CHAPTER 5: IMPLICATIONS, SUGGESTIONS, LIMITATIONS AND FUTURE SCOPE OF THE STUDY AND CONCLUSION

5.1 Implications of the study

The present study was carried out in emerging market economies of Asia, which focused on the development of the financial stability index and record the effects of capital flows, stock prices, exchange rate and GDP on the same. For the same the study was carried out by developing financial development index, financial vulnerability index and financial soundness index; as these formed the components of financial stability index. Furthermore, the causality relationship was obtained between the variables, some important implication can be drawn from the work, which are as follow:-

1. The study developed financial development-financial vulnerability-financial soundness model, which serves the understanding of the financial stability index. The model comprised of financial development-financial vulnerability-financial soundness which again developed using Fisher formula. This itself is a robust measure which give accurate results of the financial conditions in the economy. The index of financial stability also gives a reliable measure to analyse the prevalent financial condition in economies, especially emerging economies in Asia.

2. Furthermore, the inferences from the indices were drawn on the basis of studies of Guru (2016), Morris (2000) which explained that the values more than 100 in the index of a particular country implies that country is prone to a financial risk. If it is lesser to 100, i.e. between 70 and 100, then the economy is considered to be managed and stable. But too low values imply that countries are again on a limp side and can face serious shocks and triggers.

3. Financial stability index so developed can help to avoid the systemic risk arising in the financial institutions and avoid hard behavior among the investors. Financial development index ensures the protection against moral hazard, by identifying the real caused of unrest in the financial development index.

4. Also, the study developed financial vulnerability index which is an indicator of the financial risks bearing capacity of the economies. The result implies that emerging economies of Asia has done pretty well on the risk bearing capacity. They have managed their exchange rate regimes; introduced capital controls liberated the capital accounts, used sterilization techniques in order to face the risks in the external environment. The recent examples of such phenomenon could be
observed from the implications of global financial crisis which broke out in 2007-08. The countries like Saudi Arabia do not depend on external debt by creating their reserves of deposits. Furthermore, the Indian economy was found to be vulnerable after huge reversals of capital flows from the economy, which influences the exchange rate and hence current account deficit. But, recovering from such vulnerabilities on the indicators of the risk faced, by using sterilization methods, helped the economy to be stable comparatively.

5. The financial soundness of the economy is of utmost important, which analysis the moral hazards among the investors. The results imply that an economy to be stable is required to have stability in its banking sector. It is the measuring of the efficiency of the banking sector of the economy. The indicators used in the present study like non-performing loans to total loans ratio, liquidity ratio, return on equity and return on assets, it implies that a financial institutions should measure these in order to evaluate the financial soundness in the economy. The soundness of the financial market was analyzed by using stock turnover ratio, bond turnover ratio and ration of household debt to GDP. The results implied that these constituent to be the game changer for determining the financial soundness of the economy. The analysis of these variables can help to draw the influences about the financial risks which can be faced by the economy, when the financial system faces the financial risks. The contagion effect among the institutions can help to regain the investors’ confidence. It is a significant contribution to the financial system policy making agencies.

6. The study also developed a model which show the inter linkage between the financial stability and capital flows, exchange rate, GDP and stock prices. The implications which can be drawn from such relationships are:

a) Financial soundness and Capital flow are negatively related. This means that capital flows are known to be volatile and create sudden stops. The basic reason identified from literature (Kochhar, 2013) is that the actions of advanced countries (popularly known as ACs) after the global financial crisis has caused the capital flows to be more volatile. To understand this we need to be move little back during the 2000, Advanced Countries were considered to be the matured markets, neither the interest rates in the economy nor the markets were outperforming. The investors found the emerging economies to be better for rate of interest. These economies subsequently faced large volumes of capital inflows in the countries in the form of FDI (Foreign direct investment) and FII’s (Foreign institutional investors). As the interest were near to 7% in
Singapore, India, Malaysian economies and other economies of Asia. The outbreak of global financial crisis in 2007-08 limped the biggest economy in the globe, i.e. U.S. This outbreak further induced capital in emerging market economies. The monthly tools and policies of Federal Reserve, popularly known as ‘Taper Tantrum’ and quantitative easing caused the sudden reversals in capital flows from emerging market economies. This influenced lot in the form of dwindling ex huge capital account deficit, higher rate of inflation, problems in the affected economies negatively. The financial stability of such economies faced trigger from time to time due to capital flows reversals. Therefore the present study implied that the capital flows impacts financial negativity. But it should be kept in mind that on a higher end create problems. This relationship can help in drawing inferences about the factors which impact financial stability.

The results also give implications about the relationship between financial stability and exchange rates. Literature provides that the section of exchange rate regime have strong implications for financial stability. In emerging countries the exchange is perhaps the most important policy transmission. The exchange rate helps to bring trade-off between market price and stability. If central bank has completely raise the exchange rates o stem inflationary pressures. This induces an appreciation of the domestic currency and benefits the financial markets agents.

Basically, the literature provides the relationship between the exchange rates and financial stability is determined by multiple factors. One of the important factors determining this relationship is the choice of exchange rates regime by the country. The exchange regime implies the determination of the exchange rate with the given markets conditions. There are multiple views on this understanding; furthermore, the great Asian financial crisis 1997-98 especially by Thailand, Korea and Indonesia was led by the events which occurred due to exchange rate regimes, which had rigidity in the determination of Exchange rate.

The links can be established by analyzing a major indicator of financial stability index, which is stability in banking institutions. This is because these play a crucial role in determining the exchange rates, whether they are floated (playing in Forex markets). The evidences in the past explain that both peg and floating exchange rates create financial vulnerabilities to markets.
5.2 Suggestions of the study

Financial Institutions should ensure the maintenance of asset quality in order to avoid herd behavior in both financial institutions and markets.

Further action for avoiding systemic risk can be taken by taking some macro-prudential measures.

The present study provides a parameter which can be used by think tanks for analyzing stability of the economy. In order to achieve certain level of this index suggest the warning signals.

Economies like China and Saudi Arabia should adopt managed exchange rate regime, which will provide capital flows and the benefits of the same can be reaped.

The FSI suggests that Thailand has been very conservative for its economy, which should be liberated and try to enhance better financial and avoid crisis.

Measures should be taken to control the creation of asset price bubbles in the economy.

Structural Reforms which can enhance internal rebalancing, explain hurdles of asset accumulation.

5.3 Limitations and Future Scope of the study

The study was carried out in order to develop a Financial Stability Index, based on FD-FV-FS model. Further, it intended to analyze the effect of Capital Flows, Exchange Rates, GDP and Stock Prices on the index so developed. In order to validate the index developed, the impact of FD, FV and FS was checked on FSI. Also, the relationship between capital flows, exchange rate, GDP and stock prices was checked with FD, FV and FS. But the aim of the study was subject to some limitations. These limitations (listed below) serve as the guidelines for further research.

1. The biggest limitation of the study was the lack of data. The researcher intended to include the parameters specified by IMF for financial soundness, but due to unavailability of data for large sample of countries, restricted the study up to 15 years and ten counties as sample time and sample size.

2. The study could have included the stress testing methods in the model framed. This could have increased scope of the study.
3. The index of financial stability index, financial vulnerability index, financial development index and financial soundness index were developed by taking 2000 as the base year. This base year should change according to requirement of financial stability.

4. Another limitation of the study is that countries like Saudi Arabia, do not believe on deposit interest rates, which again led difficulty to draw implications from the populations.

5. The sample size of the study could also include the emerging economies of Latin America and Europe, which can help in generalizing the results.

6. The study could also analyze the relationship between monetary policy and financial stability as the components are observed to influence each.

5.4 CONCLUSION

The present study is an effort to frame Financial Stability Index using FD-FV-FS model, which included series of steps, followed in the study. The idea behind the formation of the index was that Emerging Market Economies of Asia are found to be the major markets, which are growing at the fastest pace. These economies are facing tailwinds of different nature. These are impacting the economies largely, are resulting to serious implications. Furthermore, these are impacting financial markets and financial institutions of the system of economies. Specifically, these are causing financial instability to the economies. The major outcome of financial instability is the outbreak of crises. The present study is dealing with the formation of the index, which can help in measuring the condition of the economies’ financial markets and institutions, in terms of Financial Development, Financial Vulnerability and Financial Soundness and hence contribute in identification the conditions of financial unrest.

The concepts discussed in this chapter 1, helped to know the nature and behavior of the different variables under the study. This has served with clarity as foundation of the study, which will further enhance the achievement of the objective of the study. The environment of different emerging economies has helped in knowing the actual economic conditions prevalent there. This had served a great help in discussing the relationship examined in results and discussions chapter. The study aimed at the development of the FD-FV-FS model, which is based on Monetarist-Cyclical view proposed by Kindleberger (1978) and Schwartz (1963). This model is the basis of the Financial Stability Index framed in the study. FD-FV-FS Model is the composition of the indicators of financial development, financial vulnerability and
financial soundness of the economy. These are aimed to be measured with the benchmark, which is an index so framed. The need for such model was felt as against the challenges brought in focus by Kochhar (2013); IMF Report (2013), faced by various emerging economies of Asia.

The index framed is further analyzed with factors like capital flows, exchange rates, stock prices and GDP. The concept of capital flows has helped in understanding the basic idea behind these flows. Exchange Rates were elaborated, and it was found that exchange rate regime plays an important role in determining exchange rates. There are many regimes, which vary from country to country, but specifically the monetary policy of the central banks of emerging economies are following either peg system or managed floating. This forms an important part of ‘Impossible Trinity’. Therefore, it is considered to be important for drawing implications for financial stability. The chapter also briefed about stock prices. These form an important part of the study as these are the representative of the financial markets, where prices are determined by the behavior and sentiments of the investors, which is an important consideration to the financial stability of the economy. It is so, because the investors cause herd behavior, disaster myopia, which can be serious causes to financial crises in the economy (Asian Financial Crisis 1997-98; Global Financial Crisis 2007-08), as seen before. Further, an economy is represented by economic growth in the country. Any country growing attracts as a better opportunity for investors, resulting in further growth of the economy. This leads to avenues which can create upheavals in the economy, hence important for understanding its implications for Financial Stability.

The concepts elaborated in this chapter, have been discussed largely in the literature. It provides the idea of the relationships between the variables and also helps to understand the inter linkages. Such literature is reviewed thoroughly which helped in bringing conclusions from the present study. Some key points were brought in focus through the review, which made the robust ideology for the present study. The following points are discussed:

The work of Cavusgil (1997) helped in understanding the term Emerging Markets. Also, the reportts of IMF and Emerging Markets Directory helped in understanding the term emerging market economies. The definition given by Miller (1998) also cleared the parameters for
defining emerging market economies. The study of Calvo and Mishkin (2003) explained about the importance of exchange rate regime for emerging economies.

The study Kochhar (2013) helped in identifying the challenges faced EMEs. The study of Bailliu (2000) focused on the issue of the problem of emerging market economies and developed economies. One of those is the capital mobility and capital flows in these nations. The work of Crockett (1997); Yadav (2009) helped in structuring the concept on the basis of theories of Financial Stability. Seminal works of Kindleberger and Minsky (1978) and Friedman and Schwartz (1963) formed the basis of FD-FV-FS model proposed in the present.

The study of Calvo, Leiderman and Reinhart (1996) provides the basic idea of capital flows to the economies. It is the interest rate differential which determines the capital flows in the emerging market economies. Furthermore the study of Rodrik (1998) provided that developing nations are better affected by capital account liberalization and openness. Furthermore the study of Prasad et al (2006) provides the benefits of capital flows. They argue that opening of the capital account brings development to the economy, improvements in the processes of financial system, and better macroeconomic policies. The study of Classens et al (1995) enhanced the understanding of the properties of capital flows.

Financial Stability is derived from three words financial development, financial vulnerability and financial soundness. Financial Development is the major constituent as it is the development of Financial Institutions and Financial management, further it mobilize saving and induces growth (Morris, 2010; Illing and Liu, 2003, Van den End, 2006; Albulescu, 2009). The work of Blackburn and Hung (1998), explained the determination of real GDP and financial development. The study of King and Levine (1993) explained the relationship between financial development and economic growth. The work of Deverensa and Lane (2003), provide the understanding of the relationship between exchange rate and financial stability. The study of Classens and Ghosh (2011) were important contributors in understanding financial vulnerability of the economy. The studies of Akerlof (1970); Diamond and Dybuig (1983); Crockett (1997) provided the base of reasons of financial vulnerability.

The literature review gave a path which can be followed in order to achieve the major objective of the study. The results were analyzed using Ordinary Least Square Method, using EVIEWS
6. Various models were developed in order to estimate the relationships between the variables, which helped in further analysis.

The study developed Financial Stability Index (FSI) using Irving Fisher’s Index. This index was based on FD-FV-FS model based on Monetarist-Cyclical view of Kindleberger (1978) and Schwartz (1963). The base year was 2000, for analyzing the index. It was found that the values above 100 were found to be more risky, implying the conditions of the economies are prone to risks of financial instability. However, this does not mean that country is not doing well, in terms of trade. Further, values below 100 imply that country is at secure position, but not able to have high returns. It can be seen from the results explained in Table 5, that emerging markets were far beyond the standard measure of base year. The changes in the current years were compared with the base year, which showed that all the emerging markets of Asia, since year 2000, are facing huge upheavals in their economies. Upheavals here are not referred to financial unrest, but the fluctuations which are resulting in constant management of financial development, financial vulnerability position and position of financial soundness. This paper explores empirically some determinants of, and interactions between, capital inflows, exchange rate, GDP and Stock prices in emerging countries between 2000 and 2015. This period saw an unprecedented loosening of global monetary conditions, resulting in a rapid decline in interest rates and spreads in most developing regions. It also coincided with a rapid increase in financial inflows, domestic credit, and capital-market valuations throughout the developing world. The presence of large, exogenous financial shocks suggests that it may be possible to estimate with some confidence any underlying causal relationships.

Countries like India and China are found to be biggest emerging economies of Asia, which are facing the problems of sudden capital flows and its reversals. Even the economies of Malaysia and Saudi Arabia faced financial shock due to decreased oil prices, which further influenced the financial vulnerability position of the economy. Selection and change of exchange rate regime is still dubious in some of the EMEs of Asia, as continuous changes in the external environment, especially from the side of Advance Countries (ACs), are making difficult for the economies to sustain the stability in the financial system. Even though, the index implies higher degree of risk in these economies, the benefits and prospects of development were also observed. Some of the economies were found to be outperforming in such conditions. They are able to maintain somewhat stability in their economies, especially in case of India, Vietnam,
Indonesia, Philippines, by robust monetary policy and understanding the cyclical nature of the risks. This was indicated from the indices of Financial Vulnerability and Financial Soundness, which were found lower to 100 in most of the cases. Thailand, Philippines are the economies which were observed to be financially strong and sound economies, as the values of indices were 100 or near to 100.

Furthermore, the analysis of the index framed was done on the basis of the relationships between the factors causing financial stability. The determinants of the model FD-FV-FS were identified on the basis of the review of literature, especially, reports of IMF were used. These determinants were used to identify that which factor caused financial development, financial vulnerability and financial soundness of the financial system. More importantly, the establishment of the relationship made the study robust, helping in confirming the determinants to the indices framed.

Panel Data OLS Model was used to estimate the causal relationship between the variables. It included formation of two models, on the basis of consideration of cross sections and time variant, namely, fixed effect model and random effect model respectively.

The study proved that FD, FV and FS affected Financial Stability of the economies. The R square value explained huge variance caused by these variables in the index. Moreover, this relationship existed in the all the ten sample countries. Furthermore, this relationship was checked according to the time-variant, where again it was found that time being a variant component, relationship between the variables existed. The result of Hausman Test explained that this relationship is more important when considered with different cross sections therefore individual country analysis was done by Least Square Dummy Variables, where it was found that each sample country, namely, China, India, Indonesia, Korea, Malaysia, Philippines, Thailand, Saudi Arabia, Singapore and Vietnam, represented that financial stability is the function of FD, FV and FS. These results strengthen FD-FV-FS model framed in the present study. For the mathematical accuracy of the results, the residuals of the model were tested with normal distribution, which was found certain.

Furthermore, the relationship of factors affecting FD, FV, FS were also established, which can help in knowing that factors used for making these variables (indices), are explaining these or not. The results of panel regression, explained that in fixed effect model, HH, INT and MC
were majorly affecting FD of the system. On the other hand, BD, BM and PVT were not found
to effect the development of the economy, within the purview of the present study.
Furthermore, the results in the random model, also explained the same results, meaning that
both time as variant component and cross-sections consideration, are explaining that
development of the financial system depends on interest rate spread, as it instills capital
formation in the economy. Market capitalization also affects the development of the economy,
which explains the spread and depth of the financial system, explaining the capital backup in
the financial markets. Even the concentration and competition is also found to affect the
development negatively. The literature also provided that bank deposits to GDP, broad money
to GDP and private sector lending are important for the development of the financial system,
which can be seen from R square value in table 13. However, these did not affect the
development, as found from the results. Perhaps, these results are due to lack of data and
diversity in the data. Furthermore, the results of Hausman Specification Test cleared that this
relationship is true and better observed considering cross sections of the data. Therefore, panel
regression with dummy variables model was developed, where it was found that this
relationship was found in China, which served as a comparison country in the form of constant.
Chinese market explained that development is result of HH, INT and MC rather than PVT, BD
and BM. But these played an important role in maintaining financial stability in the economy.
The present relationship could not be observed in India, Singapore, Thailand and Vietnam.
It was found in fixed effect model statistics (Table 18), that DEXT, DCAD, DINF, DLTD,
DREER, DRES affected financial vulnerability of the financial system. This means these
factors worked as Early Warning Signals, which helped in knowing that the financial system is
financially vulnerable. These relationships were also analyzed keeping time as variant, using
random effect model. The results explained that time variant is also important for considering
such relationships. It is because that these variables vary over time and are affected with the
events, which occur during some time frame, for ex. Global Financial Crisis of 2007. The
results also cleared an understanding that DGB and DSHT did not affected FV.
The reason for this is that GB is budget which is just an estimate of future incomes and expenses. It is a benchmark, which can sometimes be superseded by economies, according to the given market conditions. The results of Hausman Specification Test claimed the random effect model to be the appropriate model in this case.

The results of the causal relationship between NPL, CA, CRAR, LR, ROA, ROE, SR, BR, and H and FS, were also estimated in using panel regression models. The results of descriptive statistics of the variables cleared that the variables were normally distributed, except ROA and ROE, at 1% level of significance. The cross sectional analysis using fixed effect model was done. It was found that only CRAR, LR, NPL were found to affect FS of the system. The main reason identified for this kind of relationship was lack of data in case of BR, H, ROA and ROE. The results of Hausman Specification Test also explained that time being variant component yields better results.

The results for examining the causal relationship between capital flows, exchange rate, stock prices, and GDP and FSI, started with the Granger Causality Test, which identifies the bi-variate causality in the variables, individually. It was found that the Capital Flows, Exchange Rate, GDP and Stock Prices were closely connected and impact each other in both of the cases. The null hypotheses stated in the results were found significant at 5% level of significance, and hence were rejected, explaining the existence of bi-variate causality in the markets. Furthermore, the granger causality was also applied including Financial Stability Index also as a variable. The results explained that each of the above variables, showed a two way connection and causality between the variables.

Furthermore, in order to know the impact of Capital Flows, Exchange Rate, GDP and Stock Prices on FSI, across sample emerging economies over the period of time, Panel Regression Models were formed using EVIEWS 6. The results of Panel Regression were estimated on the basis of two models namely, Fixed Effect Model and Random Effect Model. The results of fixed effect model were found to be significant and explained a strong causal effect running from independent variables towards FSI. Furthermore, this helps in understanding that financial stability in the economy, is largely a role of capital flows tailwinds, exchange rate, GDP and stock prices. Furthermore, the results of random effect model explained that there is a causal relationship between the variables. Furthermore, in order to be confirmed about which model to
be used, Hausman Specification Test was applied, which explained fixed model effect results were appropriate. This gave the study a confirmation about the causal relationship running from capital flows, exchange rate, GDP and Stock Prices towards FSI. The residuals of the model were found to be stationary.

Getting in depth, financial stability is determined by financial development, financial vulnerability and financial soundness of financial institutions and markets of the economy. But the financial development is further affected by the capital flows, exchange rate, stock prices and GDP of the economy. And so is financial vulnerability and soundness of the economy, as proved in the results. Cross-sectional and panel techniques find that reductions in the global price of risk and in domestic borrowing costs were the main contributors to the increase over time in net capital inflows and domestic credit. That said, cross-country differences in international and domestic finance are very large, and are best explained by fundamental factors such as institutional quality, access to international export markets, and an appropriate macroeconomic policy. Further, both net capital inflows and domestic credit exert a positive effect on investment. Any effect of the global price of risk and domestic borrowing costs arises mainly through their impact on net capital inflows and domestic credit. Surprisingly, neither greater institutional quality nor greater domestic credit increase the extent to which capital inflows translate into domestic investment. Future research should investigate further the relationship between surges in global liquidity and productive investment in developing countries.

The results from the present work help to conclude that no one size fits all. Some relationships are true in some countries but some are false when taken as a region. The selection of the exchange rate regime depends from country to country, upon the conditions in the concerned economy. Meanwhile, the results in the present study provide an additional evidence of linear relationship of variables undertaken all together with their growing importance. Nowhere in the literature there is the study which explained the relationship between these variables strongly. Moreover, there is no evidence of the relationship between Financial Stability Index and these variables. Studies of Morris (2010); Illing and Liu (2003), Van den End, (2006), Albulescu, (2009) framed Financial Stability Index, but the present study developed the index based on Irving Fisher’s Index Method and analyzed it using base year. Further, the indices framed were analyzed with the variables which can bring fluctuations in the financial system, namely capital.
flows, exchange rate, GDP and stock prices. The study observed linear relationship between the variables and various indices framed in order to form model proposed.

Finally the present study adorns some policy implications. For well-developed countries, government regulations and monitoring of financial and banking systems are critical to avoiding or minimizing the chances of financial crises. However, if a country’s financial market is still underdeveloped, government policies to promote financial reform and liberalization should be a priority.