CHAPTER 7
CONCLUSION AND RECOMMENDATIONS

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TRANSFORMATION OF THE INDIAN FINANCIAL SECTOR

The Indian Financial Sector (IFS) has expanded at a great pace. It has become increasingly dynamic with the implementation of economic reforms and technological development over the years. The Indian Financial System has undergone considerable improvements with prudential practices on part of the institutions with the adoption of BASEL norms by the banking sectors, and with strict regulations of the SEBI. This is evident in the resilience of the IFS during the global financial crisis, and in the way the regulatory authorities have used macroeconomic policies of the right mix to sustain the economy.

The transformation of the IFS started way back with the nationalization of banks in 1969 and 1980. It led to change in character of the Indian banking sector from class banking to mass banking. Nationalization of banks led to massive expansion of the banking sector at an increased pace, particularly, in the rural areas. It may be attributed for the initial widening and deepening of the IFS.

At the onset of the decade of 1990, the Indian economy underwent significant structural changes with the introduction of economic reforms and structural adjustment programmes. Given the strong interweaving of the real economy and the financial sector, focused reforms were also initiated in the latter. Financial sector reforms in India were introduced based on the recommendations of the Narasimham Committee Report (1992 and 1998). Broadly, the reforms in the banking sector may be categorized as deregulation and adoption of prudential norms of regulation by the RBI. These reforms have strengthened the Indian banking sector and competition has led to consolidation of banking structure.

Subsequently, Basel Norms II were implemented in 2004 which further helped in strengthening the legal framework in which the financial institutions operate, making their functioning more effective. Over time, through reforms aimed at the banking and non-banking financial sector, capital market and insurance sector, the government gradually infused increasing degree of autonomy and competition, allowing private and foreign sector participation. An important contribution has been that of the integration of information technology, which has opened new modes for improving the breadth and depth of the IFS. Government initiatives like basic

savings bank accounts under the Pradhan Mantri Jan Dhan Yojana, and especially, their integration with mobile penetration and Aadhaar identity has gone a long way in improving financial inclusion of the masses.

With the backdrop of these developments, an examination of the financial sector development of India makes an interesting area of research. Over time, the concept of financial development itself has evolved, with earlier studies limiting it only in terms of increase in financial depth. Many more dimensions have got added, which include access, efficiency and stability, based on the *4*2* framework developed by the World Bank. The present study has been carried out in the backdrop of this framework to gauge the extent of financial development in India, establish their interlinkages and inquire into the impact of financial development on economic growth of India.

This chapter presents the broad findings and conclusions derived from the analytical work carried out in the previous two chapters. The chapter is organized in the following manner. Section 7.1 highlights the findings related to the four dimensions of financial development. Section 7.2 presents the findings related to the analysis of interlinkages between the dimensions. The findings related to the construction of the pyramid structure indices are dealt with in section 7.3. Section 7.4 provides an overview of the outcomes of the structural equation model technique used to confirm the dimensions contributing most to the financial sector development. Section 7.5 presents the results of the empirical analysis of the relationship between financial development and economic growth.

7.1 OVERVIEW OF THE DIMENSIONS OF FINANCIAL DEVELOPMENT

The development in the financial sector is gauged by the performance of the indicators of its four dimensions, namely, financial access, financial depth, financial efficiency, and financial stability. Each of the dimensions has been examined using multiple indicators, in chapter 4. The findings regarding the same are as follows.

7.1.1 Financial Access

Banking Services – Physical Infrastructure

Financial access forms the first and the basic aspect of financial development. In fact, financial development starts with access to financial sector. The analysis of financial access reveals considerable improvement in it captured through growth in its indicators. Banking services

have improved both in terms of demographic and geographic penetration, across physical infrastructure of branches and ATMs. The number of bank deposit accounts has improved from 537 accounts per 1000 adults to 2802 accounts, and credit accounts improved from 89 to 369 accounts within a span of 31 years, both registering a CAGR of more than five percent. The number of bank branches has improved 2.5 times from 1991 to 2020, showing discrepancies in the geographical distribution of branches. The savings accounts in the post offices have also increased by more than three times from 76 accounts to 258 accounts, per 1000 adults.

Technology based Access

Technology based financial services, such as, use of ATMs, use of debit and credit cards, mobile banking, online banking, etc., have expanded considerably in the recent past. Over a short period of ten years from 2010 to 2020, debit card users have increased by three times from 266 to 813 per 1000 adults and credit card users have also increased by 2.6 times. Electronic payments have increased at a CAGR of 78.7 which indicates high level of acceptance of digital mode of transactions. A remarkable record is the increase in the depth of retail electronic payments in relation to GDP from as low as nine percent in the year 2010 to 203 percent of GDP in the year 2020.

Insurance Services

Access to financial services beyond the banking sector has also shown remarkable growth. The life insurance sector density in terms of number of offices per one lakh adult population has increased at a healthy CAGR of 8.87 percent. Likewise, insurance premium penetration per 1000 adults has recorded much higher CAGR of 13.53 percent over the 20-year period.

Financial Markets

Financial markets have grown with time, and an apparent shift is observable in people's inclination from banking sector to the financial market. Total market capitalization increased remarkably at a CAGR of 12.56 over the 20-year period from 2001 to 2020. The stock market capitalization excluding top ten traded companies has increased, implying improvement in the access by smaller companies with the improvement in stock market. All the findings suggest that there is an overall growth in all the indicators of financial access in India.

7.1.2 Financial Inclusion

Core Financial Inclusion Index

The outcome of improved financial access is greater financial inclusion of a wider section of the financial excluded population. The present study has constructed three indices of financial inclusion. The first index covers a long period of 31 years which concentrates on financial inclusion in terms of access to banking services which form the core of financial services. The C-FII which is a core composite index built on three dimensional indices reveals that the dimensional index of penetration has grown the most over the study period, followed by the dimensional index of usage.

The C-FII has improved from a low index value of 16.26 in the year 1990 to 98.43 in the year 2020. Thus, from a secular point of view, there is substantial long term improvement in financial inclusion in India. It establishes that the efforts on the supply side of financial access in terms of providing the physical infrastructure, and the behaviour on the demand side in terms of usage of banking services (and post office banking services), there is remarkable development in the Indian Financial Sector, although bank-centric.

Intra-Dimensional Index Ratios

Making intra-dimensional index comparisons, the ratio of penetration to availability and the ratio of usage of availability shows an increasing trend, while the ratio of usage to penetration shows a declining trend over time. It implies that availability of banking services has led to increased number of accounts and better usage. However, the decline in usage to penetration ratio suggests that though bank accounts have been opened, they have not got converted in to deposit mobilization or loans. There is much scope for improvement on this front. There is need for efforts to encourage account holders to improve their banking habits.

Intermediate Financial Inclusion Index

The second index, I-FII is constructed on a broader coverage of financial institutions and markets to include beyond banks and post offices, the penetration, availability and usage related to insurance sector, NBFCs, small savings, mutual funds, and the stock market in terms of market capitalization and volume of trade in the secondary market. Constructed for a period of 20 years, the penetration index shows a growth of 24.62 percent on compound annual basis. In the availability index, much contribution can be attributed to the more than four-fold increase in the number of insurance offices per one lakh population. The index of usage has shown

substantial improvement with all its indicators having a healthy growth. The composite Financial Inclusion Index has improved five-fold, from 18.59 percent to 91.47 percent over the 20 years, with a high CAGR of 8.75 percent.

Advanced Financial Inclusion Index

A-FII supplements all previously used indicators with technology based access to financial services and geographical density of banking infrastructure for the period, 2010 to 2020. Technology has greatly influenced how claims are settled, and more and more people are increasingly adopting electronic payment modes. Therefore, the third index incorporates variables such as, number of debit cards, credit cards and electronic transactions per 1000 adult population as measures of penetration; geographic and demographic density of bank branches and ATMs, and number of internet users per 100,000 adult population as indicators of availability; and the volume of total electronic payments to GDP as an indicator of usage.

The penetration index involving electronic access shows remarkable growth of nearly 30 percent on compound annual basis. An important observation is that this is the highest rate of growth in the penetration index when compared to the penetration index of the first and the second FIIs which recorded a CAGR of eleven percent and 24 percent, respectively; the latter driven by stock market capitalization growth.

The availability index has shown the highest CAGR of five percent compared to the previous two indices, on inclusion of geographical and IT penetration. The major contribution is that of ATM availability per one lakh population and its geographic density which has grown at a rapid rate of 17 percent on compound annual basis in just ten years. The composite FII for the 10-year period has grown at the CAGR of 24.66 percent.

Comparison of the Financial Inclusion Indices

While the three indices have very similar path and also converge with each other, some finer observations can be made. The banking services index has been on the higher side for most of the years examined. This implies that from financial inclusion point of view they continue to play an important role. The second index includes, apart from banks and post offices, other financial institutions such as insurance companies, NBFCs, mutual fund assets, and listed companies, stock market capitalization and trading activity excluding top ten companies. Financial inclusion in these institutions and markets is lower than in banking-service providing institutions, which is as expected as the financial sector of India is still in the early stages of

development, particularly, other than the banking sector. There is still a long way to go before every adult would have an insurance policy or a mutual fund investment.

7.1.3 Financial Depth

Financial depth is amongst the oldest and most common measure used across countries to measure the relative size of the financial sector vis-à-vis the real sector. It is of particular significance for underdeveloped and developing countries. The sector deepening is measured using alternative variables such as, money supply (M1, M2, M3, M4) to GDP, bank credit to GDP, bank deposit to GDP, bank credit to commercial sector to GDP and for financial market measures used are market capitalization to GDP and total value traded to GDP.

Monetization of the Economy

The ratio of narrow money to GDP increased from merely 3.49 in the year 1990-91 to 26.55 in the year 2021, increasing at the CAGR of 6.76 percent. Compared to this, broad money has grown drastically from 10.57 times to GDP in the 1990-91 to as high as 138.98 in 2021 at a CAGR of 8.66 percent.

Banking Sector Depth

In relation to banking sector, there is substantial deepening in terms of bank deposits, credit, and banking sector credit to commercial sector. Higher levels of bank deposits imply good mobilization of resources. Bank deposits to GDP has increased from a low of 7.65 to 93.46, growing twelve times of the 30-year period from 1990 to 2020. Likewise, availability of bank credit means that people have access to formal financial sector. Bank credit to GDP has increased even more at more than 15 times and at a CAGR of nearly 10 percent. Total assets of the banking sector have also grown remarkably from 11.40 times the GDP to 124.10 between the years 1990-91 to 2019-20 which is a 10 times increase. The ratio of bank credit to private (commercial) sector to GDP implies greater access to funds compared to the pre-emption of resources by the government up to the 1980s.

Commercial Banks vis-à-vis Central Bank Assets

The extent of financial depth can also be measured in terms of ratio of assets of commercial banks to total assets of both commercial banks and central bank taken together. Such a ratio would indicate the relative significance of the two. Higher the ratio the better, because it indicates that the intermediation process of commercial banking is functioning well and claims

on non-financial real sector, be it private firms, public enterprises or governments (local, state and central) are created on market based commercial considerations rather than central bank lending, especially, if done on non-market considerations. In the year 1990-91, this ratio stood at 67.52 percent and increased to 92 percent over the 30-year period, which is a desirable change as it shows greater role for commercial banks.

Non-Bank Financial Depth

The findings related to financial institutions other than banks reveal that post office savings, small savings, mutual fund assets, life insurance premium, and pension fund show a rising level of financial deepening in relation to the real economy and representing diversity in the avenues for savings as well as access to funds. Both post office saving deposits and small savings have grown at the CAGR of more than four percent over the study period. All variables show upward trend except public deposits mobilize by NBFCs.

Mutual fund assets as a ratio to GDP has shown a reasonable growth of seven percent on compound annual basis. Insurance premium to GDP has also grown at the CAGR of 7.8 per cent. The volume of money under pension fund has grown tremendously from four percent of the GDP in 2009-10 to 9.26 in the year 2019-20; more than twice increase within a period of ten years. It has recorded a CAGR of 8.6 percent which is higher than the growth rate of any other non-bank institutions resources. Further, syndicated loan issuance reflects the sophistication of the financial sector in terms of resource mobilization through different instruments and arrangements.

Financial Market Depth

Financial market is represented by the stock market in this study. Its depth is measured by stock market capitalization and total value traded to GDP ratios. The former has doubled from 48.17 percent to 97.29 percent between the year 2001 and 2020. The sharpest growth in the market capitalization ratio has occurred between 2005-06 and 2006-07, reaching the peak of 161.24, which coincides with the peak period of the Indian economy as it experienced the positive impact of the economic reforms initiated in 1991. The sharp rise got upended only on account of the global financial crisis. Over the 20-year period, stock market trade has shown a fluctuating trend. Between the years 2011-12 to 2018-19, it has fluctuated between 35 to 45 percent, only to rise to 73 percent in 2019-20. Much remains to be desired in terms of trading depth for the Indian Financial Market.

Equity and Debt Issuance

Other modes through which access to finance is available to the private sector, and therefore, adds to the financial depth of the sector, includes, total amount of domestic private debt securities such as long-term bonds and notes, commercial paper and other short-term notes. Similarly, other forms of financial assets which adds to the depth the financial sector include equity liabilities such as shares, stocks and other forms of equity like American Depository Receipts, etc. Similarly, there are Domestic Public Debt Securities issued by the governments at different levels. Domestic Public Debt Securities to GDP grew at a high CAGR of almost 21 percent, while gross portfolio equity and investment fund shares liabilities has grown at a low rate of 2.6 per cent. Corporate bond issuance though minuscule as a ratio to GDP, has grown at a high CAGR of 44 percent.

Foreign Claims and Remittances

An important component of financial depth is the cross-border foreign claims of banks against non-residents, and remittance inflows by workers and non-resident workers, taken as a ratio to GDP. The cross-border foreign claims of banks to GDP has grown at the CAGR of 17 percent, although remittances have grown slowly with a CAGR of three percent. Both have added to the deepening of the financial sector.

Structural change in the Financial Sector

Interesting findings emerge from the size-wise and activity-wise analysis of bank-based versus market-based financial sector. The total size of the financial sector, combing bank assets and stock market capitalization has outgrown the real economy since 2006-07, peaking at 2.26 times the real economy in the year 2018-19. At the end of the study period, this ratio has remained at the level of two, which is a considerable growth given that this ratio stood at merely 0.23 in 1992-93.

Size Dimension of Structural Change

The size-structure of the IFS shows a gradual shift from bank based sector to a market based sector. This is substantiated by the change in the size of bank assets from 2.37 times the size of market capitalization in the year 1992-93, to 1.58 times in the year 2019-20, registering a decline of 33 percent.

It is generally expected that as an economy becomes more market oriented and as it develops, there is a gradual disintermediation of the banking sector and the capital market becomes more

vibrant with people shifting their investment preferences towards it. This is true of the Indian economy as well with mutual funds and direct investment in the stock market growing and becoming more attractive for investors. It shows that the financial sector of India is slowly but gradually moving from the traditional banking sector towards the capital market. It is a sign of a more mature and sophisticated financial sector. It indicates a relative disintermediation of banks, and direct access of households and firms to the capital market as the surplus and deficit sectors. Falling interest rates in the backdrop of more market oriented economy is also responsible for this shift as people look for greater returns on their investment.

Activity Dimension of Structural Change

With reference to activity-wise structural change in the IFS, it is the banking activity, represented by bank credit, which has grown over financial market activity measured by total stock value traded. With bank credit growing at the CAGR of 17 percent and stock traded value growing only at two percent on compound annual basis, the volume of banking activity has grown to 15 times that of the stock market activity. This indicates that the financial sector of India still has a long way to go in terms of graduating to more direct involvement of the general public in terms of more active participation in the stock market.

7.1.4 Financial Efficiency

The present study has analysed three types of efficiencies, namely intermediation-cost efficiency, operational efficiency and profit efficiency.

Intermediation Cost Efficiency

Measured in terms of NIM and Interest Expense to Deposits Ratio, the intermediation cost has reduced over the years, indicating efficiency gains. With a more efficient system, information asymmetry on credit worthiness and other borrower characteristics reduces. As information becomes easily and accurately available, it allows banks to reduce the interest rate spread (interest charged less interest paid).

For the Indian economy, the banking sector in the overall sense shows a 28 percent fall in NIM over the 29-year period from 1992 to 2020, which certainly indicates increased competition among the banks and a fall in the cost of intermediation. In fact, from 1991-92 to the early 2001-02 which marks the peak period for the Indian economy and also the banking sector, NIM shows a decline of more than 38 percent in the period of ten years, amounting to a compound

annual rate of decline of -4.74 percent. The NIM has increased mildly thereafter to 2.8 percent in the year 2019-20. However, over the long year period, it shows a declining trend.

The interest expense to deposit ratio is found to have reduced in the long run. From 9.85 per cent in the year 1990-91, the ratio has fallen to 5.62 in the year 2019-20. Over the 30-year period, it has fallen by 43 percent of its level at the beginning of the study period. This means that the banking sector has certainly gained in terms of intermediation cost efficiency. Both the measures of intermediation cost are found to be positively correlated which establishes the robustness of the findings.

Operational Efficiency

Operational efficiency of banks is with reference to their operating costs as different from financial costs. Two measures have been examined under this category, namely, total income to operating expenses and bank overhead cost to total assets.

In the year 1990-91, total income was four times more than the operating expenses, which indicates good degree of operational efficiency of the banking sector. It peaked to 5.5 times in the year 2012-13 but declined thereafter to 4.26. However, for the overall period it shows an upward trend indicating operational efficiency. Bank overhead costs were 2.96 percent of the value to total bank assets in the year 2000-01, which has declined to 1.93 percent in the year 2019-20. The ratio being quite low suggests good level of operational efficiency in the Indian banking sector. Over the 20-year period, there is 35 percent fall in the ratio which implies further increase in operational efficiency.

Profit Efficiency

While banks may achieve efficiency in their intermediation function and in their operations, it may or may not result into profitability. Therefore, to check the profit efficiency three ratios have been used, namely, return of assets, return on equity and non-interest income total income ratios.

ROA between the years 1999-2000 and 2019-20 has ranged between 1.13 on upper side to -0.15 on the lower side. Bank ROA have improved in the years characterized by high growth of the economy as well the banking sector, that is, the period 2002-03 to 2008-09. For the years marked by global recession, domestic macroeconomic challenges that arose due to demonetization, hasty launch of GST, slack in domestic economic activities, etc., can be considered as the broader reasons behind the downward movement of the ROA. It may be

borne in mind that even if ROA values may be low for banks, it amounts to high returns. This is because banking is a highly leveraged business.

Of the 21 years 1999-00 to 2019-20, for which values are available, except for the last five years, ROE has been in a moderate range of 10 to 20 percent for the Indian banking sector. Bank ownership type may affect the ROE as generally, private sector banks and foreign banks are reported to have higher levels of ROE. For the entire banking sector, it may be concluded that the performance is poor on the criterion of profit efficiency and it has worsened over the study period.

Another efficiency measure, more in the sense of efficiency of scope, and creating scope for more profitability, is the non-interest income to total income ratio. With the same physical infrastructure and cliental base, it would be more profitable if banks can diversify its service base to provide fee-commission-brokerage based services. The ratio has a mildly upward secular trend. From 9.48 percent in the year 1990-91, other incomes of banks have increased to 16 percent of the total income.

It may be concluded that the Indian banking sector has been able to penetrate the economy with higher operational efficiency. While operational efficiency of the banking sector has improved with increased access, there is still scope for achieving greater diversity in the type of income generated by banks.

Financial Markets Efficiency

Stock turnover ratio, that is, total value traded as a ratio to average stock market capitalization in a given period, is considered as a proxy for efficiency of the financial markets in the sense of lending liquidity or exit option to the investors without much loss. Higher turnover ratio is attributed as higher level of market efficiency. In the initial years, in the early 1990s there has been much volatility in the trading volume. The SEBI Act, 1992 was implemented to protect investors' interest along with the objective to develop the stock market. In the later part of the 1990s, SEBI implemented some reforms to avoid unwanted transactions and to work systematically by introducing mandatory dematerialised accounts. Stock market turnover ratio was at its peak in the year 2000-01 and it was anticipated that the Bombay Stock Exchange Index would touch the benchmark of 4400 points by March 2002. In 2004, the BSE Sensex fell by more than 550 points amounting to 15.5 percent of the index value, which lead to reduction

in the turnover ratio. For the period from 2000 to 2020, there is a decline in the stock market traded value which suggests lower efficiency of the financial market.

7.1.5 Financial Stability

A stable financial system is capable of withstanding economic shocks and is able to ensure efficient allocation of resources, settlement of payments and diversification of risk, and maintain monetary stability through a mix of mechanisms of self-adjustments and policy interventions that contain damage as much as possible. The measures used in the present study to measure the level of stability of the IFS are, bank credit to deposit ratio, bank Z score, non-performing loans to gross loans (NPL), provision coverage ratio (PCR).

Bank Credit to Deposit Ratio

Bank credit to deposits is taken as an indicator of stability as it shows the deposit base on which the credit has been granted. For the Indian economy, the ratio has a very mildly upward slope, ranging from 69 percent to 80 percent. However, since the value is not exceeding 80 percent, it can be said that the credit growth is not destabilizing as it has a strong base of deposits. Credit creation should be as per the absorptive capacity of the economy otherwise it would lead to inflationary situation in the economy.

Bank Z Score

As a measure representing the margin of capital and returns of the banking sector in relation to the volatility of the returns, the bank z score has improved from the value of 10.58 in the year 1996-97 to 19.36 in the year 2019-20, growing at a CAGR of 2.5 percent. It implies that the increased access and deepening of the financial sector in India is accompanied by a resilient financial sector as well. Cautious approach of the RBI and capital infusion by the government in the public sector banks which occupy a major share of the Indian banking sector, are some of the reasons responsible for this stability.

Capital Adequacy Ratio:

The capital adequacy ratio (CAR) measures the capacity of the banks to overcome losses in the event of default. It is measured as a ratio of bank's capital to its risk weighted assets. The Indian banking sector has been maintaining more than the capital ratio suggested in the BASEL norms. The CAR has increased from 11 percent to 15 percent over the 20-year period, which is a healthy level, implying a stable financial sector.

Provision Coverage Ratio:

Banks face credit risk when they lend money to the borrowers in terms of default in the repayment of the loan. The provision coverage ratio (PCR), calculated as total provision divided by gross non-performing assets, has shown an improvement from 52.7 percent in the 1996-97 to 67.82 in 2019-20. This implies that on the criterion of PCR also, the financial institutions as represented by the commercial banking sector have become more stable which is a positive development. Recently, the RBI has set the benchmark for the banks to have 70 percent PCR.

Risk-level: Non-performing Loans (NPL) to Gross Loans

The higher the proportion of non-performing assets in the total loans of banks, the greater is the level of risk involved. For the Indian banking sector, the NPL ratio has reduced significantly from above 14 percent to about eight percent over the reported period, which is a positive aspect. In fact, for nearly 19 years in the period between 1996-97 to 2019-20, the risk level as measured by the NPL ratio has been less than ten percent.

Stock Price Volatility

Stability with reference to financial markets has been measured in terms of volatility in stock prices over time. Lower the value of volatility, greater is the stability of the financial market. For the Indian stock market, volatility of the stock prices has moved within a range of 20 to 40 for most of the years between 1990-91 to 2004-05, with two years where it has exceeded 45. But since the year 2004-05 to 2018-19, it has remained stable at around 20, in fact, declining close to 10. Only in the last two years it has increased to 24 and 29 respectively. Based on stock price volatility, it may be said that the financial market is not very volatile. Stock prices have fluctuated within a moderate rate of dispersion. Stock market returns, while exhibiting lot of fluctuations, are found to be positive for all the 30 years, except four.

7.2 ANALYSIS OF INTER-DIMENSIONAL LINKAGES

Having examined all four dimensions for their trends and growth across financial institutions and markets, an inquiry into their interconnectedness provides further insight into how the financial sector is developing as a whole. This section presents a summary of how indicators of one dimension are correlated with those of the other dimensions, with the purpose of building meaningful associations that can guide policy making with the right focus.

7.2.1 Inter-linkages between Financial Efficiency and Financial Access

The association between efficiency and access is important as it throws light on whether the spread of the financial sector in India has come about with improved efficiency or at the cost of efficiency. Very interesting findings emerge from the pair-wise correlation analysis of the indicators of these two dimensions.

The results suggest that increased access to financial services has come about with increased intermediation cost efficiency and operational efficiency. This is evident in the negative correlation of the access indicators with NIM and interest expense to deposits ratio. Similarly, operational efficiency, measured in terms of bank-overhead costs to total assets and total income to operating expenses, has also shown improvement over the study period.

However, increased access is found to be negatively associated with profit efficiency as measured by ROA and ROE. Non-interest income ratio is not found to be significantly correlated. It may therefore be said that the Indian banking sector has been able to penetrate the economy with higher operational efficiency, but there is still scope for achieving greater diversity in the type of income generated by banks, and a need to address profit efficiency challenges.

An important implication of these findings is that, while short term operational viability is being taken care of, there is need to address viability issues of commercial banking for long run sustainability of the system as a whole. Examination of bank characteristics such as ownership type, size, focus functional areas, etc., can throw some light on factors that can help sustain profitability of banks.

7.2.2 Inter-linkages between Financial Efficiency and Financial Depth

Association of efficiency with depth is equally important to ascertain whether deepening of the financial sector is at the cost of efficiency. The findings are in line with efficiency-access association. The results suggest that increased depth to the financial sector has been accompanied by intermediation cost efficiency and operational efficiency with reference to banks. However, the increased depth has come at the cost of profit efficiency.

7.2.3: Inter-linkages between Financial Efficiency and Financial Stability

It is anticipated that a more efficient financial sector will also make it more resilient to financial stress. With this context, the association between efficiency and stability has been examined. The results of the pair-wise correlations are mixed with some indicators showing improved stability along with efficiency gains, while some indicators do not support such a hypothesis.

NIM, as a measure of improved financial efficiency, is found to be associated with improved stability measured by bank credit to bank deposit ratio and bank z score, however, their correlation coefficients are not found to be statistically significant. Profit efficiency indicators, ROA and ROE are found to be appropriately associated with the stability measures – z score and NPL ratio – and are also statistically significant. The robustness of these findings is established by the fact, poor profit efficiency as per ROA and ROE is also reflected in poor performance of stability indicators, z score and NPL ratio.

Efficiency-stability linkages are found to be statistically significant in the case of intermediation cost efficiency indicator – interest expense to deposits ratio, and operational efficiency indicator – total income to total expense, with all indicators of financial stability, namely, bank credit to bank deposit, z score, non-performing loans ratio and provision coverage ratio.

The overall results of the interlinkages between efficiency and stability indicate that out of the 28 combinations of pair-wise correlations, in the case of 16 combinations, that is, 57 percent of the associations, improved efficiency is found to have been achieved with improved stability. The findings suggest that much effort is required for the banking sector as a whole, to make efficiency gains along with ensuring stability.

7.2.4: Inter-linkages between Financial Stability and Financial Access

Inquiry into whether increased access is stabilizing or destabilizing for the financial system has been found in the literature (Prasad, 2010; Hannig and Jansen, 2010; and Khan, 2011). On the same lines, the association between each indicator of stability has been examined with every indicator of access.

The stability measure, bank credit to bank deposits and bank z score, are found to be positively correlated to all the three measures of access, viz. bank deposit and credit accounts and branch

density. All coefficients are statistically significant at 1% level. It implies that as the breadth of the financial sector increases, it lends greater stability during times of stress as the banking sector enjoys a larger deposit base, and loans are spread across more number of borrowers. More number of bank branches increase the ease of availability and results into more deposits being converted into bank credit.

Z score is also positively and significantly related with all the three measures of access. More number of bank accounts give greater opportunities of earning for the banks as they form their core business. However, NPL ratio and PCR are not found to be associated with efficiency indicators.

7.2.5: Inter-linkages between Financial Stability and Financial Depth

As in the case with access, the stability indicators, bank credit to deposit ratio and z score, are positively and significantly associated with all measures of depth. Greater financial depth which does not amount to overheating of the system will have positive impact on stability, even more so when associated with reasonable bank credit to bank deposit ratio. Greater financial depth lends an element of stability to the profitability of the banking sector and provides a greater margin before the banks' capital and surplus gets used up to cover potential losses. It thereby lowers the likelihood of bank insolvency.

With regard to the NPL ratio, the depth indicators show mild negative association, however, given that financial deepening in India is not too high, the negative coefficients are not found to be statistically significant.

7.2.6: Inter-linkages between Financial Depth and Financial Access

It is expected that improved access to financial services would lead to deepening of the financial sector. As per the findings, all indicators of depth have a high degree of positive correlation with all indicators of access and the coefficients are found to be statistically significant.

These findings are important because they establish the robustness of the outcome related to financial inclusion. This is because depth indicators such as bank deposits and bank credit are also measures of 'usage' of banking services. In the analysis of the Financial Inclusion Index the dimensional index of usage exhibited the sharpest rise over the study period compared to

other dimensions. The high values of correlation coefficient reinforce the results of financial inclusion index.

7.3 ANALYSIS OF INTRA-DIMENSIONAL LINKAGES

Intra-Access Linkages

Pairwise correlations of intra-access measures have the expected positive sign and statistical significance at 1% level. The coefficient values range from 0.94 to 0.99. Better availability of bank branches is positively correlated with number of deposit and credit accounts. The findings are consistent with those of Beck, Kunt and Peria (2005) and Ardic, Hiemann, and Mylenko (2011).

Intra-Depth Linkages

All measures of financial depth are highly correlated with each other with the coefficient values almost equal to one in each pairwise associations. It implies that any one of the measure is sufficient to represent the level of financial depth for India.

Intra-Efficiency Inter-linkages

In relation to efficiency measures, out of the total seven, five measures exhibit the desired trends. They are, NIM, Interest expense to deposits ratio, bank overhead cost to total assets, total income to total expenses and non-interest income to total incomes. The remaining two measures, ROA and ROE are found to be falling, that is, they do have not the desirable trend over the study period.

With the above background, the correlation between these measures is reinforcing. In other words, significant positive correlation is found between measures which are of the nature of 'lower the better'. Similarly, significant but negative correlation is found between measures whose desirable values are in opposite direction, that is, 'lower the better' for some and 'higher the better' for others. Thus, all intermediation cost efficiency measures are found to have statistically significant associations with measures of operational efficiency, that is, the results converge. On the same lines, ROA and ROE are found to be positive related because both these indicators have declined over the study period.

Intra-Stability Linkages

In connection to the intra-dimensional association of financial stability measures, it can be seen that better utilization of mobilized savings in terms of bank credit has a significant positive

impact on the bank z score. Similarly, z score and NLP ratio are found to be negatively associated which is as expected. It is evident that lower risk level contributes to stable returns, keeping other things constant. The association between other measures of stability do not get established.

7.4 INTER-LINKAGES BETWEEN DIMENSIONS OF FINANCIAL MARKETS

Interesting findings related to financial market interlinkages emerge from their analysis. The purpose is to examine if improved access and depth have a positive or negative association with efficiency and stability. It is found that, as market capitalization outside of top ten companies increased, implying increased access to financial markets, it has not been associated with improved efficiency. Likewise, the same access measure is negatively associated with stock price volatility. This suggests that more the spread of financial markets in favour of companies excluding the top ten, it augurs well for stability of the market as the stock market becomes less concentrated. These findings are very important from the point of view of strong development of the financial sector.

Indicator of size element financial market depth – market capitalization to GDP – is found to be negatively correlated with market efficiency as measured by stock turnover ratio. Financial market depth is also negatively associated with stability measure of stock price volatility, which indicates that greater depth has instilled stability in to the markets. It implies that in the case of India's stock market, increased market capitalization depth is not positively associated with increased trading.

Indicator of activity element of financial market depth – traded value to GDP – is not found to have statistically significant coefficients with respect to efficiency and stability measures, though, the coefficient with stock turnover ratios is mildly positive as expected. With stock price volatility, its coefficient is negative suggesting improved stability.

7.5 INDEX OF FINANCIAL DEVELOPMENT

The index of financial development (IFD) constructed as a pyramid index, encompasses the combined effects of two sets of three dimensional indices, IFA, IFD and IFE, at the primary level for access, depth and efficiency, respectively, created for financial institutions (IFI) and financial markets (IFM) at the secondary level. It captures the overall improvement in the

sector. Weights at each level of construction of the indices were obtained from the technique of principal factor analysis.

Primary Index – Index of Dimensions

With reference to the primary indices in the context of financial institutions, the index of financial institutional access (IFIA) has improved at a high CAGR of 44 percent. From a very low value of 0.09 percent at the beginning of the analysis period it has increased to 99.48 percent in the last year of the analysis period. The index of financial institutional depth (IFID) has also grown at the robust rate of 21 percent on compound annual basis. Both IFIA and IFID begin at the bottom of the scale and reach up to 100, which indicates greater extent of improvement. The institutional efficiency index shows a mixed result with lot of fluctuations. No particular trend is observable in IFIE as only some of its components have performed in the desirable manner. The values of the index range between 20 and 67 percent. For the overall period, at the most it may be stated that the IFIE has not worsened.

The primary indices with reference to financial markets reveals that the index of access and depth have grown at a CAGR of eight and six percent, respectively, over the 20-year period. The course of index of financial market depth (IFMD) has remained more subdued. Except for the last year, when it has again increased to 56 percent, there has been a constant decline in the financial market depth after the peak of 85 percent in the year 2007-08, the year of the global financial crisis. The efficiency index related to financial markets has a negative trend, falling from its maximum value of 100 percent to nearly zero in the last years. It may be noted that in the present study, financial market efficiency in represented by only one indicator, the stock turnover ratio, and therefore, the results should be interpreted within that limited context.

Secondary Index - Index of Financial Institutions

The composite IFI shows a continuous improvement throughout the period, growing at the CAGR of nearly 22 percent. It may be noted that the maximum contribution of 65 percent to the IFI has been on account of the improvement in bank penetration, followed by that of IFID at 33 percent.

Secondary Index - Index of Financial Markets

In the case of index of financial markets (IFM), the maximum contribution has been that of index of financial market access (IFMA) which has grown at the CAGR of eight percent. The course of index of financial market depth (IFMD) has remained more subdued. Except for the

last year, when it has again increased to 56 percent, there has been a constant decline in the financial market depth after the peak of 85 percent in the year 2007-08, the year of the global financial crisis. The efficiency index related to financial markets has a negative trend, falling from its maximum value of 100 percent to nearly zero in the last years. It may be noted that in the present study, financial market efficiency in represented by only one indicator, the stock turnover ratio, and therefore, the results should be interpreted within that limited context.

The overall result in terms of the composite index of the financial markets, IFM, shows reasonable improvement. Interestingly the linear trend of IFM is parallel to the linear trend in the IFA, which implies that the access dimension has played an overpowering role compared to the other two primary indices, IFID and IFIE, related to financial markets.

Tertiary Index – Index of Financial Development

The final analysis related to the tertiary index of financial development, IFD, has grown at a robust CAGR of 24.59 percent in the period of analysis, which is commendable for the Indian economy. Both the secondary indices on which is it based show upward trend, with IFI having a continuously rising trend while the IFM rising with some fluctuations. The weights as obtained from the PCA technique are 0.91 to IFI and 0.9 to IFM. It implies that the institutional index has played the major role in the financial sector development of India. In other words, banking and non-banking institutions still continue to play a more significant role in the Indian context compared to financial markets.

7.6 MODEL OF FINANCIAL SECTOR DEVELOPMENT BASED ON SEM TECHNIQUE

Financial sector development being a multi-dimensional and a complex construct, the present study has applied the technique of structural equation model in an attempt to consolidate its multi-dimensional nature so as to ascertain what factors contribute more to overall sector development. The primary purpose of the SEM is to evaluate how much of the model assumed in the study is supported by the data. Models have been constructed at two levels. The first level of models is constructed for the four dimensions, access, depth, efficiency and stability, to find out whether the observed values that represent the concepts are a good fit. The second level of models are the dimensional models which show contribution to the financial sector development.

Model of Financial Access

The results show that in the model built on the variables that represent financial access, all factor loading values are statistically significant and have positive contribution, except post offices per one lakh population, which is found to contribute negatively. However, the model is found to be a good fit, satisfying all criteria of goodness of fit.

Model of Financial Depth

The model containing factors representing financial depth is also found to show statistically significant factor loading for all indicators. All coefficients are positive except the one attached to total value traded to GDP.

Model of Financial Efficiency

With reference to the model for financial efficiency, all indicators except total income to operating expense show a negative impact on the financial efficiency. The reason behind the negative impact is that ROE, ROA and stock turnover ratio have declined over the study period, and non-interest income to operating expense has had a flat trend over the period. Only ROA and ROE have statistically significant loading. The model is found to satisfy only one criteria of goodness of fit – chi-square statistic/degree of freedom.

Model of Financial Stability

Among the indicators of financial stability, bank credit to bank deposit ratio, bank z score, capital adequacy ratio and provision coverage ratio show negative impact. The NPL ratio and stock price volatility have positive impact on financial stability because both the ratios have declined over the study period implying that they have been favourable for financial stability. The other indicators have either behaved unfavourably or they have registered very mild improvement, not amounting to much impact. The model is not found to be a good fit on most of the criteria.

Model of Financial Sector Development

While the studies reviewed from the related literature contains application of SEM technique to single constructs of some aspect of financial sector, such as, financial literacy, inclusion, and access, here as a preliminary trial, the present study has attempted to explore if a model of financial sector development can be built with the required statistical reliability.

On account of non-convergence of the model of efficiency and stability, the attempt to build the model of financial sector development is made by including only the models of access and depth. The factor loading value of financial access is 5.15, which represents its contribution to financial sector development. The factor loading value of financial depth is 3.58, which shows its contribution to financial sector development. In other words, access has higher contribution than depth towards financial sector development. Both are statistically significant. The model is found to be a good fit just at the margin.

Thus, while the results are not entirely robust, they may be interpreted as preliminary findings, which can form a base for further inquiry with better data sets. The preliminary findings suggest that access and depth together form major contributors to the development of the Indian financial sector.

7.7 ANALYSIS OF FINANCE – GROWTH RELATIONSHIP

This section presents the findings of the regression analysis carried out in the research work. The first set of models uses total factor productivity as the dependent variable which has been regressed upon individual and composite indicators of financial development. Financial development influences productivity in many ways, by improving the information set on the basis of which economic agents make economic decisions. Ease of availability of financial services and products by means of technology-enabled access also go a long way in improving productivity of factors as they help in increasing the speed, efficiency and effectiveness with which transactions are accomplished. The overall impact of all these factors creates a synergy which may not be possible to capture. With this logic, total factor productivity (TFP) is found to be an appropriate variable to be taken as the dependent variable.

The findings related to the explanatory variables used across different models are organized under depth measures and various financial indices:

Analysis of Depth Measures of Financial Development:

- **M_3 to GDP**

  The broad money ratio indicates the degree of monetization of the economy. In the case of models with TFP as the dependent variable, M_3 to GDP is found to have a negative but significant effect. While monetization of the economy is a positive change when compared to non-monetized system, it is not necessary that high levels of monetization, particularly,

in the context of the components of M_3, may improve TFP, unless it is channelized towards productive use. Specifically, in the case of India, M_3 has increased up to 138 percent of GDP. More funds coming into formal sector in the form of M_3 may not necessarily improve the growth of the economy, unless used productively. That rising M_3 implies greater monetization instead of financial depth is also found in Demetriades and Hussein (1996).

However, with reference models with GDP at constant prices as the dependent variable, the broad money ratio is found to have a significant positive effect. Thus, while it negatively affects TFT, GDP is expected to increase with increase in the ratio of broad money.

- **Bank Deposits Plus Small Savings to GDP**
  This variable gives a measure of resource mobilization by banking sector and post offices which may also be taken to represent total savings of the population, in a way. Taken as a ratio to GDP, it represents depth dimension of financial development. As expected, improved mobilization of savings is found to have a positive and highly significant impact on GDP, with elasticity value of 0.26 and 0.35 in alternative models. It may be noted, that models with bank deposits and small savings were not found to yield good results with TFP as the dependent variable.

- **Bank Credit to Commercial Sector to GDP**
  This variable, which represents financial depth, is found to affect TFP as well as GDP, negatively, but it is found to be significant. It suggests that excessive credit, above the absorptive capacity of the private commercial sector may not contribute to economy growth. It may be noted that over the 30-year period of analysis, many qualitative and structural changes have taken place in the Indian economy, which bring drastic changes in the way the entire ecosystem works and integrates to create the final impact. It is, therefore, difficult to isolate the reasons for the negative effect of bank credit ratio in this model.

- **Bank Assets to GDP**
  Another measure of financial deepening, bank assets to GDP, has a positive impact on the GDP but it is found to be insignificant. Combining the variable with other models was also not found to yield good results.

- **Stock Market Capitalization to GDP**

  Increase in the depth of financial markets measured by stock market capitalization to GDP is found to positively impact both TFP and GDP in large number of models that have been examined, even in combination with other depth indicators. It suggests that flow of funds to the capital market leads to better resource allocation along with bringing in market discipline in the use of funds.

- **Stock Value Traded to GDP**

  Stock value traded as a ratio to GDP is an indicator of activity-element of financial market depth. Increase in its value indicates the vibrancy of the financial market. However, as an explanatory variable it is found to have a negative impact on the economic growth and is found to be significant at 10% level, when taken in combination with broad money and stock market capitalization, which is a size-element of financial market depth.

Analysis of Financial Indices:

- **Financial Inclusion Index**

  The financial inclusion index constructed in the research work is a composite index of three dimensional index of penetration, availability and usage, comprises of different indicators. It has shown substantial improvement over the study period. It is expected that it would positively impact economic growth. While it was not found to be yield good results in models with GDP as the dependent variable, FII is found to have a positive effect on TFP even in the presence of control variables. The results are credible because being financial inclusion would have many positives which brush upon all productive factors. The result suggests that financial inclusion is crucial for productivity gains, although its beta coefficient is found to be small in magnitude.

- **Index of Financial Institutional Access (Primary level index)**

  The financial access index, which is the primary level index related to financial institutions in the pyramid structure of indices, is found to have the expected positive impact on TFP, however, it is found to be statistically insignificant. Its coefficient bears a very small value. It may be noted that while the FII was found to be significant, the IFIA is insignificant. This is because of the way the two indices are constructed. While the FII includes measures related to access, that is, penetration and availability, and also elements of depth under the usage dimension, the IFIA has been constructed taking into account only penetration

indicators based on principal component analysis. For this reason, while the FII shows significant positive effect on TFP, the IFIA fails to be strong enough, though it has positive coefficient.

- **Index of Financial Institution (Secondary level index)**

  This refers to the secondary level index in the pyramid structure of indices developed in chapter 4. The coefficient of IFI is found to have a positive sign and is significant at 1% level, suggesting that the improvement in the access, depth, and efficiency of financial institutions contributes positively to total factor productivity. However, it may be noted that the coefficient attached to IFI is relatively small in magnitude at 0.01. This is possible due to some of the elements of the IFI not contributing favourably to the index and thereby, reducing the effectiveness of other potent elements.

- **Index of Financial Market Access (Primary level index)**

  Increased access to financial markets is expected to improve productivity. The results indicate that its coefficient is positive and significant with regard to, both, TFP and GDP. This implies that over the period the capital market in India has improved and contributes in a positive way to the economy. Its coefficient value is bigger in magnitude to those of financial institutions. In the model where both IFIA and IFMA are used in combination, the latter is still found to be significant for TFP, with marginal fall in its beta coefficient.

  In the case of GDP as the dependent variable, the IFMA, taken in combination with the index of financial market depth (IFMD), continues to have positive and significant effect.

- **Index of Financial Market Depth (Primary level index)**

  The depth index of market shows a negative impact on GDP, which is significant at 10%. Though financial market access is found to exert positive effect, that is not the case with financial market depth.

- **Index of Financial Market (Secondary level index)**

  The IFM which is a secondary level composite index of access, depth and efficiency dimensions related to financial market is found to have a positive effect on TFP and is significant at one percent level.

- **Index of Financial Development (Tertiary level index)**

  The sixth model includes, along with other control variables, the overall index of financial development which is the top level index in the pyramid structure of indices. The IFD is the composite index of the secondary indices of financial institutions and markets built in turn on the three dimensional indices of access, depth and efficiency. The IFD is found to have a positive and significant impact on total factor productivity. Its coefficient magnitude is only 0.01, which may be because some of the indicators, particularly, efficiency does not have encouraging trends.

7.8 CONCLUSION, RECOMMENDATIONS AND LIMITATIONS

7.8.1 Conclusion

The key findings of that emerge from the in-depth analysis carried in the present research work is that there is visible improvement in all aspects of the financial sector. The access dimension has shown the major improvement, followed by depth dimension. With regard to efficiency and stability dimensions, the results are mixed. Operational efficiency is found to have improved much more than profit efficiency. On the count of stability too, there is moderate improvement. Most indicators are found to reinforce the dimensions of financial development. A lot of progress can be attributed to increase in the use of internet based banking services which has got further boost due to increased stress on digitalization.

Thus, while substantial progress has been witnessed by the IFS when the temporal comparison is made, the progress needs to be seen in the context of other countries as well. While the financial depth in India in terms of the broad money ratio overlapped with low income countries till the mid-1990s, in the years after that, India has shown a greater leap. However, when the same is compared with countries classified under upper middle income group, such as, China, Brazil, Malaysia, Thailand, etc., their broad money ratios are found to range over 100 percent of the GDP. It means India too can experience greater monetization of the economy. It may be recalled that the broad money ratio was found to positively impact GDP in the econometric analysis carried in the study.

However, financial depth based on bank assets in India compares poorly with countries like China and Japan which also have a bank-based financial sector. Japan had a bank asset to GDP ratio of 171.21 percent in 2020. China's banking sector size was as high as 218.22 percent of its GDP. Comparable countries like Brazil and South Africa, which also have a bank-based financial sector had a banking sector size of 132 percent and 88 percent, respectively, relative

to the size of their real economies. Germany, Spain and Italy which also have a bank-based financial sector, recorded the ratio at 98.42, 131.83 and 123.43, respectively, in the year 2020. Thus, while the banking sector of India has expanded over the years, it still compares poorly with other countries, and its growth and structure needs a closer examination.

As far as adoption of digital modes of payment is concerned, India lags behind the developing economy average of 57 percent and also its neighbours like Bangladesh and Sri Lanka. India is found to compare poorly in digital modes of payments even when compared with the members of BRICS.

With reference to the most developed OECD countries, it found that they boast of very high levels of commercial sector credit by banks as a ratio to GDP. "Countries with higher ratio of broad money also have higher ratio of credit to private sector, which further demonstrate the scope for the Indian Banking Sector" (Pathan and Fulwari, 2019).

As the findings reveal, much of the financial development in India is concentrated in financial institutions. There is huge scope for improvement with reference to financial markets, where deepening of activity aspect of the market is still very poor. Thus is may be concluded that while in the long run sense, lot of financial development has taken place in India, there is still a long way to go before the large majority of the population becomes part of more sophisticated services of the financial sector.

7.8.2 Recommendations

Despite the significant achievement made by the financial sector of India, there are many aspects which call for attention and efforts. While penetration and availability of financial services has improved, and usage has also shown improvement, the growth in the latter has not kept pace with the increment in penetration as revealed by the intra-dimensional index ratios. It is therefore recommended that the government and the regulatory authorities related to the financial sector must put in much effort to inculcate banking habits among the marginally banked population. A large number of *Jan Dhan Yojana* accounts are zero balance accounts and millions of persons in the working age group and above, are still unbanked. It is recommended that government makes special efforts to educate account holders about financial products and services and instill trust so as to convert them into active users.

The government in coordination with other stakeholders, needs to keep special focus on the underlying reasons for financial exclusion of some sections of the society in India. In the recent

years, it has been noted that there has been a rationalization of bank branches by many banks, particularly, in the rural areas. This is a direct outcome of increased competition in the Indian banking sector which has posed greater challenges to their profitability. With a view to protecting their bottom lines, even public sector banks have shown an inclination towards urban areas. These developments increase the challenges of geographical exclusion. It may be noted that the Global Findex Report (2021) reiterates the need for both physical banking infrastructures along with internet based banking and the need to build a reliable digital ecosystem given the fact that only 37 percent of the rural population in India are active users of internet.

As far as participation in financial markets is concerned, there is a need for concentrated efforts on improving the facilitation and ease of procedures related to financial markets to improve its access for more people. Among other things, government needs to emphasize on creating awareness and imparting financial literacy so as to encourage better participation of the population across all aspects of the financial sector.

Further, some of the challenges to broadening and deepening of the financial sector lie in the very fundamental nature of the problems such as illiteracy, poverty, gender discrimination, etc. It is therefore, recommended that the government in collaboration with other institutions, non-government organizations and community groups, need to visualize the issues of financial sector development, particularly, financial inclusion, on the wider canvas of social sector development for greater effectiveness.

With regard to efficiency and stability aspects of financial sector development, there is a need to induce changes in the financial institutional structure through policy interventions that result into greater operational and profit efficiency. Such policy interventions must be based on robust research outcomes related to institutional characteristics that lend to greater efficiency. The regulatory authorities also need to encourage practices of good governance among the financial institutions to strengthen the stability of the financial system.

7.8.3 Limitations of the Study

Though diligent efforts have been made to undertake the present research work, some limitations are inevitable. Most limitations are related to non-availability of data and use of proxy variables in place of the actual variables. The study is majorly based on indicators related to commercial banks and the stock market. Therefore, the findings of the study need to be

interpreted in the context of the omission of variables related to other institutions and markets. It is quite possible that some of the finer aspects of the financial sector development remain unexplored on account of the focus on the banking sector and the stock market.

With reference to the analysis of financial efficiency and stability, all indicators relate to commercial banks, except stock turnover ratio and stock price volatility, which are used as proxy variables for financial market efficiency and stability, respectively. While the focus on banking sector is justified by the fact that it is the predominant sector of the Indian financial system, it limits the scope of the study to one type of financial institution, at least in the case of efficiency and stability dimensions. Also, financial development has been examined only in terms of quantitative aspects of the sector. Inclusion of qualitative aspects of financial development is not within the scope of the study, which limits the nature of the findings.

While internet based access to financial services has been included, the present study does not address issues and challenges related to this aspect. On the same lines, an inquiry into the underlying causes behind of the present state of the four dimensions of financial development is not within the scope of the study.

Further, beyond the host of indicators identified for representing financial development, there are other underlying drivers which shape the financial sector of any country. These include, the legal framework of the country, contract enforcement systems, institutional and regulatory strength and weaknesses of the country. These factors are not within the scope of the present study which is built on quantitative indicators of financial sector development, largely based on World Bank Global Financial Development framework.

Lastly, the period of study of this research work ends at the point when the Covid-19 pandemic took over the world. In response to the crisis, the government took many initiatives with the active involvement of the commercial banking sector. How these factors have played out and how they have impacted the efficiency and stability of the financial institutions in the short to medium period is not within the scope of this study.

Notwithstanding these limitations, the present study has attempted to undertake rigorous analysis of the available data. The initial analyses are further supported by secondary and tertiary level analyses in terms of intra and inter linkages between indicators and dimensions, construction of multi-level indices based on advanced techniques, to help substantiate the initial findings. The findings of the econometric analysis also establish the robustness with which

financial development has been captured in the study. The robust findings would provide useful insights for further financial development in India.

The present research work also lays the foundation for further inquiry into the finer aspects of financial development. The preliminary findings of the SEM technique provide enough base for carrying out further research work based on better data set, especially for efficiency and stability aspects. The macro findings of the study can be further substantiated with micro-level research based on primary data, for which this research work provides a strong foundation.