Chapter – II

Financial Liberalisation Hypothesis : Theory and Practice

2.1 Introduction

Debate is on and there is no indication that the dust will settle soon on the issue – what policy particularly LDCs should pursue to mobilize more savings available for investment. Until the early 1970s, broadly two sets of theories, namely classical-Neo-classical monetary theories of growth and Keynesian counter arguments dominated the scenario. McKinnon Shaw (1973) came up with a critique of both classical-Neo-Classical theories as well as Keynesian alternative. McKinnon Shaw theory may be treated as a new precept in the arena of finance and development that considered some unique dimensions otherwise ignored by Neo-classical theorists. The precept swept swiftly in many LDCs including India. Thus the present chapter mainly deals with what exactly financial liberalisation theory suggests? Is there any single text book model for regime shift? What steps we have already taken to develop a market oriented financial system? What are the measures yet to be initiated to complete the transformation process? All these discussions will be accompanied by a critical survey of research studies on the issues.

2.2 McKinnon and Shaw Model: a bird eye view

Until mid seventies many developing economics preferred to follow the strategy of low interest rates to encourage more investment and higher economic growth (Shaw 1973). The Keynesian approach of development was exceedingly popular in less developed economy, thus the real interest rates of many countries were zero, even negative in many occasions.

McKinnon and Shaw in an well organized and immaculate fashion challenged this conventional wisdom. They showed the financial liberalisation is a necessary condition for economic growth in countries where there is financial repression and in particular where real interest rates are negative or kept below their free market equilibrium level, through various regulations by the monetary authority (McKinnon 1973).

Interest Rates Savings and Investment: Impact of Financial Liberalisation

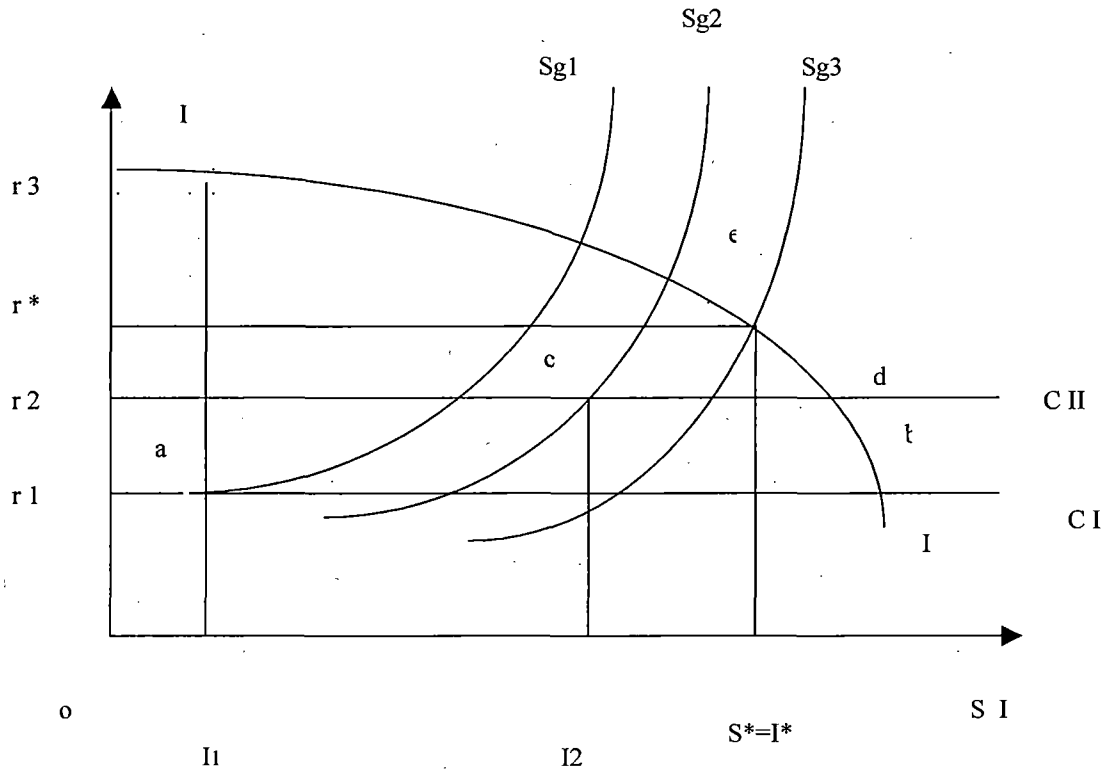

Fig. 2.2.1

Effect of such restriction reproduced here in a diagram popularized by Maxwell Fry (1982) – where an upward saving function depending on the growth of the economy and the real interest rates, intersect with a downward slopping investment function to determine equilibrium interest rate that balances savings and investment.

So we can write savings (s) is a function of the real interest rate (r) and also the rate of growth of national income (g). Where $Sr > 0$; $Sg > 0$ i.e., positively related with g and r. By assumption $g1 < g2 < g3$. Investment (I) is negatively related to real interest rate (r) i.e., $Ir < 0$.

C I represent ceiling imposed only on deposit interest rates, then only I_1, savings is attainable at a real deposit r1. Now actual investment is limited to I_1, and investor would face an interest rate r_3, which clear the market. The margin (r3-r1) which banks make on lending activities would be spent for non-price competition. [e.g. branch expansion, advertising etc.]

In a financially repressed economics, governments usually try to regulate both loan rates as well as deposit rate to encourage investment through reducing the cost of borrowing. In this case, the investment demand ab will remain unsatisfied, as because only I_1, savings is available for investment, as a result credit rationing is a common feature. Moreover, as loan rate ceiling

discourage risk taking, a large proportion of potential high yielding investments are rations out because of their higher risk intake. (Fry, 1982)

Now, assume that government engaged in partial liberalisation and raises the interest rates to ceiling-CII. Now with the increase in interest rate, average efficiency of investment increases and consequently rate of economic growth also increases which shift the saving function rightward (g2). As an impact of financial liberalisation (partial), new interest rate, r_2 encourages savings to I_2, unsatisfied demand for investment also reduced to cd and entrepreneurs are now able to undertake investment project with higher expected rate of return. Now if government fully liberalize its control on interest rates, then an equilibrium will be attained at e, where savings equals to investment with the equilibrium interest rate r*.

Thus McKinnon-Shaw hypothesis suggest that liberalisation of interest rate encourages higher savings and increases the quantity as well as quality of investment through removal of credit rationing, so as to finance the potentially high expected return project.

McKinnon's complementarily hypothesis based on two assumptions: (i) all investments are self financed and (ii) investment expenditures are lumpier than consumption expenditures.

Whereas Shaw's financial deepening hypothesis assert that saving and investment may occur through the accumulation of non-money assets. According to Shaw's view, increase role of financial intermediaries due to interest rate liberalisation reduce the cost of intermediation through economies of scale, increase the operational efficiency, reduce the risk through diversification and so on. These two approaches emphasize different aspects of the process of accumulation of financial assets and liabilities.

At the bottom, McKinnon and Shaw separately highlighted the problems associated with excessive intervention. Their diagnosis was that the mass of controls on the financial system were 'repressing' it and causing it to malfunction. The solution they proposed to this – "financial repression" was financial liberalisation; the removal of government controls and the main targets for liberalisation were interest rate ceilings, which were identified as the primary causes of repression.

The process of transforming a financial system with interventionist bias to an unregulated system is very complex and the issues like speed, sequencing of change needs careful consideration. There is no text book model that best suits for all countries irrespective of their initial economic condition, level of development of institutional structure, political environment in which this fundamental changes taking place. Experiences of former socialist countries and transitional economies of Asia and Latin America attest our views (See Rana 1995).

2.3 Reform Process in Transitional Economies

Two approaches have been proposed and implemented. The first one aims at a gradual process of liberalisation, starting with domestic financial markets and moving cautiously on to external integration. The premise is that financial markets can only be built up gradually and that they must have achieved enough resilience to meet the risks associated with the next step before it is taken, which is matter of decades, not of months or years. This is as the approach followed by China, many Eastern European countries, a number of transitional economies of Asia and most importantly in post-war Europe where capital account liberalisation was not completed until the end of the 1980's (Wyplosz 2001). The second approach aims at a rapid, erga omnes, liberalisation. The premise is that financial repression serves powerful private and political interests apt as thwarting serious reforms and that only a 'kick in the anthill' will unleash liberalisation. This approach, which has been added to the "Washington consensus", has been applied in a number of transition countries. Many Latin American countries and some former socialist economies followed this strategy (see Table 2.3.1). Viewed from the macroeconomic stability, both approaches have occasionally been followed by deep currency crisis – it approves that the path of reform is inherently dangerous (Wyplosz, 2001). Presumably, these irritating experiences led some economists to argue "the order of liberalisation does not matter in general"[1] (Kaminsky and Schumekler 2003). However, go-slow approach most probably minimizes the loss due to crisis which by now is treated as an ingredient of market economy. The IMF survey (Nov 25, 1996) estimates the resolution cost of financial system failures in developing and transition countries since 1980 as being in order of US$ 250 billion. India preferred to follow "stop and go" approach. Presumably, compulsion of coalition government, various push and pull, along with the feeling that regulatory intervention is essential during the transition period induced our policy makers to follow the policy of "gradualism" ignoring "big bang" approach. Moreover, strictly from economic point of view "one step at a time" approach (McKinnon 1991) helps a comparatively safe trip in the bumpy road to free markets – thus it is a welcome strategy.

[1] for a more comprehensive and meaningful definition of financial liberalisation see Kaminsky and Schumkler (2003). Authors argue, the whole process consists of three steps 1) deregulation of foreign sector capital account 2) the domestic financial sector and 3) the stock market.

Table 2.3.1: Scope and Speed of Financial Restructuring in Select LDCs

Country	Year/ period	Domestic financial reforming	
		Scope	Speed
Argentina	1977 1977-81	(a) complete (b) comprehensive	Short period
Chile	1975 1973-81	(a) complete (b) comprehensive	Short period
Uruguay	1974-79 1974-79	(a) complete (b) comprehensive	Abrupt
Indonesia	1983-85	(a) Limited (b) Limited	3 years
Malaysia	1982 1971-81	(a) Comprehensive (b) Limited	3 years
Korea (c)	1982-88 1982-84	(a) Limited	Gradual
Taiwan (c)	07/1987	(a) Comprehensive (b) Limited	Gradual
Australia	1980-82	(a) Complete (b) Comprehensive	Gradual
New Zealand	1984-85	(a) Complete (b) Comprehensive	3 years
Spain	1974-81	(a) Complete (b) Comprehensive	Gradual
Turkey	1980-84	(a) Complete (b) Comprehensive	Gradual

Notes: (a) Interest rate liberalisation (b) Other domestic deregulation measures (c) present status of financial liberalisation and deregulation.

Source: See Murinde (1996: 133 Abridged)

2.4 Review of Literature

The importance of the growth of the money economy and financial depending for economic development has been stressed in the development literature for a long time (Lewis 1955, Gurley and Shaw 1960, Tun Wai 1972). Just after the publication of the seminal work of McKinnon and Shaw (1973), it quickly drew the attention of researchers interested to study the relationship between finance and development. Some researchers accepting the basic philosophy tried to extend, modify and enrich this theory by their extremely valuable works. While others conducted extensive empirical studies based on country experience to test the hypothesis of the theory of financial liberalisation that there is a positive association between the degree of development of the financial sector, resulting primarily from a freer structure of interest rates and the overall economic performance of developing countries (Jamil Tahir 1997)

The neo-structuralist economists argued that higher bank interest rates lead to higher bank deposits simply due to the transfer of funds away from alternative asset holdings (Taylor 1983), such as the informal credit markets – (Edwards 1988, Van Wijnbergen 1982) or share markets. They also argued that some of these, such as informal credit market, might be more efficient means of financing investment since these are unregulated and do not need to hold reserves (as banks do). Thus according to new-structuralists, raising interest rates on banks would decrease rather than increase, the investment rate in the economy. However, Agrawal (2001), opines as long a part of the additional assets flow to the banking sector from non-financial and / or foreign assets, raising bank interest rates would be desirable.

In a related writings, Deaton (1990,1992), Carroll (1994) and Birdsall et al (1999) have questioned the relevancy of permanent income and Life Cycle model to analyze the savings of poor countries. Deaton particularly developed a model of the precautionary savings behaviour of credit constrained, low income, multi-generational households that unveils some typical features, otherwise ignored by economists that influences savings and dis-savings decisions of less developed economy.

Cho (1986), suggests that full scale liberalisation of the banking sector is not sufficient for efficient capital allocation in the absence of well-functioning equity market. In a world of imperfect information, the existence of equity market will enhance the allocation of capital. This happens because equity finance is free from adverse selection and moral hazard effects, while debt finance in the presence of asymmetric information suffers from this problem. Equity capital can finance risky and productive borrowers, for whom asymmetric information in acute, while banks concentrate their finance on the well established safe borrowers. Stiglitz and Weiss (1981) argue that asymmetric information contributes in credit rationing in a liberalized economy that adversely

affects the course of development of a country. This can happen in two ways; one is 'adverse risk selection effects', where with the rising interest rates a large proportion of riskier borrowers will be attracted and the other is 'incentive effects', under which safer projects/firms will move to a riskier nature because rising interest rates compel the firms to switch, as earlier safe project become less profitable. In this situation, that banks that are following prudent behaviour will practice credit rationing. More recently, stiglitz (1994) and others (Hellman, Murdock and Stiglitz 1997, Stiglitz and Uy 1996) have argued against unbridled financial liberalisation and instead supported 'mild financial repression' on several counts:

i) Stiff competition may not be desirable in financial markets and it may be socially optimum to allow banks to earn extra profits by keeping deposit rates below market clearing rates.

ii) Real interest rates deposit rates beyond Zero (o) may take money away from investors (and give it to savers) which may lower investment. Thus "mild financial repression" with real interest rates close to zero or slightly positive may well be optimal.

Finally in his more recent writing, McKinnon (1993) while accommodating some of stiglitz's asymmetric information and risk arguments have advocated for 'restricted financial liberalisation'.

Another crucial concept that is inherent in the new-classical financial liberalisation literature is that if market is left free, it will automatically balance savings and investment and determine equilibrium interest rates. Equilibrium interest rates represent the true scarcity of capital. McKinnon (1973) suggests interest rate in the curb markets is close to the equilibrium interest rate. Refuting above argument, Roland Clarke (1996) suggests that neither the equilibrium interest rate can be defined nor it is obtainable through the process of competition as the financial system particularly of developing economy offer suffers from instability in the post liberalisation period.

However, final test of liberalisation theory largely depends on the issue – can market oriented financial system mobilize and allocate resources more efficiently thus ensure growth and stability of less developed economy? It is realistic to assume that the growth of the economy followed by financial liberalisation helps to increase income and reduces poverty?

What empirical evidences suggests? Evidences so for available are confusing; whilst financial liberalisation helped improved economic performance in some countries, it also led to financial distress and crisis in many others (Agrawal 2000, Williamson and Mahar 1998, Caprio and Klingebiel 1996,, world Bank 1989, Diaj – Alejandro 1985, Arestis and Camer 2004). We

discuss below important findings of some of the studies, ignoring many others that deserve equal attention of researchers.

Based on the experiences of a number of countries (varying from 14 to 67) Jao (1976), concluded that economic growth is associated with the accumulation of financial assets defined in the widest sense. Fry (1978) conducted a pooled regression analysis of the saving function using annual time series data for seven Asian countries for the period 1962-1972; he found that the real rate of interest had a positive effect on domestic saving and economic growth in those less developed countries (LDCs). Findings support McKinnon and Shaw growth model. Jung (1986) analyzed causality between financial development and economic growth based on 56 countries, comprising both developed and developing nations and used the technique of Granger causality test. Applying both simple and unidirectional concept of causality and two alternative measure of financial development, viz, currency ratio monetization variable; the study concludes that less developed economy has supply than demand following pattern that attest usefulness and importance of financial development in LDCs. Thorton (1990) using two stage least square estimate, tested McKinnon complementarily hypothesis based on annual data for India for the period 1964-1984. The result indicated strong support for the McKinnon hypothesis in both the demand for money and the saving function Experience of Nepal (Thorton an Pondyal 1990) are identical with India. Murinde and Eng (1994) investigated the causal relationship between financial and economic growth in Singapore by applying Granger causality test for the period 1970-1990. Findings of the study strongly support the supply leading hypothesis, but only when narrow money and monitisation variable were used as proxies for financial growth. From the result obtained, researchers concluded that supply leading hypothesis was true in Singapore's case.

How interest rate influences financial savings and total savings? While financial savings is directly related to real interest rates, total savings is invariant to interest rate argues Warman and Thirlwall (1994). Based on the experience of Mexico, authors opine that any favorable effect of financial liberalisation and higher interest rates on economic growth must come through raising the productivity of investment. Bekaert, Harvey and Lundblad (2001) study on emerging equity market liberalisation report that equity market liberalisation lead on an average to a one percent increase in annual real per capital GDP growth over a five year period. In an illuminating analysis, Agrawal (2004) based on experiences of four East Asian countries concluded that real interest rate up to 8 percent helps to augment investment; but any rate beyond that may contribute to crisis. This optimum interest rate seems to be closest to McKinnon's 'restrained financial liberalisation policy' i.e., liberalisation with a moderate upper limit (about 6 to 7 percent) on the real interest rate.

However votaries of free market facing formidable challenges from the mind boggling research works of a number of economists (Van Wijnbergen 1983, Boyoumi 1993, Rodrik 1998) who have proved that the precept of McKinnon – Shaw is based on some simplistic assumptions, thus the policy is failing to keep its promises of growth and stability. Hike in interest rates and its impact on savings, demand, cost of capital, output, profit, budget deficit, banking efficiency has been exclusively scrutinized by these economists and the findings are sufficient to disturb liberalist.

Bhatia and Khatkhate (1975) studied the relationship between financial deepening and economic growth of 11 African countries for the period 1960-1970. They used alternately currency, demand deposits, time and saving deposits and also their total as proportion of GDP as indicators of financial development. They tested the relationship between there alternate measure of financial development and per capital income and the rate of growth of GDP by plotting the dependent and one of the independent variables at a time. They could not derive any positive conclusion, because no systematic pattern finally emerged. Gupta (1987) examined the role of financial intermediation as propounded by the financial structuralists and the role of interest rate as emphasized by the financial 'repressionists' for mobilization of savings. Researcher developed a single equation model of savings behavior which explicitly incorporated both real interest rates and financial intermediation. The empirical exercise was conducted for a sample of 12 Asian countries. He found that support for both structuralists and financial liberalists were quite limited. In a closed economy characterized by excess capacity, Burkett and Dutt (1991) shows that with increase of deposit interest rate, marginal propensity to save increases, at the cost of reduction on in aggregate demand, thus fall in demand adversely affects – output, profit and consequently investment. A rise in interest rate implies higher cost of borrowing, increase cost of production, more inflation, reduction of real wage and fall in effective demand that arrest the growth of the economy. An increase in interest rates may result in loss to the banking business due to interest rates differential when they are engaged in a programme of borrowing short term and lending long term. Higher interest rates also adversely affect the public deficit, so stringent fiscal discipline is an essential element of successful liberalisation programme (World Bank 1989).

Bandiera et al (2000) finds no evidence of positive effect of real interest rates on savings in eight developing countries. In most cases the relationship is negative. Furthermore, the effect of negative and insignificant in some cases; positive and significant in some others (See Appendix-I). Findings of the study of Arestis and Murray (2002) were more specific when they concluded financial liberalisation have produced disappointing results and have failed to meet expectations.

At the bottom, what the above contradictory empirical evidence suggests? What are the reasons of ambiguity of findings in the empirical literature on financial liberalisation and growth?

Most probably as methodology, data set, time period, economic assumptions (See Appendix-II and III), set of countries vary across studies; findings of the researchers also differ. The above findings provide many important aspects for empirical research for a developing country like India. The country has demonstrated a fair degree of growth potential during the planning era and is now in the process of transition. The next section will shed some light on the transition process.

2.5 Transition Process

India following recommendations of scores of committee (See Appendix–IV) initiated measures to reform financial sector with key slogan: 'minimum intervention, more freedom and greater accountability', 'better ogranisation structure', 'more competition – increased efficiency', 'appropriate legal framework – more transparency', etc. We discuss below: what was the condition of India financial system at the pre-liberalisation period? What measures have been taken to liberalize it? What are the steps yet to be taken to develop a market oriented system?

Table 2.5.2: Indian financial sector reform: Present Status

Follow up to the major Recommendations with progress to date and future reform areas

Status before July 1991	Status mid 2003	Areas of future reform
Banking Sector		
1. Reserve and liquidity requirements :- Government pre-empted large portion of bank reserves through cash reserve ratio (CRR) and statutory liquidity ratio (SLR) : CRR of 25% and SLR of 38.5% of deposits.	Government pre-emptions CRR lowered to 4.50% and SLR to 25%	Phase out SLR and reduce CRR to level of international standard.
High monetization of government debt.	Monetization has been reduced?	Phase out monetization with further fiscal consolidation and development of government debt market.
2. Interest rate controls : Bank lending rate fixed according to loan, size and sector specific categories (loan over Rs. 200000 had an interest rate floor.	Interest rate structure simplified. Interest rate floor on loans over Rs. 200000 eliminated.	Eliminate remaining controls.
3. Directed credit : At least 40% of bank credit channeled to the priority sectors at concessional interest rates	Directed credit and interest rate subsidy element reduced	Reduction in the size of the directed credit

Status before July 1991	Status mid 2003	Areas of future reform
4. Strengthening Banking System : Inadequate norms relating income recognition, provisioning, capital adequacy NPA recognition, disclosure, and quality classification and	Regulation on asset classification, income recognition, provisioning and capital adequacy strengthened. Recapitalization of banks actively pursued along with rationalization of their management. Board for financial supervision set up to strengthen the supervision of banks and non-bank financial intermediaries.	Prudential regulation and financial super vision should be further strengthened especially those governing risk exposure. Conflict of interest, moral hazard, transparency and concentration of loans.
5. Deregulation of Entry Barriers and Branching Restrictions : Entries as well as branching of India banks were regulated by RBI through the Banking Regulation fact of 1949 and licensing policy.	Restriction foreign banks and private banks to open branches relax stage by state. Restrictions on opening of new bank branches as will as closing of unviable our relaxed.	To infuse greater competition, more liberal approach needed regarding private and foreign participation subject to fulfilling of basic conditions. Abolish remaining government interventions on asset liability and labour management.
6. Restructuring of Public Sector Banks : **(a) Recapitalization :** Government injected Rs. 40 billion for recapitalization of 19 nationalized banks.	To promote privatization, the balance sheet of there banks were cleaned up gradually government has engaged in additional recapitalization programme by spending in the range of 0.02% to 0.07% of GDP each year during this period.	Balance sheet clean up process should continue so as to enable them to make public issue of equity.
(b) Debt Recovery, writing off Bad debts and Setting up at Asset Reconstruction Companies : There were no special Tribunals to speed up the process of recovery or any asset reconstruction company which could take over portion of bad and doubt feel debts from banks.	Debt recovery tribunals were up in different cities with respect to writing off exercises of bad debt, some public sector banks reduced their capital against losses. Three asset reconstruction companies, viz, Asset reconstruction company (India) Ltd. Asset care Enterprise (ACE) ltd and ASERC (India) Ltd have been registered.	Operation of debt recovery tribunals and asset reconstruction companies are yet to start with full force.
(c) Reduction of Operational Cost and Manpower Planning : Burdened with high operational cost due to high wage bill and other controllable operating expenditure. Appointment of chairman of R.B.I. in bank board.	Voluntary retirement scheme introduced order to cut operational cost in public sectors banks.	Lack of will and systematic visions over this strategy fail to bring desired results special attention needed to make it successful.

Status before July 1991	Status mid 2003	Areas of future reform
(d) Merger and Acquisition : Merger between banks, development financial intuitions were proposed in the committee report to rescue the weak banks.	Steps initiated but progress is slow. From time to time several banks merged with one another to overcome crisis.	Process should not be crises driven rather to prevent future crises.
Money Market **7. Number of Participants.** Only banks and financial institutions were participants in call money market.	Over the years, number of participants increased including several primary dealer (PDs) banks, financial institutions following the recommendation of Narasimham committee.	Free play among the different market players. With minimum possible restrictions.
8. Number of Instruments. Money market mutual (MMMFs) funds did not exist. Commercial deposits (CDs) issued only by commercial banks. Prior permission of RBI required for commercial paper (CPs)	MMMFs in operation, improved terms for issuance of CDs and CPs T-Bills of varying maturities introduced.	Increasing the eligible instruments for repo to cover all dated securities and T-Bills.
9. Government Security Market : **Increasing the depth and liquidity.** Absence of internal debt management policy controlled interest rate on dated securities, no specialized institutional structure.	Active debt management policy in operation, Auction systems introduced. Abolition of system of AD-Hoc T-Bills. Securities Trading corporation of India (STCI) in operation. System of PDS in place.	Retail trading of govt. securities to be introduced, active participation of foreign institutional investors (FII) in the Govt. security and T-Bill market is encouraged with more flexibility.
10. Capital Market Issuing as well as pricing of the securities strictly controlled by controller of capital issues (CCI), Thus hampering development and efficiency of securities market.	Firms are free to issue and price securities. Controller of capital issues abolished. Securities Exchange Board of India (SEBI) set up to protect investors and enhance transparency of capital market. Indian firms in good standing allowed issuing securities abroad. FIIs allowed invest in the domestic capital market. National Stock exchange of India began operation on a screen based trading system. Private sector mutual funds were set up. Over the counter market was set up.	Further measure to liberalize, open and deepen the capital market. In particular, improve payment, settlement and clearing system, as well as legal and regulatory infrastructure.

For major events on development in the financial sector of India see Appendix - V

We sketch out broadly some features of the ongoing reform process of India – largest democracy of the world so that the lessons can benefit other nations that aspire to develop a civil society.

- There is a broad consensus among major political parties that the process of financial liberalisation is 'irreversible'. In absence of this sort of commitment, adequate rules and regulations to control market cannot be framed or enforced properly.
- Government is committed to get simple things done, for instance, those that are not financially or politically demanding done first.
- Reform that may initially adversely affect the interest of the people or powerful lobby directly, to be persuaded slowly.
- Speed of reforms of different areas may vary but that is to be coordinated properly.
- It's a continuous process; feelings of 'they' not 'us' will be benefited out of it, to be minimized.

More than a decade has already been expired after the regime shift. We believe now, it is the appropriate time for stock taking – what we aspired and what we achieved during the days? This is the subject matter of next chapter.

Appendices

Appendix 1. The Effects of Financial Liberalization Components on Savings

Financial liberalization Component	Direct effect	Effect on savings
Interest rate liberalization	Higher deposit interest rates (price-effect)	Substitution and income effects, total effect on saving ambiguous
Reduction of reserve requirements	More resources available for lending (quantity-effect) may also lead to a price-effect.	Net effect depends on other policy instruments (monetary policy: open market operations).
Reduction of directed credit to priority sectors	Reallocation within the business sector (high return projects) and more lending to households.	Ambiguous effect on corporate saving and reduction of household saving.
Bank ownership (more privatization)	May be associated with an increase in lending to households.	Reduction of household saving.
Pro-competition policies	More risk taking in lending and reduction of bank spreads. Wider range of saving opportunities	Ambiguous effect on saving.
Prudential regulation	Offset or moderate risk taking promoted through competition. May also reduce upward pressure on deposit rates.	Ambiguous effect on saving.
Development of securities markets	Wider and more flexible range of saving instruments.	Can increase saving, the effect may take time to be effective.
International financial liberalization	Flows of foreign funds and increase in rates of returns as barriers to capital outflow are removed.	Ambiguous effect on saving because banks can also borrow from abroad to sustain lending to local firms and households.

This table is constructed from Bandiera et al. (2000) **Does Financial reform raise or reduce saving?** (The Review of Economics and Statistics, May 2000, 82(2): 239-263.

Appendix II. Summary of assumptions in Classical, Neoclassical / Monetarist, Keynesian and post Keynesian Economic Theory.

Assumptions	Classical	Neoclassical	Keynes	Post Keynesian (Cambridge)
1. Explanation of unemployment	Wage equals subsistence wage. $K<K_f$	Natural rate of unemployment	Insufficient effective demand	Mismatch between sector producing different types of goods
2. Allocation of resources governed by	Equalisation of profit rates, not by marginal equivalence.	Perfect ness of market	Uncertainly external effects	Imperfect competition uncertainty, increasing return to scale, complementarities
3. Savings	S out of p = 1 S out of w = 1 S out of R = ?	One function optimization overtime	O<mpc<1	Classical assumption
4. Savings investment causation	Savings determine investment	Do	Investment determines savings	Do
5. Real financial linkage	Exogenous money supply, classical dichotomy	Exogenous money supply determines absolute price level, inflation is a monetary phenomenon	Money market determines the rate of interest $M^d = L(r) = MS$	Money supply adapts to demand (Kaldor), inflation is real phenomenon (cost push, sectoral mismatches, distributive struggle)
6. Role of state	State has no prominent function	State has a limited social role (creation of laws and institutions conducive to the operation of market forces)	State has an obligation to secure full employment	State has a role in generating fuller employment and securing balanced growth

Appendix III. Major Studies Considering the Interest Responsiveness of Savings and Other Related Issues: A Summary of Results

Sl	Reference	Sample	Major Findings	Policy Implications
A. The hypothesis of a positive interest responsiveness of savings				
1	Fry (1978)	7 Asian LDCs	A 10% increase of the real rate of interest would raise the ratio of savings to GNP by 1.4-2.1%	Financial conditions (i.e., higher real rate of interest) do matter to over all savings performance.
2	Yusuf and Peters (1984)	Korea	A 10% increase of the real rate of interest on time deposits would raise gross national savings (GNS) by 11.57% and gross domestic savings (GDS) by 5.03%	Financial conditions do matter to aggregate savings performance
3	Leite & Makonnen (1986)	6 African LDCs	The coefficient of real rates of interest is positive but significantly different from zero only in specifications that exclude the variable change in income.	Financial conditions do matter to overall private savings but the direct effect is apparently small.
4	Gupta (1984)	12 Asian LDCs	The hypothesis is rejected in all but four cases (Pakistan, the Philippines, Sri Lanka, and Thailand)	Financial conditions do not seem to matter to aggregate savings performance on a wide spread basis.
5	Gupta (1984)	12 Asian LDCs	All of the coefficients significantly different from zero have the expected signs but, in quantitative terms, interest rates have a significant effect in only four countries (India, Korea, Pakistan and Thailand) For eight LDCs, real and financial savings are substitutes).	Financial conditions do seem to matter to the composition of savings in favour of the financial savings, thus a financial liberalisation policy may contribute to a more accelerated growth.
6	Ocampo et.al. (1985)	Colombia	The effect of the real rate of interest has a very low statistical significance though it is positive.	Financial conditions do not seem to matter to aggregate savings performance.
7	Giovannini (1985)	7 Asian LDCs	The coefficient of the real rate of interest is still positive but quantitatively less significant.	The hypothesis cannot be rejected but influential observations are important.
8	Giovannini (1985)	7 Asian LDCs	The coefficient of the real rates of interest is negative but insignificant.	There does exist evidence not supporting the hypothesis.
9	Giovannini (1985)	18 Asian LDCs	The coefficients of the real rate of interest are significantly different from zero in the estimates with the instrumental variables method only in the cases of Jamaica, Burma, India, Greece, and Turkey.	The hypothesis of a high intertemporal substitutability in consumption saving decisions is rejected.
10	Warman and Thirlwall (1994)	Mexico (1960-90)	Financial saving is found to be positively related to real interest rates but total saving is invariant, while investment is positively related to the supply of credit but the net effect of interest rate on investment is negative.	Favourable effect of financial liberalisation and higher interest rates on economic growth must come through raising the productivity of investment.
11	Ziorklui S.Q. (2001)	Ghana (1980-95)	Finds evidence of positive effect of real interest rate on financial savings.	Real interest rate do matter to overall financial savings.
12	Bandiera et.al. (2000)	8 LDCs	Finds no evidence of positive effect of real interest rate on savings.	Most of cases, there does exists evidences not supporting the liberalisation hypothesis.
13	Agrawal. P (2004)	4 East Asian	Investment rate went up with the real interest rate upto 9 percent.	Higher interest rates leads to higher investment and growth. The optimum level of rate of interest is closest to McKinnon's 'restrained financial liberalisation' policy.
14	Rakshit Mihir (2005)	India	Abundance of saving accompanied by under utilization of resources.	Need for an adequate demand management policy.
15	Marjit Sugata (2005)	India	Policy direction regarding increasing rate of investment and growth.	Need for private public participation to achieve rapid growth.

Sl	Reference	Sample	Major Findings	Policy Implications
B. The complementarity hypothesis				
16	Fry (1978)	10 Asian LDCs	A significantly negative coefficient between money and the savings ratio is found	Money and capital are not complementary assets, thus the hypothesis does not hold.
17	Gupta (1984)	25 Asian and Latin American LDC's	Complementarity hypothesis is rejected for the full sample but not for all of the groups. If total effects are taken, the hypothesis is confirmed for low-inflation LDCs and rejected for middle-inflation LDCs; the hypothesis is accepted whether total or direct effects are taken for high-inflation LDCs only.	There is no wide spread support to the complementarity hypothesis which, in addition, seems to be sensitive to the inflationary environtment.
18	Laumas. P.S. (1990)	India (1954-55 to 1974-75)	Real rate of interest has a positive effect on the rate of capital formation and on the rate of economic growth.	Market determined interest rates are most likely to be positive and hence can provide greater incentives to save and invest, resulting in more efficient allocation of resources.
19	Thorton John (1990)	India (1964-84)	Higher average money balances appears to have been held for domestically financed investment.	The result indicated strong support for the McKinnon hypothesis in the both demand for money and the saving function.
C. The financial deepening hypothesis				
20	Fry (1978)	10 Asian LDCs	A substitutional relationship between money and other financial assets is found.	Money is not the only financial repository of domestic savings, thus Shaw's debt intermediation view does hold.
21	Gupta (1984)	25 Asian and Latin American LDC's	The demand for financial assets in general seems to be highly inelastic with respect to changes in nominal rates of interest; in some cases, the total effect (reduced-form estimates) can lead to quite different quantitative results from those suggested by the direct effect (structural-form estimates). The effects of expected rate of inflation may qualitatively vary depending on whether the direct or the total effect is taken but all elasticities are quite small.	The demand for financial assets is relatively inelastic to variation in real rates of interest, thus financial liberalisation policies can encourage financial deepening to a limited extent.
22	Gelbard and Leite (1999)	38 Sub Saharan African countries (1987, 1997)	Positive relation with important variables with the economic development	Development in the financial sector do helps in deepening in the economy.
23	Lawrence P. and I. Longjam (2003)	38 OECD countries (1960-1999)	Four important indicators of financial development has a bearing on economic development and growth.	Development in the financial sector leads to economic growth.
D. The cost of financial repression				
24	Fry (1978)	7 Asian LDCs	Around half a percentage point in economic growth is foregone for every one percentage point by which the real rate of interest is set below its equilibrium level	Financial liberalisation is a favourable device to enhance economic growth.
25	Gupta (1984)	Dominican Republic, El Salvador, Guatemala, Panama, the Philippines, Sri Lanka, and Venezuela	Time paths traced out by the dynamic historical and the alternative simulations were found to be close to each other.	The direction of the performance of the variables concerned was not significantly affected by financial repression.
26	Giovannini and de Melo (1993)	24 LDCs India (1980-85)	The revenues from financial repression averaged 2.86 percent of GDP per year.	Financial repression has historically played an important role in India's public finances.
27	Kletzer and Kohli (2001)		The revenues fell from an average of 6 per cent of GDP over 1980-1990 to 2.9 percent over 1992-98.	Loss of financial repression as a result of financial liberalization.

Appendix IV. Reports of various committee and working parties established by Government of India, to examine different aspect of the financial sector.

Sl. No.	Committee Chairman	Subject Matter	Year
1	Chakraborty	Working monetary system	1985
2	Patel	Stock Exchange Reform	1985
3	Vaghul	Money Market development	1987
4	Husain	The Agricultural Credit System	1987
5	Hussain	Capital Market Development	1989
6	Rangarajan	Bank Computerization	1989
7	Narasimham	The Financial System (Part- I)	1991
8	Dave	Liberalisation of Mutual Fund industry	1991
9	Pherwani	Establishment of New Stock exchange	1991
10	Shah	Capital Adequacy of Financial Institution	1992
11	Nandkarni	Trading in PSU Bonds and units of Mutual Funds	1992
12	Janakuraman	Irregularities in the Security transaction of Banks and Financial institutions	1992
13	Nayak	Financing small scale industries	1992
14	Malhotra	Insurance sector	1994
15	Tarapore	Capital Account liberalisation	1997
16	Narasimham	The Financial system (part – II)	1998
17	Reddy	Working group on money supply	1998
18	Narasimham	Transparency in monetary & Financial policies	2000
19	Reddy	The system of Administered interest rates	2001
20	Ganguly	Flow of credit to small scale sector	2004
21	Vyas	Flow of credit of agriculture and related activities from the banking system.	2004
22	Rakesh Mohan	Administered interest rates and rationalization of saving instruments.	2004

Appendix V. Select Chronology on Development in the Indian Financial Sector

Year	Current
1969	Nationalization of 14 largest commercial banks
1973	Nationalization of General insurance company FERA was promulgated which provide on opportunity to develop India equity market.
1975	Establishment of Regional Rural banks.
1979	Priority sector lending requirement 33 years. (effective date)
1980	Second round of nationalization of commercial banks.
1982	Establishment of NABARD, First credit rating agency.
1985	Priority sector lending requirement raised to 40%
1990	Establishment of SIDBI
1991	Blueprint for first generation reform.
1992	Introduction of prudential norms, statutory power to SEBI to promote cap. Market develop, Incorporation of NSE as the first screen based and transparent trading platform for investors. Introduction of auction system for govt. sureties.
1993	Introduction of depositories.
1994	Board for Financial supervision (BFS) in autonomous body under the aegis of RBI, established; New guidelines for entry of new Pvt. Sector banks announced; wholesale; debt market operation initiated by NSE
1995	New Pvt. Banks commenced operation, entry limitation on foreign banks cased, resulting increased competition.
1996	Establishment of institute for development and Research in Banking Technology Depositories let was passed which allowed for holding of securities in demat.
1996	Shortfalls in the priority sector by the domestic commercial banks to be contributed to Rural Infrastructure development and (RIDF) established with NABARD.
1997	Promulgation of RBI (Amendment) for intensified regulation of deposit-taking NBFCs. Termination of automatic monetization of govt. deficit. Bank rate activated as a signaling rate, SLR reduced to legal minimum.
1997	Priority sector lending eased by allowing free rates on loans except for loan under Rs. 2,00,000
1999	Insurance Regulation and Development Act passed allowing new player to under take insurance business. Detailed guidelines on risk management in bank announced. Standing committee an International Financial Standards and codes set up to evolve sound stands, based on recognized best practices.
1998	Second round reform on the banking sector outlined by the Narasimham Committee.
2000	Guideline issued regarding interest rate swaps and forward rate agreement to enable financial entities to hedge interest rate risk, Liquidity Adjustment facility introduced. FEMA replacing FERA, introduced.
2001	Established of credit information Bureau of Indian Ltd.
2002	Revised guidelines announced for entry of new Pvt. banks Enactment of SARFAESI Act. Establishment of first universal bank in the country. Clearing corporation of India because operational. Consolidated guidelines issued on FDI in banking.
2003	Central listing Authority was constituted.
2003-2004	A scheme of special Electronic Fund Transfer (SEFT) was introduced for the electronic transfer of funds for retail transactions.

Source RBI Feb. 2004

References

1. Agrawal, Pradeep, (2001) : "Interest Rates, Exchange Rates and Financial Deepening in Selected Asian Economics", ASEAN Economic Bulletin, Vol. 18, No. 1, pp. 3-93.
2. Agrawal, Pradeep, (2004) : "Interest Rates and Investment in East Asia : An Empirical Evaluation of Various Financial Liberalisation Hypotheses", The Journal of Development Studies, Vol. 40, No. 3, Feb, pp. 142-173.
3. Agrawal, Pradeep, et. al. (2000) : Policy Regimes and Industrial Competitiveness : A Comparative Study of East Asia and India, St. Martin's Press : New York, Macmillan Press, London and ISEAS, Singapore.
4. Arestis, Philip and Asena, Caner (2004) : "Financial Liberalization and Poverty : Channels of Influence", The Levy Economics Institute Working Paper No. 411, July.
5. Arestis, Philip and Murray Glickman (2002) : "Financial Crisis in Southeast Asia : Dispelling Illusion the Minskyan Way", Cambridge Journal of Economics, Vol. 26, No. 2, pp. 237-260.
6. Bandiera, Oriana, Gerard Caprio, Patrick Honohan and Fabio Schiantarelli (2000) : "Does Financial Reform Raise or Reduce Savings ?" Review of Economics and Statistics, Vol. 82, No. 2, pp. 239-263.
7. Bayoumi, Tamim (1993) : "Financial Deregulation and Household Saving", The Economic Journal, Vol. 103, No. 421, pp. 1432-43.
8. Bekaert, G, C.R. Harvey and C. Lundblad (2001) : "Does Financial Liberalization Spur Growth ? "NBER Working Paper, No. 8245, Cambridge, M.A. : National Bureau of Economic Research.
9. Bhatia, Ratan and Deena Khatkhate (1975) : "Financial Intermediation, Savings Mobilization and Entrepreneurial Development : The African Experience", IMF Staff Papers, Vol. XXII, No. 1, March, pp. 132-158.
10. Birdsall, Nancy, Thomas C, Pinckney, Richard H., Sabot (1999) : "Equity, Savings and Growth", CSED Working Paper, No. 8, Oct.
11. Burkett, P. and A.K., Dutt (1991) : Interest Rate Policy, Effective Demand and Growth in LDCs', International Review of Applied Economies, Vol. 5, No. 2, pp. 127-54.
12. Caprio, G. Jr. and D Klingebiel (1996) : "Bank Insolvencies : Cross-Country Experience", Policy Research Working Paper No. 1620, World Bank.

13. Carroll, Christopher, D. (1994) : "How Does Future Income Affect Current Consumption?" Quarterly Journal of Economics, Vol. 109, No. 1, Feb., pp. 111-147.

14. Cho Yoon Je, (1986) : "Inefficiencies from Financial Liberalization in the Absence of Well-Functioning Equity Markets", Journal of Money, Credit and Banking, Vol. 18, No. 2, May, pp. 191-99.

15. Clarke, Roland, (1996) : "Equilibrium Interest Rates and Financial Liberalisation in Developing Countries", The Journal of Development Studies, Vol. 32, No. 3, Feb, pp. 391-413.

16. Deaton, Angus (1990) : "Savings in Developing Countries : Theory and Review", World Bank Economic Review, Special Issue : Proceedings of the First Annual World Bank Conference on Development Economics, pp. 61-96.

17. Deaton, Angus (1992) : Understanding Consumption, Oxford, Clarendon.

18. Deaton, Angus (1992a) : "Household Saving in LDCs : Credit Markets, Insurance and Welfare", Scandinavian Journal of Economics 94(2), pp. 253-73.

19. Diaz-Alejandro (1985) : "Good-bye Financial Repression, Hello Financial Crash", Journal of Development Economics, Vol. 19, No. 1-2, pp. 1-24.

20. Edwards, S. (1988) : Financial Deregulation and Segmented Capital Markets : The Case of Korea", World Development, Vol. 16, No. 1, pp.185-94.

21. Fry, M.J. (1978) : "Money and Capital on Financial Deepening in Economic Development", Journal of Money, Credit and Banking, Vol. 10, No. 4, Nov., pp. 464-75.

22. Fry, M.J. (1982) : "Models of Financially Repressed Developing Economies : World Development, Vol. 10, No. 9, Sept., pp. 731-50.

23. Fry, Maxwell J., (1980) : "Saving, investment, growth and the cost of financial repression", World Development, Vol. 8 No. 4 (April), pp. 317-327.

24. Gelbard, Enrique A., and Sergio Pereira Leite (1999) : "Measuring Financial Development in Sub-Saharan Africa," IMF Working Paper 99/105 (Washington: International Monetary Fund).

25. Giovannini, A and de Melo (1993) : "Government revenue from financial repression" American Economic Review, 83(4) pp. 953-963.

26. Giovannini, Alberto, (1985) "Saving and the real interest rate in LDCs.", Journal of Development Economics. Vol. 18, No. 2-3 (August), pp. 197-217.

27. Gupta, K.L. (1987) : "Aggregate Savings, Financial Intermediation and Interest Rate", Review of Economics and Statistics, Vol. 69, No. 2, pp. 303-311.

28. Gupta, Kanhaya L., (1984) : "Saving and the real interest rate in LDCs", Journal of Development Economics, Vol. 18, No. 2-3 (August) , pp. 197-217.

29. Gupta, Kanhaya L., (1984) : Finance and Economic Growth in Developing Countries (London : Croom Helm)

30. Gurley, J.G. and E.S. Shaw (1960) : Money in a Theory of Finance Washington DC, Brookings Institution.

31. Hellman, T, K. Murdock and J.E. Stiglitz (1997) : "The Role of the Government in East Asian Economic Development", in M. Aoki and M. Okuno-Fujiwara, (eds), Comparative Institutional Analysis, Clarendon Press, Oxford, pp. 163-207.

32. International Monetary Fund (1996) : IMF Survey, IMF, Washington DC.

33. Jao, Y.C. (1976) : "Financial Deepening and Economic Growth : A Cross-Section Analysis", Malayan Economic Review, Vol. 21, No. 1, April, pp. 47-58.

34. Jung Woo S. (1986) : "Financial Development and Economic Growth : International Evidence", Economic Development and Cultural Change, 34, 2, pp. 333-46.

35. Kaminsky Graciela Laura and Sergio L. Schumukler (2003) : "Short-Run Pain, Long-Run Gain : The Effects of Financial Liberalization", IMF Working Paper WP/03/34, Washington DC, International Monetary Fund.

36. Kletzer, Kenneth and Renu Kohli (2001) : "Financial Repression and Exchange Rate Management in Developing Countries : Theory and Empirical Evidence for India." IMF Working Paper. WP/01/103, Washington, DC.

37. Laumas, Prem S. (1990) : "Monetization, Financial Liberalization, and Economic Development", Economic Development and Cultural Change, Jan, pp. 378-390.

38. Lawrence, P. and I. Longjam (2003) : "Financial Liberalisation in India: measuring relative progress." Keele Economics Research papers. No. 8.

39. Leite, Sergio P., and Dawit Makonnen, (1986) : "Saving and interest rates in BCEAO countries : An empirical analysis", Savings and Development, Vol. 10, No. 3 (July-September 1986), pp. 219-231.

40. Lewis, W. Arthur (1955) : The Theory of Economic Growth, London : George Allen & Unwin.

41. Marjit, Sugata (2005) : "Financial Sector Reform for Stimulating Investment and Economic Growth – The Indian Experience Mimeo, Centre for Studies in Social Sciences, Kolkata.

42. McKinnon (1973) : Money and Capital in Economic Development Brookings Institution, Washington DC.

43. McKinnon (1993) : The Order of Economic Liberalisation, New York : John Hopking University Press. (2nd edition).

44. McKinnon (1991) : The Order of Economic Liberalisation, New York : John Hopking University Press.

45. Murinde, V and F.S.H. Eng (1994) : "Financial Restructuring and Economic Growth in Singapore", Savings and Development, Vol. XVIII, No. 2, pp. 225-246.

46. Murinde, Victor (1996), Development of Banking and Finance, Avebury, England.

47. Ocampo, Jose A., Juan L. Londono, and Leonardo Villar, (1985) : "Ahorro e inversion en Colombia", Coyuntura Economica, Vol. 15, No. 2 (June), pp. 93-141.

48. Rakshit Mihir (2005) : "Some Analytics and Empirics of Fiscal Restructuring in India", Economic and Political Weekly, July, 30.

49. Rana, P.B. (1995) : "Reform Strategies in Transitional Economies : Lessons from Asia", World Development, Vol. 23, No. 7.

50. RBI, (2004) : Reserve Bank of India Bulletin, Feb, RBI, Mumbai.

51. Rodrik, Dani (1998) : "Who Needs Capital-Account Convertibility?" Essays in International Finance, No. 207, Princeton : Princeton University Press.

52. Shaw, E.S. (1973) : Financial Deepening in Economic Development, Oxford University Press, London and New York.

53. Stiglitz, J.E. (1994) : "The Role of State in Financial Markets", Proceedings of the World Bank Annual Conference on Development Economics, 1993, pp. 19-52.

54. Stiglitz, J.E. and M. Uy (1996) : "Financial Markets, Public Policy and the East Asian Miracle", The World Bank Research Observer, Vol. II, No. 2, pp. 249-276.

55. Stiglitz, J.E. and Weiss, A. (1981) : "Credit Rationing in Markets with Imperfect Information", American Economic Review, 71, pp. 393-410.

56. Tahir, Jamil (1997) : "Interest Rate Economic Growth in Developing Countries : Theory and Evidence Underlying the Main Issues", International Journal of Development Banking, Vol. 15, No. 1, pp. 3-26.

57. Taylor, Lance (1983) : Structuralist Macroeconomics : Applicable Models for the Third World, York, Basic Books.

58. Thornton, John (1990) : "The Demand for Money in India : A Test of McKinnon Complementarity Hypothesis", Savings and Development, Vol. 14, No. 2, pp. 153-157.

59. Thornton, John and Sri Ram Poudyal (1990) : "Money and Capital in Economic Development : A Test of the McKinnon Hypothesis for Nepal", Journal of Money, Credit and Banking, Vol. 22, No. 3, August, pp. 395-99.

60. Van Wijnbergen, S. (1982) : "Stagflationary Effect of Monetary Stabilisation Policies : A Quantitative Analysis of South Korea", Journal of Development Economics, Vol. 37, pp. 133-69.

61. Van Wijnbergen, S. (1983) : "Interest Rate Management in LDCs", Journal of Monetary Economics, Vol. 12, No. 3, Sept., pp. 433-52.

62. Wai, U Tun (1972) : Financial Intermediaries and National Savings in Developing Countries, New York : Praeger.

63. Warman, F. and A.P. Thirlwall (1994) : "Interest Rates, Savings, Investment and growth in Mexico 1960-90 : Test of Financial Liberalisation Hypothesis", The Journal of Development Studies, Vol. 30, No. 3, April, pp. 629-649.

64. Williamson, J. and M. Mahar (1998) : "A Survey of Financial Liberalisation", Essays in International Finance, No. 211, Princeton University.

65. World Bank, (1989) : World Development Report, Washington DC.

66. Wyplosz, C (2001) : "How Risky is Financial Liberalization in the Developing Countries?" UNCTAD Discussion Paper No. 14, September, Geneva.

67. Yusuf, Shahid, and R. Kyle Peters (1984) : "Savings behavior and its implications for domestic resource mobilization : The case of the Republic of Korea", World Bank Staff Working Papers. No. 628 (Washington, DC : The World Bank, April).

68. Ziorklui, Sam Q (2001) : "The Impact of Financial Sector Reform on Bank Efficiency and Financial Deepening for Savings Mobilization in Ghana", African Economic Policy, Discussion Paper No. 81, Feb.