A STUDY OF IMPACT OF SELECTED FACTORS ON CURRENCY DERIVATIVE TRANSACTIONS

A synopsis
(Submitted for the registration of Doctor of Philosophy)
In Accountancy & Law
(Commerce)

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(DEEMED UNIVERSITY)
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INTRODUCTION

Derivatives

Derivative is a financial instrument, traded on or off an exchange, the price of which is directly dependent upon/derived from the value of the underlying asset. (It has no independent value) The underlying asset can be securities, commodities, bullion, currency, stock market index, debt instruments, or any agreed upon pricing index or arrangement.

In other words, Derivative means a forward, future, option or any other hybrid contract of pre-determined fixed duration.

Derivatives involve the trading of rights or obligations based on the underlying product, but do not directly transfer property. They are used to hedge risk or to exchange a floating rate of return for fixed rate of return.

Currency derivatives

Currency Derivatives indicates the value derived from value of some underlying which has no independent value. Underlying can be securities, stock market index, commodities, bullion, currency, debt instruments or any agreed upon pricing index. Currency Derivatives market point of view, underlying would be the Currency Exchange rate.

The benefits of trading in currency derivatives

Currency Derivatives are very efficient risk management instruments and you can derive the below benefits

i. **Hedging**: It means securing oneself against loss from various risks that arise in international market. It applied to exchange risk, hedging means to alter the composition of assets and liabilities so as to fully or partially offset an existing or potential exposure to the exchange risk. You can protect
your foreign exchange exposure in business and hedge potential losses by taking appropriate positions in the same. For e.g. If you are an importer, and have USD payments to make at a future date, you can hedge your foreign exchange exposure by buying USDINR and fixing your pay out rate today. You would hedge if you were of the view that USDINR was going to depreciate. Similarly it would give hedging opportunities to Exporters to hedge their future receivables, Borrowers to hedge foreign currency (FCY) loans for interest and principal payments, Resident Indians, who can hedge their offshore investments.

ii. Speculation: You can speculate on the short term movement of the markets by using Currency Futures. For e.g. If you expect oil prices to rise and impact India's import bill, you would buy USDINR in expectation that the INR would depreciate. Alternatively if you believed that strong exports from the IT sector, combined with strong FII flows will translate to INR appreciation you would sell USDINR.

iii. Arbitrage: You can make profits by taking advantage of the exchange rates of the currency in different markets and different exchanges.

iv. Leverage: You can trade in the currency derivatives by just paying a % value called the margin amount instead of the full traded value.

Currency Derivatives Market

The introduction of Currency Derivatives in India is a landmark decision which is likely to be a boon for importers, exporters and companies with Forex exposure.

Currency Derivatives are efficient risk management tools in the Forex market. The need to protect exposure against unforeseen, unpredictable Currency movements and interest rates changes has contributed to Derivatives being developed.

Exporters and importers incur huge obligations in terms of foreign Currencies and they can guard their interests by buying appropriate Derivative products.
Common derivative contract types

Some of the common variants of derivative contracts are as follows:

1. **Forward**: A forward contract between a bank and a customer (which could be another bank) calls for delivery, at a fixed future date, of a specified amount of one currency against dollar payment, the exchange rate is fixed at the time the contract is entered into. A tailored contract between two parties, where payment takes place at a specific time in the future at today's pre-determined price.

2. **Futures**: Future contracts are contracts to buy or sell an asset on or before a future date at a price specified today. A futures contract differs from a forward contract in that the futures contract is a standardized contract written by a clearing house that operates an exchange where the contract can be bought and sold; the forward contract is a non-standardized contract written by the parties themselves. Therefore, the buyer and the seller lock themselves into an exchange rate for a specific value or delivery date. Both parties of the futures contract must fulfill their obligations on the settlement date.

3. **Options**: These are contracts that give the owner the right, but not the obligation, to buy (in the case of a call option) or sell (in the case of a put option) an asset. The price at which the sale takes place is known as the strike price, and is specified at the time the parties enter into the option. The option contract also specifies a maturity date. In the case of a European option, the owner has the right to require the sale to take place on (but not before) the maturity date; in the case of an American option, the owner can require the sale to take place at any time up to the maturity date. If the owner of the contract exercises this right, the counter-party has the obligation to carry out the transaction.
Options are of two types:

3(i) **Call Option:** The buyer of a Call option has a right to buy a certain quantity of the underlying asset, at a specified price on or before a given date in the future, he however has no obligation whatsoever to carry out this right.

3(ii) **Put option:** The buyer of a Put option has the right to sell a certain quantity of an underlying asset, at a specified price on or before a given date in the future, he however has no obligation whatsoever to carry out this right.

4 **Swaps:** These are contracts to exchange cash (flows) on or before a specified future date based on the underlying value of currencies exchange rates, bonds/interest rates, commodities exchange, stocks or other assets. Another term which is commonly associated to Swap is Swaption which is basically an option on the forward Swap. Similar to a Call and Put option, a Swaption is of two kinds: a receiver Swaption and a payer Swaption. While on one hand, in case of a receiver Swaption there is an option wherein you can receive fixed and pay floating, a payer swaption on the other hand is an option to pay fixed and receive floating.

Swaps can basically be categorized into two types:

4(a) **Interest rate swap:** These basically necessitate swapping only interest associated cash flows in the same currency, between two parties.

4(b) **Currency swap:** In this kind of swapping, the cash flow between the two parties includes both principal and interest. Also, the money which is being swapped is in different currency for both parties.
REVIEW OF LITERATURE

Literature reviews are the body of text that aims to present the critical and methodological points regarding a topic. They are basically a secondary source of data which gives you current knowledge related to a topic so they don’t poses relevancy for any original experiments.

Most often it is associated with academic orientated literature such as thesis, a literature review usually preceded a research proposal and basically it helps to situate the topic of your research with other similar related researches done.

In the view of last few year’s research these studies conducted so far on currency derivatives. These studies have been classified into two groups:-

- International Reviews
- National Reviews

INTERNATIONAL REVIEWS

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<tr>
<td>1.</td>
<td>Emanuel Kohlscheen &amp; Sandro C. Andrade</td>
<td>2013</td>
<td>Official interventions through derivatives, affecting the demand for foreign exchange</td>
<td>To study the effects of currency swaps auctions by the Brazilian Central Bank on the BRL/USD spot exchange rate.</td>
<td>Researcher found that official currency swap auctions impact the level of the exchange rate, even though they do not directly alter the supply of foreign currency in the market. The maximum impact occurs 60 to 70 minutes</td>
</tr>
<tr>
<td>2.</td>
<td>Jasmina Bogicevic</td>
<td>2013</td>
<td>Accounting Implications of foreign currency transaction translation and hedging</td>
<td>To know the choice of the exchange rate to be used in accounting data translation and the financial reporting presentation of translation effects.</td>
<td>This paper discussed the accounting aspects of the foreign currency transactions translation, an enterprise’s transactional exposure to a currency risk, and the use of financial derivative instruments to hedge against foreign</td>
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<tr>
<td></td>
<td>Authors</td>
<td>Year</td>
<td>Description</td>
<td>Conclusion</td>
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<td>3.</td>
<td>Paulo Calio &amp; Bas Strath</td>
<td>2012</td>
<td>Currency derivatives and the disconnection between exchange rate volatility and international trade.</td>
<td>The researcher found evidence indicating that the availability of currency futures can explain the relatively small impact of exchange rate volatility on trade.</td>
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<td>4.</td>
<td>J.C. Rodriguez</td>
<td>2012</td>
<td>The use of foreign currency derivatives &amp; firm value in US</td>
<td>The conclusion can be derived from research is that the using of foreign currency derivatives does not have significant impact on firm value.</td>
<td></td>
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<tr>
<td>5.</td>
<td>Jeff Fleming &amp; Barbara Ostdiek</td>
<td>2012</td>
<td>The impact of energy derivatives on the crude oil market</td>
<td>The researcher found that the impact of volume on volatility is inversely related to both the unexpected change and long-term predictable component of open interest.</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>George Alleyannis, Ugrul &amp; Darius P. Miller</td>
<td>2011</td>
<td>The use of foreign currency derivatives, corporate governance and firm value around the world</td>
<td>The researcher found strong evidence that the use of currency derivatives for firms that have strong internal firm-level or external country-level governance is associated with a significant value premium</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Merijon Zhugri &amp; Sajid Ali</td>
<td>2011</td>
<td>Hedging oil prices (a case study on Gotlands bolaget</td>
<td>The results of the study show that Gotlands bolaget hedge oil prices to protect themselves from volatility of oil prices.</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Ephraim Clark &amp; Salma Mefteh</td>
<td>2010</td>
<td>Foreign currency derivatives use, firm value &amp; the effect of the</td>
<td>The result was shows that derivatives use is a significant determinant of French firm value and that this effect is</td>
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<td>1.</td>
<td>A. H &amp; M Rafee.b</td>
<td>2014</td>
<td>Relationship between crude oil price and rupee, dollar exchange rate: An analysis of preliminary evidence</td>
<td>To examine the effects of oil price on exchange rate of Indian rupee against US dollar using time series data from 1972-73 to 2012-13.</td>
<td>The finding contributed to Indian government in making policy to control the petrol price to avoid rupee depreciation against US dollar.</td>
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| 2.   | Uma C Swadimath, | 2013 | Rise and impact of crude oil | To study the change in prices of crude oil | The researcher focused on India the change in the 

NATIONAL REVIEWS

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**exposure profile: evidence from France**

A sample of 176 large, non-financial French firms. Concentrated in the larger firms.

The researcher found strong evidence in favor of the existence of economies of scale in hedging and that European firms engage in hedging programs in response to tax convexity.

**Aline muller & willen f.c. vershoor**

**The value – relevance of foreign currency derivatives**

To study the value-relevance of FCD disclosures of European non-financial firms.

**Randall dodd, Stephany Griffith**

Report on derivatives market: stabilizing or speculative impact on Chile & a comparison with Brazil.

To provide an analytical description of the growth of derivatives markets and an economic analysis of their role in the economy.

**George Allayannis, Eli Ofek**

Exchange rate exposure, hedging, and the use of foreign currency derivatives.

To examine firm use foreign currency derivatives for hedging or for speculative purpose.

**Jongmoo Jay choi, Elyas Elyasiani**

Derivative exposure & the interest rate and exchange rate risk of US banks.

To investigate the linkage between a bank’s systems its use of off-balance derivative transaction and equations.

The researcher found a link between the scale of a bank's interest rate and currency derivative contracts and the bank's interest rate and exchange rate risks.
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<tr>
<th>Authors</th>
<th>Year</th>
<th>Title</th>
<th>Abstract</th>
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</thead>
<tbody>
<tr>
<td>K H Anil Kumar, Prasanna B Joshi</td>
<td>2013</td>
<td>India: The next forex derivatives destination</td>
<td>To examine it can be attributed to the robust banking system in India.</td>
</tr>
<tr>
<td>Gaikwad, Abhijeet</td>
<td>2012</td>
<td>An empirical study on impact of exchange rate &amp; inflation rate on performance of Bse sensex</td>
<td>The results suggested that Inflation Rate and Exchange Rate significantly affect the performance of BSE Sensex.</td>
</tr>
<tr>
<td>Saurabh Singh,  L.L Tripathi, Kirti Lalwani</td>
<td>2012</td>
<td>Evolution of currency future trading &amp; its impact on exchange rate volatility in India</td>
<td>The paper investigated the growth of currency futures in India, the volatility pattern in the Indian exchange market and the influence of currency futures as a hedging instrument in the volatility of the exchange market.</td>
</tr>
<tr>
<td>Sarang VK</td>
<td>2012</td>
<td>An analytical study on the movement of NIFTY index and exchange rate</td>
<td>The result found out that there is a bidirectional causal relationship between exchange rate and Nifty index.</td>
</tr>
<tr>
<td>7.</td>
<td>Deepti gulati &amp; Monika Kakhani</td>
<td>2012</td>
<td>Relationship between stock market and foreign exchange market in India: An empirical study</td>
</tr>
<tr>
<td>8.</td>
<td>Gaurav Agrawal, Aniruddh kumar srivastav &amp; Ankita srivastava</td>
<td>2010</td>
<td>A study of exchange rate movement and stock market volatility</td>
</tr>
<tr>
<td>9.</td>
<td>Anuradha siva kumar &amp; Runa sarkar</td>
<td>2007</td>
<td>Corporate hedging for foreign exchange risk in India</td>
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</table>
NEED OF THE STUDY

It has been observed that the previous literatures related to impact of currency derivative on firm value, impact of energy derivation on crude oil market, Relationship between the crude oil price, rupee and dollar exchange rates, Relationship of stock market and foreign exchange market, Movement of NIFTY Index and exchange rate but no study have been found on any aspect related to Currency Derivative Transaction.

- This study would help in measure the impact of Crude oil price, Currency rate (dollar) & BSE Sensex on Currency Derivative Transaction.

- This study would help to speculators, hedgers, importers, exporters to measure the impact of these factors on Currency Derivatives Transaction.

- This study would also help to the speculators, hedgers, importers, exporters to predict the Currency Derivatives Transaction in the future concern.

- This study would guide to the importer/exporters for hedging the risk.

- This study would help to predict the movement of BSE Sensex and Currency Derivative Transaction which help in future forecasting.

- This study would help in creating the relationship between BSE Sensex & Currency Derivative Transaction
OBJECTIVES OF THE STUDY

The formulation of research objectives will help researcher to with clearly defined objectives; the researchers can focus on the study. The formulation of research objectives helps the researcher avoid the collection of data which are not strictly necessary for understanding & solving problem that has defined.

The following will be considered as the main objectives of the study:

- To study the Impact of Crude oil prices on Currency Derivative Transaction
- To study the Impact of Currency rate (Dollar) on Currency Derivative Transaction
- To examine the relationship between BSE Sensex and Currency Derivative Transaction
- To study the impact of selected factors on Currency Derivative Transaction

RESEARCH HYPOTHESES:

To achieve the objectives of the study following hypotheses will frame.

1. $H_{01}$: Crude oil price has no significant impact on Currency Derivative Transaction.

2. $H_{02}$: Currency rate (dollar) price has no significant impact on Currency Derivative Transaction.

3. $H_{03}$: Currency Derivative Transaction has no significant dependence on BSE Sensex.

4. $H_{04}$: Crude oil prices, Currency Rate (Dollar), BSE Sensex have no significant impact on Currency Derivative Transaction.
RESEARCH METHODOLOGY

A research process consists of stages or steps that guide the project from its conception through the final analysis, recommendation and ultimate actions. The research process provides a systematic, planned approach to the research project and ensures that all aspects of the research project are consistent with each other.

1. SELECTED FACTORS-

Three factors will be considered to know the impact on Currency Derivative Transaction and these are:-

- Crude Oil Prices (Dollar)
- Currency Rate (Dollar)
- BSE Sensex

2. FACTORS SELECTION CRITERIA

Crude oil prices, Currency rate (Dollar) will be selected because

- There is high import of Crude oil so it affects the currency

<table>
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<tr>
<th>YEAR</th>
<th>CRUDE OIL</th>
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<tbody>
<tr>
<td>2009-10</td>
<td>30.2</td>
</tr>
<tr>
<td>2010-11</td>
<td>28.7</td>
</tr>
<tr>
<td>2011-12</td>
<td>31.7</td>
</tr>
<tr>
<td>2012-13</td>
<td>33.4</td>
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<tr>
<td>2013-14</td>
<td>36.7</td>
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- There is fluctuation in currency which affects the currency derivative transaction.
Currency wise invoicing of India’s export and import (in percentage)

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<tr>
<td>Pound</td>
<td>2.77</td>
<td>2.81</td>
<td>2.47</td>
<td>2.31</td>
<td>2.31</td>
<td>0.89</td>
<td>0.66</td>
<td>0.71</td>
<td>0.5</td>
<td>0.42</td>
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<tr>
<td>UD Dollar</td>
<td>84.06</td>
<td>84.75</td>
<td>86.41</td>
<td>84.01</td>
<td>88.41</td>
<td>86.06</td>
<td>83.91</td>
<td>85.38</td>
<td>88.67</td>
<td>86.06</td>
</tr>
<tr>
<td>Japanese Yen</td>
<td>0.48</td>
<td>0.35</td>
<td>0.22</td>
<td>0.26</td>
<td>0.15</td>
<td>2.3</td>
<td>1.98</td>
<td>1.73</td>
<td>1.41</td>
<td>1.47</td>
</tr>
<tr>
<td>All Other Currencies</td>
<td>1.84</td>
<td>1.96</td>
<td>2.02</td>
<td>2.28</td>
<td>2.16</td>
<td>0.93</td>
<td>0.84</td>
<td>1.05</td>
<td>1.13</td>
<td>2.61</td>
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</table>

- BSE Sensex is the benchmark that directly & indirectly affects the activities of dealing in BSE.

3. PERIOD OF STUDY

To conduct this study the researcher will consider three years data that is from 1st January 2014 to 31st December 2016.

4. METHOD OF DATA COLLECTION

- For collecting the crude oil price, currency rate (Dollar), BSE Sensex & currency derivative transaction in amount website will be considered.

- Other data will be collected from the textbooks, journals, articles, newspaper and internet websites.

5. DATA ANALYSIS AND PRESENTATION TOOL

For data analysis various statistical tools like Average, Percentages, regression, Correlation, Unit root test will be employed with the help of MS Excel, SPSS etc. will be used.
For the data presentation various presentation tools will be used like Bar Diagram, Tables.

**OBJECTIVE WISE RESEARCH METHODOLOGY**

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<tr>
<th>S.NO</th>
<th>OBJECTIVE</th>
<th>RESEARCH METHODOLOGY</th>
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<tbody>
<tr>
<td>1.</td>
<td>To study the impact of Crude oil prices on Currency Derivative Transaction.</td>
<td>The researcher will collect three years data of Crude oil price and Currency Derivative Transaction from BSE website and to achieve this objective researcher will use the correlation and regression.</td>
</tr>
<tr>
<td>2.</td>
<td>To study the impact of Currency rate (dollar) on Currency Derivative Transaction.</td>
<td>To fulfill this objective the researcher will collect three years data of currency rate and Currency Derivative Transaction from BSE website and to get the result of this objective researcher will use the correlation and regression.</td>
</tr>
<tr>
<td>3.</td>
<td>To examine the relationship between BSE Sensex and Currency Derivative Transaction</td>
<td>The researcher will collect three years data of Currency Derivative Transaction from BSE website and fulfill the need of this objective researcher will use the Unit root test for relationship of both.</td>
</tr>
<tr>
<td>4.</td>
<td>To study the impact of selected factors on Currency Derivative Transaction</td>
<td>To achieve this objective the researcher will collect three years data of Crude oil prices, and Currency rate from BSE website and to accomplish this objective researcher will use the multiple regression and correlation.</td>
</tr>
</tbody>
</table>
PROPOSED CHAPTER PLAN

Chapter 1 – Introduction

Chapter 2 - Review of Literature

Chapter 3 – Overview of Currency Derivative - their functioning, process of trading

Chapter 4 – Analysis and interpretation of impact of selected factors on Currency Derivative Transaction

Chapter 5 – Findings, Suggestions & Conclusions

   Bibliography

   Appendix
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Books:


Journals:

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- International journal of financial market and derivatives
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• www.moneycontrol.com
• www.rbi.org.in

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