485) and p-ratio of 0.1758 are indicating that the dependent variable is statistically insignificant at significant level of $\alpha = 0.05$ as $P > 0.05$.

The above regression results of TCS, Infosys and Wipro companies are clearly depicting that the change in Forex rate is showing a very minimal impact on the MPS of the select companies giving an evidence that the companies are netting their positions by means of hedging using different risk management tools available in the market to minimise their foreign exchange risk management.

Allied Evidence: Use of Derivatives by sample IT companies

The derivative and hedging activities by the selected 3 Indian IT companies namely TCS, Infosys and Wipro are analysed based on their respective annual reports during the study period. And it is observed that the exchange rate risk is being neutralized (hedged) through use of derivative instruments, as well as with setting up business around the world where costs are lower or currencies is more stabilized. The reports say that they

- Hedge their bets by expanding in countries, such as China where costs are lower. Further, these companies expanded business with European and Latin American countries whose currencies stay relatively stable compared with the rupee.
- Get ~90%, ~98%, and ~88% respectively of their total revenues from exports. At the same time, each one of these companies resorted to more specific hedging strategies as per their net exposures. TCS favours the use of options; Infosys uses forwards and range barrier options; and Wipro uses floating for floating and floating for fixed cross currency interest rate swaps etc.

VI. Conclusion
It is clear that the Foreign exchange rate seems to have much impact on market as whole i.e. Sensex when compared to Market prices of the select scrips as observed from the results: Sensex (36.57%), TCS (18.49%), Infosys (16.74%) and Wipro (21.61%). This is attributable to various factors: the short term fluctuations can impact the companies with Foreign exchange exposure but

the affect is nullified in the long run due to the joint relationship between the two markets which could cause a rebound and helps both the markets for self-recovery in the long run. In addition, other parameters like inflation and increase in cost could also be the reasons. But, it is noteworthy to say that it was one of the prime influential factors on Sensex as evidenced above.

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