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Measurement of Exchange Rate Exposure: Capital Market Approach versus Cash Flow Approach

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Abstract

Exchange rate exposure is the uncertainty created by the unintuitive movement in the exchange rates between the currencies. The exchange rate exposures can be categorized into three types 1. Transaction exposure; 2. Translation exposure; and 3. Economic exposure. Economic exposure is also called as residual risk and affects the firms long term cash flows. These exposures affects the firm value in many ways, therefore it is very important for the firms to manage the exposure. Measurement of the exposure becomes critical to manage the expsousre. In the literature we broadly see two methods used to measure the exposure. This study carried out the comparision between both the methods using the sample of 30 listed Indian firms. The results indicate that the cash flow model would be more useful to take strategic decisions to manage the economic exposure and also in the carrying out the further analysis.

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1. Introduction

Financial exposures and risks faced by the firms influence the value in many direct and indirect ways. Typically, these exposures are created as a result of unexpected changes in exchange rates, interest rates, and commodity prices. The term risk and exposure is often interchangeably used, but there is a subtle difference between the two. Risk refers to the probability of a loss, whereas exposure is the possibility of a loss. Risk arises from the exposure or exposure precedes risk. When a firm has financial market exposure, there is a possibility of loss nevertheless an

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opportunity for gain or profit (Horcher 2005). Therefore it is not possible to eliminate the exposure or risk as there is a linear relationship between risk and returns. But the firms can manage these risks by deploying proper risk management techniques in other words firms can hedge these exposures.

The fact that a significant number of corporations are committing resources to risk management (financial hedging) activities indicates the role for risk management in increasing the firm value (Bartram 2000). Besides increasing the value of the firm, it also provides greater consistency to the firms earnings and reduces the cost of capital (Mango & Major 2007; Cho 1988).

The present research intends to estimate the exchange rate exposure and the determinants of the exchange rate exposure of the firms in India. Exchange rate exposure is the uncertainty created by the unintuitive movement in the exchange rates between the currencies. Hekman (1983) defined exchange rate exposure (referred as FX exposure hereafter) as “the sensitivity of its economic value, or stock price, to exchange rate changes”. The foreign exchange rate exposure is created by firm’s transactions such as, import, export, borrowing, lending, subsidiaries in foreign country, royalty income/expense and so on. This exposure so created brings in the probability of loss, which is called as foreign exchange rate risk. This is a unique risk attached with the international trade, i.e. when firms operate in more than one country.

The international trade has significantly grown following the Second World War. Large number of corporations started exploring the opportunities in the foreign countries as a part of their expansion strategy. Indeed, the global trade was vital in success of many businesses. The political environment post the Second World War was stable and conducive enough to do so and more importantly creation of World Trade Organisation, World Bank etc. made the international business much easier. In the Indian context, after the liberalization of Indian economy in the year 1991 opened windows for global business in India, many global multi-national corporations (MNCs) entered Indian markets; similarly, many Indian companies cashed this opportunity to enter foreign countries. Because of this the firms were exposed to a FX risk which was not there when they were operating in the domestic country. However the magnitude of FX risk was very less, with the operation of Bretton Woods Agreement signed by most of the economically powerful countries in the year 1944. With the fall of Bretton Woods System and introduction of flexible exchange rate regime in the year 1972, the movement of the exchange rates became very volatile as the exchange rate between the currencies of two countries was determined by market forces. This development in the global economy, lead to the increased importance to FX risk management. The past researches conducted on FX risk management and firm value indicates the managing the FX risks will increase the value of the firm (Magee 2009; Allayannis & Weston 2001; Chan et al. 2002). Therefore, no firms involved in global trade could afford to demine the importance of managing FX exposures.

2. Literature Review

Risk management is a costly activity and it should add value to the firm (Horcher 2005). There are many empirical studies which have examined the relationship between FX exposure and firm value, but their results have been mixed. Bartov & Bodnar, 1994; Choi & Prasad, 1995; Jorion, 1990, 1991 found that firm value is insensitive to the exchange rate fluctuations. However the studies of He & Ng (1998); Bodnar & Gentry (1993); Booth & Rotenberg (1990) found that exchange rate movement has a significant impact on the firm value. As said previously, the fact that large number of firms involving in the FX exposure management, we may say it has a positive impact on the firm value. The firm value will increase only when the exposure is managed systematically. The prior researches list the steps to be followed in FX exposure management.

The existing literature categorizes FX exposures into three types. First, transaction exposure, which is created by the transactions of the firm involving cash flows such as, import, export, payment/receipt of interest, royalty etc. this exposure is quite serious as this will affect the firms cash flows directly. Translation exposure is the second type of FX exposure. It is also called as accounting exposure, as it is created when the financial statements of the subsidiaries are consolidated with that of parent company. However, this will not affect the cash flows of the company. The third type of exposure is known as economic exposure. It means that the unexpected change in the exchange rates may adversely affect the cash flows of the firm in the future. The difference between transaction exposure and economic exposure is that, transaction exposure disturbs the present cash flows while, economic exposure is a long term risk (Vij 2001).

The transaction exposure can be affectively minimized by hedging. There are various tools used for hedging transaction exposure they are, financial instruments such as currency options, currency futures, cross currency swaps

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