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A Study on Interaction Between Global Exchanges and Indian Capital Market

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Abstract: *The world is becoming increasingly interconnected, such that events in one region can have outcomes on the opposite side of the globe. The reality is that the financial markets are interlinked. International trade and globalisation of businesses mean that economic and geopolitical events in one nation will impact all other countries that do business with it. Also, since most currencies of the world are pegged to the US dollar, any developments in the United States could impact not just global currencies but also the stock markets.*

The most recent example of this is the hawkish stance of the US Federal Reserve (Fed). When the Fed announces a sharp rise in interest rates, the US dollar strengthens. This makes Indian stocks and other financial instruments more attractive to FIIs. Any change in FII inflow/outflow impacts the financial markets.

In general, the Indian stock market shares a positive correlation with the global stock markets. This means that when global indices rise, Indian indices, such as the NIFTY, tend to rise in tandem.

Keywords: Indian Capital market, Integration, Global stock market, Global Exchange

I. INTRODUCTION

The connection between a country's stock market and its foreign exchange market has been a subject of theoretical and empirical investigation for over two decades. The nature and magnitude of the interdependence between stock prices and exchange rates have implications for a number of crucial issues in international finance.

First there is the question of whether stock markets price exchange rate risk. The traditional CAPM tells us that exchange rate risk being a firm specific and hence non- systematic risk, should be diversifiable and hence would not be priced by the market. This in turn has implications for a firm's currency exposure management decisions.

Second, the presence of exchange risk and its relationship with stock market risk has implications for models of international asset pricing. The extension of the traditional CAPM to a multi-country context under the assumption of integrated capital markets must account for exchange rate risk and its covariance with the world market portfolio.

Third, the risk-reward tradeoff of international diversification and therefore management of multi-currency equity portfolios must come to grips with the question of how exchange rate risk and stock price risk interact. With significant rise in cross-border equity investments and in particular investments in emerging markets, this has become a critical issue for fund managers. Finally, the asset market approach to exchange rate determination [Branson (1983), Frankel (1983) among others] regards the equilibrium exchange rate of a currency as the result of the interaction of the demand for and supply of financial assets such as stocks and bonds denominated in that currency. With open capital accounts, the demand for these assets would obviously depend upon, among other things, their risk-return tradeoffs from the point of view of domestic and foreign investors.

A number of researchers have addressed the question of the relation between the levels of stock market returns and exchange rate changes. Studies have been undertaken both for broad market indices, industry indices and individual stocks. Representative examples are Bodnar and Gentry(1993), Bartov and Bodnar (1994), Choi and Rajan (1997), Jorion (1990,1991), Ma and Rao (1990), Apte (1997). By and large, these investigations have failed to discover significant relationship between stock returns and exchange rate changes either at aggregate level such as a market or industry indices or at the level of individual firms. There have also been studies of dynamic linkages between stock returns and exchange rate changes using the co-integration framework. [Ajayi and Mougoue (1996)]. All these studies focus on the first moments i.e. relationship between mean stock returns and exchange rate returns.

The study pertains to comparative analysis of the Indian Stock Market with respect to various international counterparts. Exchanges are now crossing national boundaries to extend their service areas and this has led to cross-border integration. Also, exchanges have begun to offer cross-border trading to facilitate overseas investment options for investors. This not only increased the appeal of the exchange for investors but also attracts more volume. Exchanges regularly solicit companies outside their home territory and encourage them to list on their exchange and global competition has put pressure on corporations to seek capital outside their home country. The Indian stock market is the world third largest stock market on the basis of investor base and has a collective pool of about 20 million investors. There are over 9,000 companies listed on the stock exchanges of the country. The Bombay Stock Exchange, established in 1875, is the oldest in Asia. National Stock Exchange, a more recent establishment which came into existence in 1992, is the largest and most advanced stock market in India is also the third biggest stock exchange in Asia in terms of transactions. It is among the 5 biggest stock exchanges in the world in terms of transactions volume.

The origin of the New York Stock Exchange (NYSE) is dated back to May 17, 1792, when the Buttonwood Agreement was signed by twenty-four stock brokers outside of 68 Wall Street in New York under a buttonwood tree. Also called the “Big Board”, it is the largest stock exchange in the world in terms of dollar volume and second largest in terms of number of companies listed. The Tokyo stock exchange was established on May 15, 1878 and trading began on June 1, 1878. In 1943, the exchange was combined with ten other stock exchanges in major Japanese cities to form a single Japanese Stock Exchange. It is the second largest stock exchange market in terms of monetary volume and currently has 2302 listed companies. The Hong Kong stock exchange is the 8th largest stock exchange in the world in terms of Market capitalization. The Hang Sang Index (HIS), was started on November 24, 1969. The Russian stock exchange was established in 1995 by consolidating the separate regional stock exchanges into one uniformly regulated trading floor. The Korea stock exchange was created by the integration of the three existing of the Korean Spots and Futures exchanges (Korean stock exchange, Korean futures exchange & KOSDAQ) under the Korea Stock and Futures Exchange Act.3.5. In this paper, the names of the countries and the names of the indices of those countries have been used interchangeably. Thus, the names of the countries represent the indices for the purpose of analysis and they need to be interpreted that way. Again, all the analyses have been done with the closing prices. The following table gives the country and the exchange with the name of its indices.

Country	**Stock exchange name**	**Indices name**
India	National Stock Exchange	S & P Nifty
India	Bombay Stock Exchange	Sensex
Hong Kong	Hong Kong Stock Exchange	Hang Seng
USA	New York Stock Exchange	NYSE
Korea	Korean Stock Exchange	KRX 100
Russian	Russian Stock Exchange	RTS Index

II. EMPIRICAL REVIEWS

Poshakwale, Sunil (2002) examined the random walk hypothesis in the emerging Indian stock market by testing for the nonlinear dependence using a large disaggregated daily data from the Indian stock market. The sample used was 38 actively traded stocks in the BSE National Index. He found that the daily returns from the Indian market do not conform to a random walk. Daily returns from most individual stocks and the equally weighted portfolio exhibit significant non-linear dependence. This is largely consistent with previous research that has shown evidence of non-linear dependence in returns from the stock market indexes and individual stocks in the US and the UK. Noor, Azuddin Yakob, Diana Beal and Delpachitra, Sarath (2006) studied the stock market seasonality in terms of day-of-the-week, month-of-theyear, monthly and holiday effects in ten Asian stock markets, namely, Australia, China, Hong Kong, Japan, India, Indonesia, Malaysia, Singapore, South Korea and Taiwan. He concluded that the existence of seasonality in stock markets and also suggested that this is a global phenomenon.

Masih, M.M. Abul and Masih, Rumi (1997) examined the dynamic linkage patterns among national stock exchange prices of four Asian newly industrializing countries - Taiwan, South Korea, Singapore and Hong Kong. The sample used comprised end-of-the-month closing share price indices of the four NIC stock markets from January 1982 to June 1994. They concluded that the study of these markets are not mutually exclusive of each other and significant shortrun linkages appear to run among them. Lau, S T and Diltz, J.D. (1994) studied the transfer of information among Tokyo and New York stock exchanges. Agarwal, R N (2000) examined the financial integration of capital markets in developing nations gave insight with regards to the methodology and the area of study followed.

In a similar study by Bae, K, Cha, B, and Cheung, Y (1999) the researchers tried to show the information transmission mechanism that operates for stocks which are dually listed. This has helped in understanding the channel of transmission of information that makes the exchanges dependant on each other.

Integration of World Economies

Today we are witnessing a gradual process of integration of the world economies, particularly through trade and financial flows across seamless boundaries. It may be defined as the process by which a national economy moves towards a single borderless world economy with open markets, that is markets without restrictions or barriers. In simple terms, globalization is the expansion of markets for goods, services, capital and labour beyond national boundaries. The distinctiveness of a global economy are that intervention by the respective Governments is replaced to a large extent by market forces giving considerable flexibility to the market participants to take decisions from a purely commercial perspective disregarding nationality and place of origin. The rapid progress in communication systems and in information technology has played a critical role in the globalization process. Developments in communication systems especially telecommunication, improved the flow of market reformation and speeded up the transfer of funds across the world. Similarly, advances in information technology, for example computerization, reduced the cost of transfer of funds and widened the margins. Consequently, global financial markets have become electronically connected 24-hour markets starting with the Japanese markets and circling the globe across Asia, Europe and eventually ending at the US markets in the 24 hour cycle.

Indian Capital Markets

The Indian capital markets, as was the Indian economy at large, was cocooned in a protectionist environment with myriad controls and restrictions. There were controls on foreign investments in different sectors, flow of foreign currency, access to domestic and international markets, commodity prices; in effect controls on conducting business in a commercial manner. The controls have, over the past decade since the process of liberalization was ushered in, been considerably eased and markets have become more liberalized. When the market, regulated by independent institutions, is the deciding factor and is able to define the flow of the economy, it results in a fluid economic environment that facilitates a balanced relationship with the global economy.

On a separate note, though liberalization is one aspect of achieving the balance, a cautious and studied approach is imperative. When the Asian crises broke out in July 1997 leading to a virtual free fall in the currency as well as falling market capitalization of companies in the stock markets of these countries, India remained an island of stability amidst the currency turmoil in the region. This relative stability was possibly due to a flexible exchange rate arrangement; gradual approach to liberalization and deregulation as well as a relatively cautious approach to capital account convertibility. A robust economy will result only by the adoption of a prudent approach along with gradual moderation of the Indian capital markets.

Increasing Role of the Foreign Institutional Investors

A major indication of our increasing integration with the global markets is the major role that FIIs play in the domestic capital markets. The scenario over the last fiscal reflects a greater participation by FIIs in the financial economy and today FIIs have become a very significant category of investors on the domestic bourses.

FIIs after a slow entry into the markets due to fears of bad delivery and other ills of the physical system have moved aggressively into the markets with the introduction of electronic trading and paperless settlement. The total investments by FIIs is estimated at over Rs. 51,000 crores which makes them as a category just behind UTI with a corpus of over

Rs. 72,000 crores. With growing influence of the FIIs on the domestic bourses also brings with it the volatility that these investors bring to the stock exchanges. There was a sharp fall in the domestic markets in the first week of April 2000 due to the notices sent by the Income Tax department to select FIIs on alleged violation of the Indo Mauritius avoidance of double taxation treaty. The subsequent recovery of the markets upon withdrawal of these notices indicates the strong role of FIIs on the domestic markets.

The presence of the FIIs in the domestic markets has also led to a greater amount of disclosures and transparency from the domestic companies as they are very particular about their investments and those companies who were not willing to adopt the new paradigm shift in governance have seen their stocks beaten down in valuations.

Issuance of ADRs / GDRs by Indian Corporates

The easing in the capital raising norms has had a positive fall out for the Indian corporate as well. The step towards raising capital from the overseas markets began with Indian corporates raising resources through the issuances of Global Depository Receipts ("GDRs") in the early nineties. Subsequently, the markets for overseas resource raising opened up with the issuance of American Depository Receipts ("ADRs") in the vibrant and deep US markets by Infosys Limited and the consequent listing of the scrip on the tech heavy NASDAQ exchange. The compliance with the strict accounting and disclosure norms and the strong track growth demonstrated by the Infosys and Indian IT stocks in general based on the success of the offshore development model gave the scrip good response in the US markets. Thereby leading to a strong re-rating of the stock in the domestic markets leading to the "INFY" and the NASDAQ becoming household names in India.

The strong response generated by the issue was also due to the lack of any Indian paper in the portfolio of US centric funds. Infosys offered them an opportunity to diversify into the high growth Indian IT sector which had built for itself a strong brand equity in the US markets with a reputation for high quality and adherence to strict delivery schedules. This issue opened up the sophisticated and deep US markets to strong Indian corporates complying with stringent accounting and disclosure norms. Subsequent issuances by Satyam Infoway, ICICI, ICICI Bank and more recently by Rediff and Silverline have further reinforced this trend.

An interesting fact on the integration is presented by the fact that the total amount raised in the international markets by Indian corporates in 1999- 00 at over US $ 1040 million was marginally higher than the total amount raised by all corporates from the domestic markets through public and rights issues at US $ 1020 million. This illustrates the complimentary role played by the international markets to the domestic savings in the overall growth of the economy. The current year is likely to be a continuation of this trend from companies in the IT and the pharma sector.

Integration of Indian Markets with the Global Exchanges

Financial markets over the last fiscal showed strong signs of recovery. This recovery has been brought about on the back of improved economic conditions that marked the end of the 3-year cyclical slowdown. Additionally, strong domestic corporate performance (particularly from the technology sector) as well as the return of an optimistic economic outlook the world over, as the Asian economies recovered more rapidly than expected and the US continued its growth acceleration. The stock markets showed steady northward trend despite the Kargil conflict and the fall in the Union Government in early part of the fiscal year. The markets rebounded with renewed vigour post elections after the new government was sworn in. The rally was predominantly led by the TMT ("Technology, Media & Telecom") stocks, which was reflective of the valuations commanded by the stocks in these sectors in the NASDAQ.

The listing of the Indian corporates on the US exchanges and the increasing influence has led to a piquant situation of the Indian stock markets getting strongly coupled to them, particularly the NASDAQ. It is now common for the market participants to watch the movements of the NASDAQ and based on the direction of movement of the NASDAQ composite index on the previous night, make a prediction on the likely movement of the BSE sensex and turn out right more often than not. The following graph illustrates the strong correlation between the BSE sensex and the NASDAQ over the past one year.

This might seem to be over reaction and might correct itself going forward as the NASDAQ is predominantly a tech heavy exchange whereas the BSE sensex is more broad based, though the so called "new economy" stocks of TMT sector have been playing an increasingly important role in the movements of the sensex after the inclusion of greater

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number of stocks from these sectors in the sensex. It is however clear that the Indian markets have become more integrated and cannot isolate themselves from the gyrations and the volatility of the global markets. Hence, events like the anti trust case on Microsoft or the increase in interest rates by the Federal Reserve would have its rumblings on the domestic bourses.

III. CHALLENGES

It must be borne that substantial inflows of capital into economies pose problems for the exchange rates, money supply and interest rates. The flow of capital into a country's foreign exchange market increases the demand for the domestic currency which, as a result, appreciates. This worsens the trade balance by making export non competitive and imports cheaper. Further, capital inflows cause an expansion in money supply and impact interest rates at a time when the monitoring authorities would prefer a credit squeeze. The inflows accordingly would call for a management of the exchange rate and monetary policy.

Such capital inflows also aggravate the negative consequences of a globalization of the financial system. As large proportion of the foreign inflows are in the form of portfolio investment and short-term funds, they are by their nature extremely volatile. Any sudden and quick reverse capital flows upset the national economic policies being pursued.

Indian capital markets have to live up to this reality and the Government has to take steps to minimize the impact of these sudden outflows of capital. The phased time table drawn by the Tarapore Committee on the introduction of capital account convertibility linking it to the achievement of certain key milestones is a step in the right direction. It also throws up the issue of creating a global financial mechanism to protect the markets from the sudden movements of capital and debilitating influence it could have on economies.

Globalization of the Indian capital markets have given it the much needed depth and the consequent liquidity. It has helped strong Indian corporates to access resources from the international markets and has led India to be part and parcel of the movements in the financial markets globally. However, the markets have to realize that there is an upside as well as a downside to any trend and only those who are well prepared will emerge stronger.

IV. CONCLUSION

While the world stock markets and the Indian markets tend to share a positive correlation, it is never a perfect correlation. Multiple domestic factors, including increased investments by Indian investors, will also move the markets. In fact, the Indian market has been outperforming several of its global peers even during a volatile 2022. Experts say that it is likely to become more widespread as we move forward from the pandemic. Get in touch with financial analysts who can help with regular updates on the global and Indian stock markets for well thought through decisions.

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