CHAPTER - I
INTRODUCTION
1.1. Importance:

Exchange rate\(^1\) is a rate at which one currency can be exchanged into another currency. In other words it is the value of one currency in terms of other currency. The currency of another country circulates as the sole legal tender (formal dollarization), or the member belongs to a monetary or currency union in which the same legal tender is shared by the members of the union. Adopting such regimes implies the complete surrender of the monetary authorities' independent control over domestic monetary policy. Against the backdrop of international experience, it would be useful to review the management of the exchange rate in India in a historical perspective. India’s exchange rate policy has evolved in tandem with international and domestic developments. The period after Independence in 1947 was followed by a fixed exchange rate regime where the Indian rupee was pegged to the pound sterling on account of historic links with Britain and this was in line with the Bretton Woods System prevailing at that time. In the field of exchange management, an important development was that of the sterling-rupee link as a corollary to India’s membership of the International Monetary Fund and the declaration of the par value of the rupee in terms of gold\(^2\). The relevant provision of the Reserve Bank of India Act was suitably amended for the purpose. The Bank was also authorised to buy and sell foreign exchange, although actually it did not deal in foreign exchange other than sterling and Pakistan rupees. The main landmark was the devaluation of the rupee, effective September 22, 1949, by 30.5 per cent, that is, to the same extent as that of sterling. Many difficulties arose consequent on Pakistan’s decision not to devalue her currency simultaneously, which disrupted trade and the payments arrangements between the two countries and led


\(^2\)RBI Publication, February 25, 2010, Exchange Rate Policy and Modelling in India, Pami Dua and Rajiv Ranjan, p. 03
ultimately to the introduction of control on financial transactions with that country in February 1951.

Another major event was the devaluation of the Indian rupee by 36.5 per cent on June 6, 1966. With the breakdown of Bretton Woods's system in the early 1970s and the consequent switch towards a system of managed exchange rates, and with the declining share of the UK in India's trade, the INR effective September 1975, was delinked from the pound sterling in order to overcome the weaknesses of pegging to a single currency. Even after the rupee was delinked from the pound sterling, the role of the exchange rate remained muted for quite some time given the widespread rationing of foreign exchange through an elaborate system of licensing, other quantitative restrictions and exchange control. During the period of 1975 to 1992, the exchange rate of rupee was officially determined by the RBI within a nominal band of +/- 5 per cent of the weighted basket of currencies of India's major trading partners.

**Exchange Rate Mechanism**: There are two types of ER mechanisms, one as Floating Exchange Rate and the other as Fixed Exchange Rate. Floating exchange rate is one where there is no intervention by governments or central banks. Whereas fixed exchange rate is one where officials strive to keep the exchange rate fixed (or pegged) even if the rate that they choose is not the equilibrium rate. The other category is Management Exchange Rate or Managed Floating Rate System, which falls in-between these two categories. It is a hybrid of a fixed exchange rate and a flexible exchange rate system. In this Central Bank will be the key participant in foreign exchange market and will hold stocks of foreign currency and these holdings are known as foreign exchange reserves.

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3 Kaushik Basu and Annemie Maertens, The concise Oxford Companion to Economics in India, p. 308
Fixed Exchange Rate System was predominant exchange rate system in the world for most of 20th Century (1900s – 1970s). In a fixed exchange rate system, the value of a nation’s currency is fixed (pegged) to a fixed amount of a commodity or to another currency. Commodity will be usually Gold (Gold Standard) or US $ Currency. The three rules followed when fixing exchange rates to a commodity are - To Fix the value of the currency unit in terms of gold (fixed exchange rate), Keep the supply of domestic money fixed in some constant proportion of the gold supply and Countries must be willing to exchange gold for their own currency. Typically, there are bands set above/below the par value that allow for some small fluctuation in the exchange rate. Governments must act to counter and appreciation.

The Indian market is not yet very deep and broad, and is characterised by uneven flow of demand and supply over different periods. In this situation, the RBI has been prepared to make sales and purchases of foreign currency in order to even out lumpy demand and supply in the relative foreign exchange market and to smoothen jerky movements. However, such interventions are not governed by a predetermined target or band around the exchange rate.

INR Appreciation and Depreciation: The exchange rate of the Indian rupee (or INR) is determined by market conditions. However, in order to maintain effective exchange rates, the RBI actively trades in the USD/INR currency market. The rupee currency is not pegged to any particular foreign currency at a specific exchange rate. The RBI intervenes in the currency markets to maintain low volatility in exchange rates and remove excess liquidity from the economy. Historically, the Indian rupee was a silver-based currency, while the major economies of the world were following the gold standard. The value of the rupee was severely impacted when large quantities of silver was discovered in the US and

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4Op. cit
5RBI Publications, February 25, 2010, Exchange Rate Policy and Modelling in India, Pami Dua and Rajiv Ranjan, p.3
Europe. After independence, India started following a pegged exchange rate system. The
country was forced to go through several rounds of devaluation from the 1960s to the early
1990s due to war and balance of payments problems. The rupee was made convertible on
the current account in 1993. The global financial crisis exerted pressure on crude oil
prices, which gradually plummeted to below $50 a barrel. Due to this, dollar inflow
deprecated, with oil companies and investors purchasing more and more dollars. Persistent
outflow of foreign funds increased the pressure on the rupee, causing it to decline. On
March 5, 2009, the Indian currency depreciated to a record low of US$52.06. The US
dollar's gains against other major currencies also weighed on the rupee. At March end, the
rupee stood at INR 50.6402. The value of the rupee depends on PPP (or purchasing power
parity), which reflects the quality of life that can be maintained at a particular standard
level of income.

Political liberalization and economic globalization has provided a worldwide market for
companies willing to operate internationally. Numerous companies increasingly engage in
global activities such as outsourcing, exports, imports and establishment of production and
sales abroad. Since the breakdown of Bretton Woods’s regime (1971), floating exchange
rates have proved tremendously volatile with aggressive short-term fluctuations and also
long over and undervaluation of major currencies such as the US dollar and the English
Pound. In contrast to domestic companies that only operate within a country, multinational
companies (MNCs) face gains and/or losses arising from exchange rate risks caused by the
uncertainty of the exchange rates prevailing in the future. As companies are spreading out
their production facilities and market interest throughout the world, the decision on
whether or not it is necessary and beneficial to hedge the risk of a depreciation of the
foreign currency compared to the home currency becomes more and more urgent.
The **INR exchange rate**\(^6\) is an important indicator of investor sentiment and can significantly impact not only the fortunes of individual firms and sectors but also the government. The exchange rates were 44.86 on April 24\(^{th}\), 2006 and 44.47 on April 15\(^{th}\) 2010; there have been periods of significant volatility. To quote, USD-INR moved from 40 to 51.50 from March 2008 to March 2009. During the 6 months ending December 2010, it traded in a relatively narrow range, between 47.33 and 43.99. It is believed that there is a significant downside risk to USD-INR exchange rate and this study was carried to identify the factors for the same.

**Automobile Industry**\(^7\): The automobile industry evolved continuously with changing times from craft production in 1890s to mass production in 1910s to lean production techniques in the 1970s. The prominent role played by the US till late 1990s had of late been cornered by the Japanese auto-makers. \(^8\) The global output from the automobile industry touched 64.6 million vehicles in 2005, thereby retaining its leadership in manufacturing activity, providing employment to one in seven people, either directly or indirectly. This supply mainly catered to meet the demand from households where the automobiles constituted the second largest expenditure item next only to housing. Thus the global automobile industry dominated by Europe, US, Japan and of late by China and India, continued to have a significant influence on economic development and international trade. The good performance of Asian countries in the economy front heralded the emergence of a strong market demand. The future potential of India’s automobile sector is mainly based on the growing demand and availability of skilled manpower with design and engineering abilities. The Indian automotive industry is worth around US$ 39 billion in

\(^6\)Op. cit

\(^7\)IDC Analyze the Future, Prepared for Department of Scientific & Industrial Research (DSIR), Ministry of Science & Technology, New Delhi. August 2008.

\(^8\)Op. cit
2009-10 and contributes about 5 per cent of India’s GDP. It produces over 14 million vehicles and employs – directly and indirectly – in excess of 13 million people. But as of 2010-11 it has a turnover of US$ 73 billion, accounts for 6 per cent of its GDP and is expected to hit a turnover of US$ 145 billion by 2016. The automobile industry currently contributes 22 per cent to the manufacturing GDP and 21 per cent of the total excise collection in the country, according to Mr Praful Patel. In 2010-11, the total turnover and export of the automotive Industry in India reached a new high of US$ 73 billion and US$ 11 billion respectively. The cumulative announced investments reached US$ 30 billion during this period. He also said that the forecasted size of the Indian Passenger Vehicle Segment is nearly 9 million units and that of 2 wheelers, close to 30 million units – by 2020.

There are two distinct sets of players in the Indian auto industry. Automobile Component Manufacturers and the vehicle manufacturers also referred to as Original Equipment Manufacturers (OEMs). The former set is engaged in manufacturing parts, components, bodies and chassis involved in automobile manufacturing, the latter in engaged in assembling of all these components into an automobile.

Previous empirical studies have focused mainly on developed countries considering top five automobile companies. This study looks at the issues from emerging market perspective by focusing exclusively on INR-USD fluctuation impacts and its influence on SMEs operating in Pune, India. Considering this the researcher wants to study the impact

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9Rakesh Ramachandran, Managing Director, IBI Consulting, Automobile Sector in India, September 14, 2011
10Extract from the Speech of the Minister, Heavy Industries and Public Enterprises.
of INR and USD fluctuations from 2006 to 2010 and how particularly it has influenced the SMEs of Auto Units situated in Pune, India.

**Hedging**

Risk can be defined as the unexpected changes that have an adverse impact on a firm's cash flow, value or profitability. Risks can be divided into firm specific risk, industry-specific risk and macroeconomic risk. Macroeconomic risk depends on the uncertainty in the environment of all companies in a country. It is a risk related to the movements in macroeconomic factors and cannot usually be taken away by diversification, whereas firm-specific risk and industry-specific risk can be eliminated through an appropriate diversification. However by using Hedging strategies, firms have possibilities and capabilities to actively influence its opportunities in order to profit and/or to avoid the costs of macroeconomic variations. To create value, companies need to take risks, but they try to avoid those risks that carry no compensating gain. Any business involving foreign currency has Foreign Exchange Risk and therefore more and more firms attempt to measure, monitor and manage the exchange rate exposure through hedging. Hedging is taking a contract that will rise or fall in value and offset a drop or rise in the value of an existing position. Thus, the main purpose of a hedge is to reduce the volatility of existing position risks caused by the exchange rate movements. Many studies show that several companies create formal risk management policies including hedging strategies to mitigate the negative impact of exchange rate fluctuations.

**Hedging as a tool to manage Foreign Exchange Risk**

There is a spectrum of opinions regarding foreign exchange hedging. Some firms feel hedging techniques are speculative or do not fall in their area of expertise and hence do not venture into hedging practices. Other firms are unaware of being exposed to foreign exchange risks. There are a set of

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12 Corporate Governance and the Hedging Premium around the World", Allayanis and Ofek (2001)
13 Op. cit
firms who only hedge some of their risks, while others are aware of the various risks they face, but are unaware of the methods to guard the firm against the risk. There is yet another set of companies who believe shareholder value cannot be increased by hedging the firm’s foreign exchange risks as shareholders can themselves individually hedge themselves against the same using instruments like forward contracts available in the market or diversify such risks out by manipulating their portfolio\textsuperscript{14}. Fisher model, Purchasing Power Parity theory, Forward rate theory are those which are played under perfect markets under homogeneous tax regimes. The existence of different kinds of market imperfections, such as incomplete financial markets, positive transaction and information costs, probability of financial distress, and agency costs and restrictions on free trade make foreign exchange management an appropriate concern for corporate manage.

In one of the studies, the researchers\textsuperscript{15} use a multivariate analysis on a sample of non-financial firms and calculate a firm's exchange-rate exposure using the ratio of foreign sales to total sales as proxy and isolate the impact of use of foreign currency derivatives on a firm’s foreign exchange exposures. They found a statistically significant association between the absolute value of the exposures and the percentage use of foreign currency derivatives and prove that the use of derivatives in fact reduce exposure.

**FOREX Risk Management Framework:** Once a firm recognizes its exposure, it then has to deploy resources in managing it. A heuristic for firms to manage this risk effectively is through Forecasts, Risk Estimation, Benchmarking, Hedging, Stop Loss and Reporting and Review\textsuperscript{16}.

\textsuperscript{14}The Management of Foreign Exchange Risk, Giddy and Dufey, 1992  
\textsuperscript{15}Corporate Governance and the Hedging Premium around the World", Alayanis and Ofek (2001)  
\textsuperscript{16}Kshitij Consultancy Services study
Hedging Strategies / Instruments\textsuperscript{17}: A derivative is a financial contract whose value is derived from the value of some other financial asset, such as a stock price, a commodity price, an exchange rate, an interest rate, or even an index of prices. The main role of derivatives is that they reallocate risk among financial market participants, help to make financial markets more complete. The hedging strategies using derivatives with foreign exchange being the only risk assumed are Forwards, Futures, Options, Swaps and Foreign Debt.

Factors affecting the decisions to hedge foreign currency risk: Research in the area of determinants of hedging separates the decision of a firm to hedge from that of how much to hedge. There is conclusive evidence to suggest that firms with larger size, R & D expenditure and exposure to exchange rates through foreign sales and foreign trade are more likely to use derivatives\textsuperscript{18}. The main factors affecting the degree of hedging are Firm Size, Leverage, Liquidity and profitability and sales growth. The degrees of hedging analyses carried by researchers\textsuperscript{19} conclude that the sole determinants of the degree of hedging are exposure factors (foreign sales and trade).

Hedging in India\textsuperscript{20}: The move from a fixed exchange rate system to a market determined system as well as the development of derivatives markets in India have followed with the liberalization of the economy since 1992. In order to understand the alternative hedging strategies that Indian firms can adopt, it is important to understand the regulatory framework for the use of derivatives.  \textsuperscript{21}The economic liberalization of the early nineties facilitated the introduction of derivatives on interest rates and foreign exchange, Exchange

\textsuperscript{17}"Corporate Hedging for Foreign Exchange Risk in India", submitted by Anuradha Sivakumar and Runa Sarkar, IIT, Kanpur
\textsuperscript{18}"Corporate Governance and the Hedging Premium around the World", Alayonis and Ofek (2001)
\textsuperscript{19}Op. cit
\textsuperscript{20}Op. cit
\textsuperscript{21}"Corporate Hedging for Foreign Exchange Risk in India", submitted by Anuradha Sivakumar and Runa Sarkar, IIT, Kanpur
rates were deregulated and market determined in 1993. By 1994, the rupee was made fully convertible on current account. The ban on futures trading of many commodities was lifted starting in the early 2000s. As of October 2007, even corporates have been allowed to write options in the atmosphere of high volatility\textsuperscript{22}.\n
With respect to foreign exchange derivatives\textsuperscript{23} involving rupee, residents have access to foreign exchange forward contracts, foreign currency-rupee swap instruments and currency options – both cross currency as well as foreign currency-rupee. In the case of derivatives involving only foreign currency, a range of products such as Interest Rate Swaps, Forward Contracts and Options are allowed. While these products can be used for a variety of purposes, the fundamental requirement is the existence of an underlying exposure to foreign exchange risk (derivatives can be used for hedging purposes only. The RBI has also formulated guidelines to simplify procedural/documentation requirements for Small and Medium Enterprises (SMEs) sector. In order to ensure that SMEs understand the risks of these products, only banks with which they have credit relationship are allowed to offer such facilities. These facilities should also have some relationship with the turnover of the entity. Similarly, individuals have been permitted to hedge up to USD 100,000 on self-declaration basis.

The recent five to ten years has witnessed amplified volatility in the INR-US exchange rates in the backdrop of the sub-prime crisis in the US and increased dollar-inflows into the Indian Markets. Taking into account the mentioned lines the researcher has tried to bring out the picture of How India gets affected because of exchange rate fluctuation?, to investigate the impact of volatility of exchange rate on SMEs of Auto Units in Pune. [The focus on Auto Units arises from the fact that this business is the largest player in the

\textsuperscript{22}The Economic Times, October 20, 2007
\textsuperscript{23}Keynote address delivered by Smt. Shyamala Gopinath, Deputy Governor at the Euromoney Inaugural India Derivatives Summit, October 24, 2007
country] and to study the possible hedging strategies that can be used to mitigate exchange rate exposure.
1.2. Objectives:

The study has been carried with the following objectives.

1. To study the rupee-dollar exchange rate fluctuations during 2006 to 2010
2. To identify the factors responsible for the rupee-dollar exchange rate fluctuations
3. To examine the impact of the fluctuations in the value of rupee on the "Automobile Units" in Pune
4. To examine the problems faced by the Automobile units of Pune because of the fluctuations in the value of rupee
5. To offer suggestions to mitigate the impact of the fluctuations in the currency value

1.3. Hypotheses:

1. Commercial Risk\(^\text{24}\) is a significant determinant of 'Export Earnings'
2. Financial Risk\(^\text{25}\) is a significant determinant of 'Export Earnings'
3. Country Risk\(^\text{26}\) is a significant determinant of 'Export Earnings'
4. Foreign Exchange Risk\(^\text{27}\) is a significant determinant of 'Export Earnings'
5. "Cost" is a significant determinant of 'Export Turnover'
6. Exchange rate fluctuation is a significant determinant of Export and Competitive Advantage relations.

\(^{24}\)Refers to Financial Risk assumed by seller when extending credit with-out any collateral
\(^{25}\)Risk when not having adequate cash flow to meet financial obligation
\(^{26}\)Collection of risk associated with investing in a foreign country (Political risk, economic risk, exchange rate risk). To be considered when investing abroad.
\(^{27}\)Risk of investment value change due to changes in currency exchange rates
1.4. Scope:

This study concentrates on the fluctuations and the impact on the SMEs of Auto Units in Pune regarding INR and USD during five years from 2006 to 2010. It concentrates on the various factors which are responsible for fluctuations of exchange rate and its impact in general and in particular to Auto Units in Pune, India, coming under the Category of SMEs. A total of 30 SMEs out of 65 SMEs are considered for the study under random sampling method.

1.5. Limitations:

Due to constraints of time and resources, the study is likely to suffer from certain limitations. Some of these are mentioned here under so that the findings of the study may be understood in a proper perspective. The limitations of the study are:

- The study is restricted to Auto SMEs of Pune. Hence, the findings of this study can be taken as indicative and not imperative.

- Some of the respondents could not answer the questions on their own due to lack of availability of data.

- Some of the respondents of the survey had to recall the information sought from their memory and that had its own pitfalls.
1.6. Chapter Organization:

This study has been divided into five parts as follows:

**Chapter – I** – Introduction:
Importance, Objectives, Hypotheses, Scope and Limitations are outlined

**Chapter – II** – Review of Literature:
Literature survey of Exchange rate fluctuations, Hedging and Impact of exchange rate to Auto Industry are described

**Chapter – III** – Materials and Methods:
The profile of the study location, data collection method and the sample units given along with the methods and tools employed are stated

**Chapter – IV** – Results and Discussions:
Analysis of data and testing of hypotheses

**Chapter – V** – Findings, Suggestions and Conclusion:
The summary of findings, suggestions are given and conclusion is drawn