CHAPTER IV

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4.1 INTRODUCTION

Financial sector reforms are meant for developing a modern financial system capable to act as the brain of the economy and allocating resources among potential investments in the most productive way. In this regard, financial sector reforms mean policy liberalization to put private sector in a position to decide about credit allocation and its price rather than the government. Meanwhile, introduction of prudential regulation and supervision are indispensable components to prevent looting and gambling in general social interest. Therefore, financial liberalization is synonymously used for financial sector reforms in this study as we have mentioned in the Introductory Chapter. Since commercial banking sector dominates the financial sector and most urgent task is to get a well functioning banking sector, major reforms are concentrated on the banking sector. However, specialized financial institutions like financial companies, insurance companies, mutual funds, stock and money markets, derivative markets, leasing and housing companies have begun to flourish in recent decade as the outcome or reforms in the financial sector.

Financial liberalization includes interest rate liberalization, elimination of credit ceilings, easing entry barriers for foreign financial institutions; development of capital markets and enhanced prudential regulation and supervision. The standard view of financial liberalization emphasizes that it should encourage aggregate savings.

Financial sector reform is an integral component of macroeconomic reforms accompanied by legal reforms that improve the growth prospects of a country. It contributes to promote transparency and accountability, reducing adverse selection and moral hazard while alleviating liquidity problems in financial markets (King and Levine, 1993b; La Porta et al., 1998; Stulz, 1999; and Mishkin, 2001; Levine, 2004).

Financial liberalization helps to improve the functioning of financial system by increasing the availability of funds and allowing risk diversification and increased investment (Bekaert and Harvey, 2000). Moreover, financial liberalization helps to discipline policymakers enticed to a captive financial market. Bekaert, Harvey, and Lundblad (2001) have found strong benefits of financial deregulation as output growth rates increased about one percentage point following liberalization. Financial liberalization triggers financial development, which facilitates economic growth (King and Levine, 1993; Jayaratne and Strahan, 1996; Rajan and Zingales, 1998; and Levine, 2001). Further, international capital markets can channel world savings to their most productive uses, irrespective of their location (Obstfeld, 1998).

Legal environment (including enactment and enforcement of laws) has important influence on financial liberalization and financial development of a country. Reforms improving investor protection are likely to promote financial development (La Porta et al, 1998, 2001). Imperfect financial markets make external finance costly and reduce investment. Financial development (Rajan and Zingales, 2003; and love, 2003) and banking sector liberalization (Laeven, 1999) help to reduce financing constraint and raise investment. Financial liberalization helps to avail more foreign capital, however, does not necessarily resolve the market imperfection leading to a wedge between internal and external finance. Reforms regarding corporate governance and reducing the insider trading may reduce the cost of capital. Conducive legal environment may improve steady state GDP. The presence of foreign investors encourages financial reforms (Adhikary, 1989) to improve legal environment and investor protection and hence improve growth prospects. Law and order generates significant growth effects. Enforcement of insider trading laws makes developing markets more attractive to international investors (Bhattarcharya and Daouk, 2002). Thus, the success of financial sector reforms is closely associated with the problems of corporate governance, particularly premium for external finance. Financial liberalization is likely to reduce external financing constraints.

Financing constraints, however, make external finance more costly than internal finance (Hubbard, 1998; Gilchrist and Himmelberg, 1998). Because of reduced precautionary savings (Devereux and Smith, 1994), positive growth effects may not imply after financial liberalization, and informational asymmetries prevent profitable investment of foreign capital (Stiglitz, 2000). Crisis literature suggests that excessive booms and busts in financial markets are major cause for currency crises. Market imperfection view claims that deregulation is beneficial, with liberalization reducing the cost of capital (Corsetti, Roubini, and Pesenti, 1999; Kaminsky and Reinhart, 1999; and McKinnon and Pill, 1997; Kamansky and Schmukler, 2002).

This chapter aims to provide a better understanding of the liberalization process in Nepal over period 1975 to 2003. It captures various aspects of liberalization, namely domestic financial sector deregulation, the stock market reforms and moves towards international transactions (however, the move towards capital account liberalization is more cautious in Nepal). It covers several regulatory changes including deregulations as well as impositions of prudential regulation and other control measures to provide information on the degree of financial liberalization while relating with institutional reforms.

We examine the short- and long-run effects of financial liberalization by constructing a chronology of financial liberalization over the period 1975 to 2003. We analyze the sequencing of liberalization and institutional reforms for an understanding of short- and long-run effects of liberalization in Nepal.

Statistical examination of liberalization has two major challenges. Firstly, the policy changes tend to be periodic and triggers for these events need to be identified. The events move both ways, towards liberalization as well as reversals in the long-run process. Secondly, identification of dynamic process leads to cumulative transformations.

4.2 FINANCIAL REPRESSION

Government distortion in the financial system takes mainly in the form of interest rate administration, credit control (ceiling and portfolio), high reserve requirement and high taxation. Foreign exchange transaction is highly restricted. It was widely believed that in a period of capital scarcity, control over the financial system was necessary to prevent usury, control money supply and achieve higher saving investment targets. Interest rate controls meant for domestic saving mobilization as well as cheap credit for investment. However, the final result was typically economic contraction rather than sustained growth.

McKinnon-Shaw framework of financial repression has become the basis of studies for the role of financial sector in economic development since mid 1970s. As discussed in Literature Review Chapter, financial repression is meant for a set of law, regulations and policies of controls on the activities of financial sector that distorts financial prices (interest rates and foreign exchange rates) and hinders financial development. Reserve requirements, interest rate administration, asset portfolio (directed bending) are common instruments for financial repression. Selective credit programmes, as well as capital controls on foreign exchange, are typical components of financial repression (McKinnon: 1973 and Shaw: 1973). Financial repression increase more credit demand, but discourage savings due to artificially low level of interest rates and credit rationing.

Government intervention in financial markets was justified in three ways. The imposition of large reserve requirements on commercial bank reduces the demand for the government's own securities (Agenor and Montiel, 1996: 152). Because of the excess demand for credit, the government invariably begins to ration credit among competing users. Savers begin to switch from holding claims on the banking sector to holding claims in foreign markets. Selective and sectoral credit schemes, as well as capital controls on foreign exchange, are typical components of financial repression.

In the neo-classical perspective, main justification for financial repression derives from an assumption of perfect substitutability of money and "productive" capital. In Tobin's monetary growth model, if the return on capital rises relative to the return on money, it encourages a shift from money to capital in household portfolios, higher capital to labor ratios, and increased labor productivity (Tobin, 1965). The central implication of this reasoning is that reducing the rate of return on money – through interest rate ceilings, but also through an optimal level of inflation, both of which serve as a tax on real money balances – can increase the rate of economic growth.

The distortions from financial repression crowd out high-yielding investments, create a preference for capital-intensive projects, discourage future saving, and thereby reduce both the quality and quantity of investment in an economy. Money and capital are compliments rather than substitutes: the more attractive it is to hold real money balances, the greater the incentive to invest. Productive investment takes place due to a large real money stock. Greater amount of loanable funds is availed to borrowers (McKinnon, 1973: 59-61; Shaw, 1973: 81). Expanded financial intermediation between savers and investors, in this view, increases the incentives to save and invest, and improves the efficiency of investment (Fry, 1982: 734). In a financially repressed economy low or negative real interest rate on deposit shrinks the liabilities of the banking system (as savers move away from claims on banks) and hence supply of investment finance. Liberalization raises interest rates to equilibrium levels, avails more resources for investment and increases the rate of economic growth.

There were five main types of interventions in a repressed financial system. (World Bank: 1989)

1. Lending requirements imposed on banks;
2. Refinance schemes;
3. Preferential interest rates on loans;
4. Credit guarantees; and
5. Lending by development financial institution

Consequences of Financial Repression

Financial repression has severe consequences in terms of interest rate control on deposits, pre-emption of financial resources, credit control and entry barriers (Khatiwada, 1999: 11-12). They are:

1. When inflation is rising, control over interest rates on deposits discourages financial savings, causing an adverse impact on availability of resources and disintermediation.
2. Reserve requirements (both the CRR and SLR) require banks to allocate certain portion of deposit in government securities as a pre-emption of financial resources. Obviously, investment by private sector is more efficient than the public sector; it reduces the productivity of capital. The banks and financial institutions have relatively less resources to lend and private sector is crowded out due to financial repression. Further, due to reserve requirement

provision, the earning of financial institutions is affected and CRR is taken as the implicit tax over them. Financial repression increases intermediation cost resulting investment costly and ultimately affecting the process of economic growth.

3. Directed credit programs and sectoral credit ceilings reduce the efficiency of investment. Less efficient projects may get funds and use them otherwise, while a more efficient sector deprives of external finance.

4. Barriers imposed for new entrants discourage competition and generally the cost of financial intermediation increases due to the lack of competition. Quality of financial services cannot improve and financial innovation is discouraged.

Due to restriction of new entry from the private sector, public sector banks (and financial institutions) have monopoly of formal sector financial markets. Financial resources are allocated according to administrative directives, and banking was essentially a form of quasi government financing for state owned public enterprises (PEs), rather than genuine financial intermediation. Even after easing entry-barriers for joint venture banks, they could command much less portion of the banking market. Public sector banks were tracking a variety of non-commercial objectives, such as lending to PEs and small farmers. They also undertook major branch expansion programmes in the rural areas in response to government directives. The private sector banks, on the other hand, were operated along commercial principles; however, they were constrained by the controls on interest rates and sectoral credit directives and control on the location of branches.

4.3 FINANCIAL SECTOR REFORMS: EXPERIENCES

A large number of countries, both developed and developing have liberalized their financial system by the decade of 1980s and 1990s. Deregulation of interest rates, removal of interest rates ceilings, initiation to privatize public sector commercial banks, reduction of directed credit programs and abolition of interest rate subsidies are major steps towards financial liberalization (McKinnon, 1993). It also includes flexible exchange rate policy, gradual move towards capital account liberalization and integrating domestic financial market internationally.

Factors motivating the reforms in the financial sector policies as well as timing, pace and scope of financial sector reforms may vary across time and countries. Nepal, like many other developing countries, put greater emphasis on private sector and market determined pricing. Inflationary shocks in the high-income countries in the late 1970s and early 1980s underscored the limitations of regulations on interest rate and credit control. Government control over the financial system was difficult due to rapid technological advancement in telecommunication and information processing. It spurred the development of new financial instruments and financial integration across countries.

Since financial sector reform is an ingredient of overall economic reform, it is difficult to extricate its effects from the reforms in other sector of the economy. By large, it seems clear that financial liberalization has contributed to mobilize resources through the formal financial system and improve efficiency of allocation. Further, the task of reforms is not straightforward but with numerous pitfalls.

In most of the industrialized countries, financial sector was already market-based and focused on the elimination of controls and fostering competition in the financial system. Contrary to this, financial systems in most of the developing countries were repressed heavily.

Latin American countries (Argentina, Uruguay and Chile) liberalized their financial system comprehensively by deregulating interest rates, freeing capital movement, elimination of directed credit programs, privatization of banks, and lowering entry barriers for domestic and foreign banks. Their reform approach was very quick amidst a period of high and volatile inflation. Following the reforms, inflation rate in Chile declined from 600 percent in 1974 to 20 percent in 1981 and real interest rate increased to extremely high level of 30 percent in 1982. But inflation rate remained high and volatile in Argentina and Uruguay, real interest rate fell in both the countries. These countries liberalized capital accounts aiming to contain inflation and maintain domestic interest rates in line with the international level. High inflation caused devaluation of domestic currency, both export and output suffered. Lack of effective regulation and supervision allowed speculation and lending uncontrolled. Nonperforming loans with the banking sector of Chile was amounted to 79 percent of capital and reserves in 1982 and 150 percent in 1983. Therefore, rescuing the failing banks were the responsibility of the monetary authority in those countries. These countries reintroduced direct controls in the financial sector. All the three countries substantially devalued their currencies in the early 1980s (Kamanshky and Schmukler, 2002).

The Philippines and Turkey on the other hand, removed interest controls earlier than other major reforms. Formerly communist countries of Eastern Europe liberalized their financial system very fast to shift from centrally planned to market economy. East Asian and other developing countries including Nepal and India introduced financial sector reforms gradually.

Most of the developing countries introduced financial sector reforms amidst the periods of economic strain as part of economic stabilization and structural adjustment programs. The degree of strain too, varied across countries. The countries those followed the big-bang approach of liberalization had large fiscal deficits and some times very high inflation whereas the gradualist approach of the East Asian countries faced relatively low level of inflation.

Unlike the big-bang approach in the Latin American countries, South Africa, Israel, New Zealand and Egypt, the process of financial liberalization has been much gradual (rather slow) in Nepal. Financial sector has been opened up in small steps only. Reform process was steady however. The financial liberalization began by mid-1980s and intensified during late 1980s and early 1990s. Domestic banking sector was liberalized priory to international transactions on current account and domestic capital market.

4.4 EFFECTS OF FINANCIAL LIBERALIZATION

The analysis of the effects of controls and liberalization on financial markets, investment, and growth has gained quite a lot of interest in finance. Despite of the interest on the effects of deregulation of financial system, the information on the evolution of financial regulations is still very uneven. Information on regulations of the domestic financial sector is even more fragmented. Most of the researchers have constructed their own indices of financial liberalization based upon chronological study of different financial systems.

Demirguc-Kunt and Detragiache (1999) have considered the deregulation of interest rates as the liberalization of domestic financial sector by including liberalization of domestic banking sector and opening up the stock markets to foreign. Bekaert and Harvey (2000), on the other hand, have constructed their own index of stock market liberalization.

Williamson and Mahar (1998) have surveyed the liberalization efforts of 34 countries over a period of 1973 to 1996 and identified six different dimensions of financial liberalization: (1) elimination of credit controls, (2) deregulation of interest rates, (3) lifting entry barriers into the banking industry, (4) bank autonomy, (5) pace of privatization of public sector banks, and (6) liberalization of international capital transactions.

Kaminsky and Schmukler's (2002) index of financial liberalization (includes 28 mature and emerging countries over a period 1973 to 1998) captures a wide degree of intensity of financial liberalization, including the episodes of reversal and the regulation on domestic financial institutions and non-financial corporations, multiple exchange rates, and controls over capital flows. They have divided financial liberalization into three regimes (as fully liberalized, partially liberalized and repressed and ranked by 1, 2 and 3 respectively). The lower the index, the more liberalized is the financial system.

Demetriades and Luintel (1996 a, b) have directly measured the degree of control in the banking sector of Nepal and India separately, by applying principal component method and taking interest rate controls, liquidity requirements, directed lending, and branch banking as the proxy of financial repression. They have mentioned ceilings, floor and band on both lending and deposit rates.

Abiad and Mody (2003) have indexed financial liberalization for 35 countries including Nepal, over a period 1973 to 1996 and found that influential events shook, *status quo*, including both reforms and reversals. They have found with a much precise determination of magnitude and timing of various events in the process of financial liberalization. Learning, more than ideology and country structure, has shaped and sustained widespread reforms in the financial sector. A decline in global interest rates and BOP crisis strengthened reforms. Banking crises were however, associated with reversals. In addition, a new government may bring about both reforms and reversals. Learning occurred domestically and through observing regional reform leaders. Greater openness to trade appears to have increased pace of financial reforms. Initial reforms raise the likelihood of further reforms.

Thus, the studies have found that liberalization reforms may take several years to complete and developing countries begin financial sector reforms with the liberalization of banking sector. Financial liberalization may also follow with cases of several reversals. Many of the developing countries re-introduced restrictions during bad times and leashed control measures during good times. A more comprehensive analysis can cover various aspects of financial controls. Empirical studies just focused narrowly on the degree of liberalization of a single sector of financial market (capital account, banking sector or stock market) and single episode of liberalization in a country do not distinguish between different intensities of liberalization or repression and may provide an inadequate evaluation of the effects of financial liberalization. Since deregulation is gradual process, complete deregulation of financial sector is not just an event in a single round, but may take several years to complete. The span between deregulation of one market and the elimination of control across the board may take several years. It may also suffer from loss of information if the indicators are assessed only to find whether the financial system is liberalized or not. Financial repression may take many forms, and controls in one market would affect the behavior in the other markets. Reversals may be not uncommon, particularly when financial crisis observed around. During the time of currency crisis, liberalization episode may be painful.

Most of the matured economies liberalized their financial system during 1970s. Developing countries followed it by 1980s and 1990s. The process of liberalization is time consuming. The experiences of financial liberalization indicate the importance of the examination of financial liberalization not just only for the responses to liberalization in one particular sector of the financial system, but also the effects of sequencing of deregulation in the economy. The effects of deregulation, thus, cannot be examined for one sector in isolation. It matters whether other sectors are deregulated or controlled. Further, if liberalization and institutional changes are only in response to certain economic shocks and not undertaken simultaneously, then the discussions about the sequencing may be irrelevant. Institutional and structural reforms should predate financial liberalization, otherwise, as is criticized, may trigger for crises with dramatic booms and crashes in the financial markets.

Entire financial deregulation does not complete in just one year a single round, and the time span between the deregulation of one market and the elimination of controls across the board takes, in most cases, several years (Kamansky and Schmukler, 2002; Abiad and Mody, 2003). During 1970s and 1980s, domestic financial repression was widespread in both the developing as well as industrialized countries. Restrictions were removed gradually.

Financial liberalization influences both expansions and contractions in financial markets and stock price fluctuations. It also reflects changes in other market fundamentals. Reintroduction of controls on domestic interest rates, credit and capital flows in the Latin American countries following the crises in the early 1980s is an example of reaction against liberalization.

4.5 FINANCIAL LIBERALIZATION AND INSTITUTIONAL REFORMS

As financial development implies better disclosure rules and enforcement, it reduces the importance of their collateral and reputation and allows competition. Some well-established firms can hurt by reduced profit (Rajan and Zingales, 2001). However, protected and inefficient financial sector can survive even after financial liberalization, as foreign and domestic investors require better enforcement rules for their access to international financial markets as well.

After financial liberalization insulated domestic banks find sudden access to additional funds that may cause protracted financial booms. Before the deregulation of banking industry and liberalization of capital account, it is therefore, desirable to clean up the books of public sector banks (Booz et al., 1989-1991) and to undertake institutional reforms simultaneously (McKinnon, 1993; Balino et al., 1999). The law and order stands for both the strength and impartiality of the legal system as well as popular observance of the law. Thus, partial liberalization fuels institutional reforms and continue further. Because of financial liberalization, credit rationing diminishes in the debt market and stock markets begin to flourish. Liberalization in one market has its synergic effect and triggers the behavior in the other markets of the financial system and the economy in general.

Liberalization process varies in space-time-continuum and is dependent upon the prevailing politico-economic features. Some of the developing countries started financial sector reforms with interest rate liberalization, whereas in Nepal, it began with the removal of entry barriers followed by gradual liberalization of interest rates on deposits and loans. In order to foster competition, Nepal eased restrictions for private entrants in the financial system since mid-1980s and the process of financial liberalization took off gradually. Financial liberalization is likely to foster competition and lower bank profitability, erode banks' franchise values and lower their incentive for making good loans. This would naturally worsen problems of moral hazard. It is noteworthy that financial liberalization had its expected consequent impacts on lending, borrowing as well as foreign capital inflows.

Financial liberalization and the gradual integration with international financial markets may also help to reinforce the domestic financial sector. Foreign investors have overall better skills and information and can thus monitor management better than local investors do. The integration with international markets and institutions tends to speed up the reform process to achieve a resilient domestic financial system. Development of capital markets can help to supervise domestic financial institutions by imposing strict market discipline, increasing transparency and the information dissemination. It can even demand for a well-supervised and regulated financial system (Gourinchas and Jeanne, 2002). Improvements in the law and order contribute to promote more stable financial system. Thus, better government institutions evidence for reducing vulnerability of financial markets to larger crashes in the aftermath of liberalization (Martin and Rey, 2002).

The quality of government institutions like legislations and regulation governing the financial system, law and order situation, and other supporting institutions are crucial for the success of financial sector reforms and liberalization towards attaining financial stability and high growth. They should reflect strength and impartiality among the participants in all the financial markets. If the government cleans up financial institutions and improve the quality of government institutions prior to deregulation, the financial sector can be indexed as very close to perfect liberalization. It requires encourage institutional reforms. These reforms include changes in the banking sector regulation, improvements in bank supervision, privatization, opening of bank ownership to foreign investors allowing free convertibility of domestic currency. Liberalization may render the development of more sophisticated financial institutions, with increased transparency and information disclosure and protection of investors as well as minority shareholders. All these changes improve the allocation of credit and ease excessive financial cycles. They are less affected by the actions of single large investors resulting decline in volatility in the long run. However, shallow financial markets become more liquid following financial liberalization. Existing chronologies share limitations like distinction between different intensities of repression, liberalization and reversals. Since deregulation tends to change slowly, valuable information may be lost when the indicators only try to assess whether or not the liberalization has occurred. In several instances, financial liberalization also suffered with reversals, particularly following liquidity problem in the economy. Authorities in Nepal lifted statutory liquidity requirements (SLR) in 1989 as part of financial reforms, but re-imposed it in 1991 in order to mop up excess liquidity from the economy. Further, financial deregulation may take several years to complete. As an example, Nepal initiated liberalization of domestic banking sector in 1984 by easing entry barrier in the banking sector. Deregulation of interest rates and credit control began by 1986 and fully deregulated only in 1989. Regarding international financial transactions, current account convertibility was undertaken by 1993, whereas move towards capital account convertibility is cautious. Obviously, these limitations call for a more comprehensive analysis of various aspects of financial controls.

In order to measure the extent of liberalization of the domestic financial system, this study analyzes regulations on interest rates, allocation of credit, and statutory and cash reserve requirements. We complement information with the regulations on the other variables to show the degree of repression in the financial system.

4.6 FINANCIAL SECTOR REFORMS IN NEPAL

Financial Repression and Liberalization

In Nepal, financial liberalization began since 1984 by the easing entry restrictions and partial decontrol of interest rates in the banking sector. The elimination of interest rate control, since 1989, not only affected the market for bank loans and deposit it attracted, but also attracted international capital flows (particularly capital inflow in the form of equity investment). In addition, the stock market began to grow as the extent of credit rationing diminished.

Administered interest rate followed with simultaneous credit control led to widespread financial repression during 1970s and 1980s. Commercial banks were restricted to accept as well as lend foreign currency denominated deposits and loans. Another prevalent characteristic of Nepalese financial system was the existence of dual currency system. Besides, domestic private sector and foreign investors were also restricted from participating in the financial sector. Public sector banks were, thus, insulated from outside competition, poorly regulated, and badly supervised. They did not have any external pressure to run efficiently.

Influential growth experiences of many South East Asian countries encouraged Nepal to liberalize domestic financial sector. Liberalization efforts of 1980s focused mainly on policy deregulation and introduction of prudential regulation to improve domestic banking system during 1980s. The efforts during 1990s initiated improving financial health of domestic commercial banks, the development of stock market and further consolidation of liberalization. Thus, both the domestic banking sector and the stock market were jointly deregulated. A gradual move towards the liberalization of international transaction began since early 1990s. Financial liberalization largely followed by trade liberalization.

Therefore, keeping into consideration the restrictions and consequent of necessary sequencing of financial liberalization in Nepal, this chapter emphasizes on constructing an index of financial liberalization. This is preceded with a brief discussion on the sequencing of financial liberalization. The objective behind this is certainly infused with the idea that financial sector reforms motivate to enhance efficiency in operation of the financial institutions and allocation of resources. It aims at improving the institutional structure of the financial system and reducing vulnerability therein as the financial system is subject to threat from internal conditions and external shocks.

In this chapter, we discuss the sequencing of liberalization and institutional reforms for an understanding of short-run and long-run effects of liberalization in Nepal. This study aims at providing a better understanding of the liberalization process in Nepal over the period. The measures of financial liberalization capture the intensity of financial repression and liberalization as well as reversals. It captures various aspects of liberalization, namely domestic financial sector deregulation, the stock market reforms and move towards international transactions (however, stock market is underdeveloped with the ratio market capitalization to GDP only 8.1 percent and the move towards capital account liberalization is more cautious). It covers several regulatory changes including deregulations as well as introduction of prudential regulation and other control measures to provide information on the degree of financial liberalization while relating with institutional reforms.

Factors Motivating Financial Sector Reforms

There may be a large number of instances to motivate policy reforms. So long as maintaining the cost of status quo is reasonable in terms of economic stability and growth, policies changes seldom occur. Major factors behind economic policy and financial reforms (Abiad and Mody, 2003, p. 10) can be described as below.

1. Shocks,
2. Learning and
3. Politico-economic structure

1. Shocks

Nepal suffered a severe balance of payments problem for three continuous years in the early 1980s. A heavy government deficit escalated inflation and a surge in imports. Unsustainable deficit increased the supply of money more than output growth. Therefore, the rise in demand for more goods and services required to meet by more imports. Lack of foreign assistance inflows, and declining export earnings on one hand, and rising imports on the other, made the BOP problem terrible. Also, the BOP crisis in the early 1980s provided an opportunity to move towards outward oriented growth policy. Financial sector reform is one among many other economic policies, while far more the effective to the others.

Macroeconomic shocks of the early 1980s affected Nepalese financial system hard. The borrowers lost their capacity to repay the loans back. The inward oriented deflationary policy, generally, deteriorated the loan portfolios of the banks. While the liberalization measures, in absence of trade and tariff reforms, also worsened the situation (Shrestha, 1987). Thus, economic shocks were the outcomes of global economic crises of the early 1980s as infrequent events and altered the realignment of decision-making forces.

To get way from such a precarious situation, Nepal adopted the policy of economic reforms with the assistance and expertise of the World Bank and the IMF since 1985 under the Economic Stabilization Programme. Structural Adjustment Programme in 1987 and Enhanced Structural Adjustment Programme (ESAF) in 1992 followed it. The Stabilization Programme was motivated to correct the supply side distortions by compressing aggregate demand in the economy by means of devaluation of the domestic currency, control over the credit expansion and government expenditure. While Adjustment Programme covered a wider range of issues including opening up of the economy, civil service reform, reducing the size of the government, correcting prices and changes in policy measures as well as legal and institutional improvement. External influence was a major determinant of reforms in the Nepalese financial sector. Thus, Most of the reforms in Nepalese financial sector have been undertaken by distinct events either due to a new government in power or in the circumstances of changes in global economy (Krueger, 1993: 123-124). Reforms were generated as a consequence of crises and status quo in good times (Drazen, 2000).

Extensive reforms were implemented immediately after the new government in office after the restoration of democracy in 1990 (Honeymoon Hypothesis Haggard and Webb, 1993, p148; and Williamson, 1994). But the required reforms were delayed. Because reforms are not one stop action like policy announcement. Rather it has taken several years to complete the implementation of the reform process. All the incumbents, however, are likely to favour financial repression for their benefit. Borrowers, for example, wish debtor friendly regulations (say, loan rate ceilings and preferred credit) and lenders like to maintain creditor-friendly entry provisions and minimum prudential regulations. International price movements of the early 1980s influenced the political institutions to change in economic policy largely (Person, 2002).

2. Learning

Reform is multistage process and largely influenced by the experiences of own and to that of successful reforms of the South East Asian countries with a large learning impact for the financial sector reforms in Nepal. However, the experiences of financial trouble in the South-cone countries cautioned Nepalese policy-makers to follow a gradual path of reforms (Khatiwada, 1999: p. 11). The global wave of liberalization and spread of democracy in the early 1990s notably encouraged Nepal to adopt market-oriented economic policy in general and financial sector reforms in particular. Further, experiences and expertise of the International Financial Institutions like the IMF, WB, ADB and academic professionals were quite appreciable in this context. Liberalization process did not only exert distinct impacts on different sectors of the economy but also it helped to bring changes in political, social and cultural aspects. However, slow moment of India towards market-oriented economic policy also had its impact in the pace of reforms of the Nepalese financial sector.

3. Politico-Economic Structure

Although market oriented reforms were introduced during 1980s, the then existed partyless political system failed to deliver the development benefits, which is generally closely linked with political stability (Thapa, 1992: 2). Designed plans require enforcement with strong political commitment and private sector confidence, and that Nepal was lacking. Reforms were largely conditioned by economic and political considerations. Conventionally, pro-democratic governments have more market orientation or than others (Abiad and Mody, 2003: p. 13). The Nepali Congress government, with majority in parliament, confidently introduced and accelerated the new economic policy during the first half of the 1990s. However, coalition governments in the succeeding years were timid to implement reforms. As a result, the process of liberalization and reforms were obstructed. Thus, political stability and development of market discipline mechanism were crucial for the success of reforms. Ongoing broader reforms were introduced when for the second time the government was formed with full majority in 1998. Reforms are, thus, motivated, by strong political will and their commitment to implement the policy introduced.

Nepal has introduced a comprehensive set of policy reforms in the financial sector aiming for wider financial intermediation between the savers and the borrowers and reduced transaction costs. The objectives of the financial sector reforms are to develop a sound financial system; reduce the control over the interest rates, introduce prudential regulation and effective supervision. Similarly, the promotion of capital market and decontrol over the credit flow were some other objectives. The policy changes were directed towards the promotion of a market oriented financial system, with more private sector participation, efficiency gain through more competition, and development of the quality of the financial instruments and services. Thus, political stability and the development of market discipline mechanism were crucial for the success of reforms.

Objectives of Financial Sector Reforms

Promotion of a diversified, efficient and competitive financial system is the primary objective of financial sector reforms. Ultimate objective of financial reforms in Nepal is to make the financial sector wide and deep by creating well-regulated prudent, market-oriented, competitive and strong financial system in Nepal. Introduction of competent institutions in the financial market can bring efficiency through a fair competition. As a result, depositors can get reasonable price for their savings while, in the mean time investors find external finance at a competitive cost. Thus, the objective of financial reform in Nepal is to improve allocative, operational and dynamic efficiency in the financial system, increase competition, maintain positive real interest rates and reduce interest rate spread, reduce the pile of non-performing loan with the financial institutions and promotion of private investment by both widening and deepening the financial sector (Khatiwada 1999: 12).

The financial sector reform is the most important component of overall economic reform. The financial system is expected to contribute to maintain macroeconomic stability, lead the private sector for higher economic growth, reduce poverty, enhance rural banking, create employment opportunities, to raise income levels and maintain the pace of development at the sustainable level. Nepal can reap the potential benefits of the financial sector reform initiatives. The objectives of financial sector reforms in Nepal are explained below.

1. Competition and Efficiency Enhancement

Competition is the most important factor for the development of the financial system. Prior to 1980s, two commercial banks were dominating Nepalese financial system but they were not competing with each other because both of them were publicly managed. Rather, they were duopoly institutions. As the number of financial institutions came into operation they needed to compete to survive themselves bringing new financial instruments and services. Today finance companies are competing with large banks and development banks have begun deposit mobilization. As a result new financial instruments like ATM and debit/credit cards have arrived with the Nepalese customers. Improved mechanism of funds transfer and quick service provision are other practices that competition has brought in.

Financial sector reform in Nepal has expected to enhance efficiency in credit allocation. Interest rate liberalization helps mobilizing financial resources to the high yield investment as a result low yield or less efficient projects cannot sustain. Thus, allocative efficiency has its impact on investment and hence accelerating economic growth. New entrants are innovative and compete with the existing ones to mobilize resources and capture the market. Competition in the financial sector encourages innovation of new financial instruments and services and adoption of recent technologies in order to reduce operational cost. It reduces cost of intermediation for investment.

2. Rationalization of Interest Rates

Mobilization of domestic resources is critical for a higher level of investment in a developing economy. Unless deposit rates are higher than the rate of inflation savers have no incentive to save their earning in financial assets. Nepal Rastra Bank revised interest rates high up in 1975 in order to mobilize domestic savings. Most of the times interest revisions have taken place so that real interest rate is maintained positive. Since the quantity of money is a more competitive policy variable, it is not possible to control administratively over its price. Therefore, interest rate deregulation was expected to reflect the scarcity of capital and market forces determine its price effectively.

A high spread between the lending and deposit rates is likely to increase intermediation cost, financial disintermediation and thwart financial development. Competitive financial system has a low interest rate spread, low intermediation cost. Therefore, financial sector reforms aim at reducing the interest rate spread through increased competition and enhanced efficiency in the financial system.

3. Reducing the level of Non-performing Loans

Financial institutions are characterized by their liability mostly in liquid form while assets illiquid. Non-payment of loans and advances as per stipulated terms turns their asset non-performing. Inadequate loan appraisal, lack of monitoring the projects after loan disbursement, inadequate creditor protection and lacking credit culture are major causes of turning the loans sour. Non-performing loans (NPL) is a burning issue in the financial sector in Nepal. Financial sector reform has its objective to reduce the pile of NPL by prudent loan appraisal and improved monitoring mechanism.

4. Widening and Deepening of the Financial Sector

Financial widening is meant for monetization of economic activities. Expansion of the networks of banks and financial institutions, particularly in the un-banked areas has great potential for financial widening. However, rapid branch expansion policy of the commercial banks prior to 1990s has contributed a lot in monetization of rural economy; there is still a greater scope for widening finance. A large number of activities are not monetized, especially in the agricultural sector in rural area. Rural economy is deprived of formal finance and savers are unable to find financial assets. Thus, financial sector reforms aim at widening finance to rural areas. Availability of more financial resources encourages for greater economic activities and hence contributes for higher economic growth. Financial sector reforms, thus, aim at widening and deepening the financial system and accelerate economic growth through financial liberalization.

5. Encourage private investment

Private sector investment is considered more efficient to the public sector and importantly contributes for a high-income growth. Private sector is deprived of external finance in a repressed economy, due to public sector priority for investment. Higher interest rate can mobilize more financial savings, thus, more resources become available for efficient investment. Investment is not necessary to depend on own saving and the savers not to become investors themselves. Competition in the financial system is likely to encourage the innovation of new financial instruments to suit the needs of varying savers. A wide range of financial instruments like deposit and deposit instruments, insurance policy, bonds, pension and provident funds, shares of corporate sector and their debentures are common to all the savers. Higher interest rate discourages less efficient investment, whereas high yield investment projects can find external finance from the financial system. Thus financial sector reforms aim to encourage private investment by availing external finance to introduce and expand their activities

Pace and dynamics of liberalization

The timing, pace and degree of financial sector reforms are explained by political-economy perspective. The chronology of financial liberalization allows a more precise determination of the significance and timing of different events in the process of financial liberalization. The financial liberalization index recognizes the multifaceted nature of financial sector reforms and is an annual aggregation of financial sector reforms along six different dimensions. Following table depicts the chronology of financial regulation comprising of control and liberalization measures in the financial sector illustrates the pace and dynamic of financial liberalization.

Table: 4.1

Chronology of Financial Sector Reforms

Removal Entry Barriers

A. Policy Measures	Year	Desired Objectives
Entry barriers were eased for joint venture banks.	July 1984	Increase private sector participation to foster competition in the financial sector
ADB/N was allowed undertaking commercial banking activities	July 1984	Foster competition in mobilizing resources from the urban areas to lend in the agriculture
Establishment of Citizen Investment Trust	April 1991	Mobilize contractual saving
Establishment of Regional Rural Development Banks	Feb 1993	Enhance access of rural poor to the formal credit
B. Legal and Institutional Reforms		
Enactment of Finance Company Act 1985	1985	Avail consumer credit and promote competition
Establishment of Credit Information Bureau	1989	Discourage risky lending, enhance recovery of loans
Creation of Rural Self Reliance Fund	1991	Improve rural credit system
Introduction of privatization Act	1994	Minimize government's role in public sector utilities
Enactment of International Financial Centre Act	1997	Develop a regional Offshore financial centre
Enactment of Financial Intermediaries act	1999	Formalize the informal finance
Enactment of Nepal Rastra Bank Act	2002	Increase Autonomy
Establishment of Debt Recovery Tribunal	2003	Reducing NPL
Enactment of BFI Ordinance	2004	Umbrella Act to remove legal fragmentation

2A. Interest Rate Controls

Interest rate regulated by NRB.	Aug 1966	To make interest rates on savings competitive to that of India.
Minimum rate on saving and one year fixed deposit were fixed at 4 and 6 percent respectively.		Rates were increased by one and two percent on savings and fixed deposits respectively.
Interest rates were revised upwards to minimize the impact of the negative real rates	April 1971	Enhance saving mobilization. Interest rates on savings and one year fixed accounts increased by 0.5 and 1.5 percentage to 5 and 8.5 percent respectively.
Interest rates on call deposit were introduced.	April 1971	Slack season and busy season rates were fixed at 3.5 and 4.5 percent respectively.
New lending rates introduced	1971	Ranging from 7 to 13 percent
Subsidized interest rates introduced	1971	Agricultural sector ranging from 3.5 to 10 and industrial sector fixed at 7.5 percent
Interest rates raised upwards on savings	July 1974	To meet interest closer to rising inflation
Upward revision of overall interest rate structure of commercial banks at 15 percent per annum on fixed deposit and higher bank loans 15 to 18 percent	April 1975	Effectively mobilize domestic saving and control capital flight
Deposit rates sliced down gradually	April 1977	Reduce the lending rates
Commercial banks were imposed a restrictions on accepting deposit from foreign institutions	Nov 1978	Discourage capital inflow to ease monetary control

2B. Interest Rate Liberalization

Banks were freed to offer interest rate on deposits above a band of 1 to 1.5 percent than fixed by the Nepal Rastra Bank.	Nov 1984	Promote competition; increase deposit rate.
Banks were allowed fixing their own interest on both deposit and loans within a floor and ceilings respectively.	May 1986	Enable the market to determine interest rate competitively
Inter-bank borrowing was allowed.	May	To enable banks manage short term liquidity
Complete deregulation of interest rates.	1989	Market forces determine interest rate freely
Redesigning of Nepal Rastra Bank refinance facilities	1989	Solve liquidity problem of banks
Treasury bills auction	1988	Deny cheap funds to the government
Narrow down interest rate spread	1993	Reduce the spread between deposit and lending rates
Abolition of spread regulation	2002	Allow efficient allocation of credit

3. Credit Control and Deregulation

A. **Credit Ceilings**		
Credit ceiling of 13.5 percent (to that of previous year) was imposed so that no commercial banks could expand their credits in excess	Feb 1986	contain inflation by reducing money supply and curbing down aggregate domestic credit
Margin Rates reduced to 30 to 50 percent	1987	
Abolition of credit ceiling	1989	Freeing banks to extend credit
B. **Directed credit**		
Priority Sector credits		
Banks were required to invest 25% (40%) of total lending on priority sector, of which	1984 (1990)	Avail credit to small and medium projects and diversify risk of credit concentration.
i) 12% on priority sector of which	1984	
Ii) 3% on deprived sector	1992	Avail credit to excluded and small sectors of the economy
Priority sector credit gradually phased out within 2007 while remaining the deprived sector.	2002	Reducing operating cost and loan default and increase profitability of the banking sector, efficient use of fund
Reserve Requirements		
Cash Reserve Requirement (CRR) 9 percent until 1989 12 percent 1990 to 1997 10 percent 1998 to 2000 6 percent 2003		Gradually reduce the CRR to reduce inflation tax for commercial banks and free more resources to avail credit to private sector.
Statutory Liquidity Requirement (SLR): Lifted Reintroduced Abolished	 1989 1991 1993	Allow banks to choose portfolio of their own. Mop up excess liquidity from the economy. Remove direct control

4. Regulation of Financial Institutions and Securities Market

A. Introduction of prudential norms to banks and financial institutions

I. Capital adequacy ratio, income recognition, loan classification and loan loss provisioning, and single borrower limit	1988	Achieve financial stability through market discipline while discouraging risk exposure and maintain accounts uniformly with that of international practice.
a. Capital adequacy ratio 5.0 % 8.0 % 12.0%	1988 1991 2002	Ensure sound and healthy financial system in line with international best practices and reducing the practices of 'gambling' on others' funds.
b. Core capital adequacy ratio of risk weighted assets and off-balance sheet transaction2.5%, 4.0 %, 6.0 %	1991 1992 1993	Increase franchise value of banks and hence reduce their vulnerability
II. Allocation of risk factors on off-balance-sheet items.	1991	Safeguard solvency of the financial system
III. Risk based loan classification and provisioning for loss	1989	
IV. Interest income recognition on cash basis	1989	Discourage overspending tendency
V. Single borrower obligation	1989	Control banks' risk exposure and widely avail credit

B. Securities Market Reform

a. Establishment of Securities Exchange Centre	1977	Develop capital market for long term investment.
b. Enactment of Securities Exchange Act	1984	
c. Nepal Stock Exchange Ltd (NEPSE) reorganized	1994	Develop a modern securities market.
d. Formation of Security Exchange Board	1994	Regulate the stock market activities.

5. Privatization of Financial Sector

New industrial policy further eased entry barriers in all the sectors of economy including financial sector	1992	Encourage private sector participation in the financial sector
Divestment of 10 percent of public sector share from Nepal Bank Limited	1998	Encourage private participation in the bank and improve work culture and efficiency

6. Restriction in the International Financial Transactions

A. Reforms in the exchange rate regime:		Market determine exchange rate
i Devaluation of NRs against US$ by 14.7%	1985	Encourage exports
ii Partial convertibility of current account	1992	Achieve article VIII status in the IMF
a. At a ratio of 65: 35	Mar	
b. At a ratio of 75:25	July	
c. Full convertibility of Rs in current account	1993	
B. Foreign currency denominated bank accounts		
Allowed to open FC bank accounts to Nepalese citizen	Dec 1991	Lower the cost of international transactions
i Up to 30 % of earning in convertible currency	July 1992	Encourage inflow of forex in banking system
ii Up to 50 % of earning in convertible currency	1993	
iii Up to 100 % of earning in convertible currency	1994	
C. Borrowing in convertible currencies from commercial banks		Provide incentive to exports and promote competition
i Short term loans for export-industries and small scale power generating entities	June 1993	
ii Import of raw wool for carpet industries and specified imports from India	Aug 1993	
iii Amortization of principal and interest in FC	1994	

Sources: Acharya et al (1998) and various publications of Nepal Rastra Bank and Observation

4.7 INDEX OF FINANCIAL LIBERALIZATION

As mentioned in earlier pages, various policies were implemented by the Government to liberalize the financial sector. An attempt is made here to arrive at one index of financial liberalization. The direct measures of financial repression or liberalization are not readily available. Therefore six dimensions of financial sector policies are considered while generating financial liberalization index (as explored by Abiad and Mody 2003). They are:

(a) Entry barriers (ENTRANCE)

(b) Interest Rate Controls (INTEREST)

(c) Credit Controls (CREDIT)

(d) Regulations and Securities Market (REGULATION)

(e) Restriction in international financial transactions (CAPITA)

(f) Privatization of the financial sector (PRIVAT)

Each dimension is classified into four categories, fully repressed, partially repressed, largely liberalized and fully liberalized and graded as 0, 1, 2 and 3 respectively. The subject matter of financial liberalization is broader and it requires subjective judgment while constructing the index of financial liberalization. The grading is indeed subjective. However, we have adopted some guiding principles used to reduce subjectivity. Interest rates control, for example, were graded as fully repressed when it was determined by the central bank and partially repressed when the interest rates were subject to a ceiling or floor or allowed to vary within a band. It was largely liberalized as some of the interest rates were allowed to be completely market driven and finally fully liberalized, when all the restrictions were removed completely. Each subcomponent is ranked between 0 and 3 and their sum is divided by total number of subcomponents to reach into the common ranking of every dimensions. Since each of the indices can take on values between 0 and 3, the sum takes on values between 0 and 18 altogether. It is shown in the Appendix: C.

a. Entry barriers: It covers licensing requirements, limits on foreign participation in the banking sector, restrictions on bank specialization and establishment of universal banking.

(i) Licensing requirements: Licensing was restricted completely before 1984 and ranked by 0. Restrictions were eased as documented by 1 up to1997, which increased to 1.50 for 2000 to 2002 and further to 1.75 in 2003.

(ii) Limits on foreign bank participation: Domestic private sector was allowed for new entrance since 1998 and it is marked as 2 onwards.

(iii) Restrictions to bank specialization: Bank specialization was allowed after 1984 (graded as 1) with private participation widened since 1998 (graded by 2). Bank specialization is graded 0 before 1984.

(iv) Universal banking is not allowed yet and ranked as 0.

b. Interest Rate Controls: It is a policy variable which tries to find out whether there exists a direct control over interest rates (in the form of floor, ceilings or interest rate bands) or not. Complete administrative control over the interest rates before 1984 is indicated by 0. Liberal attitude towards fixing interest rates within the range of 1 to 1.5 percent since 1984 to 1985 is ranked as 1. Similarly, partial deregulation between 1986 and 1989 is ranked by 2 and afterwards 3 as complete deregulation.

c. Credit Controls: The policy variable credit controls comprises of directed credit, credit ceilings and reserve requirements (both CRR and SLR).

(i) Directed credit to the favoured industries or sectors: Presence of directed credit was until 2001 and is graded as 0. As it was eased in 2002, ranked by 2 and phased out gradually by in 2003 and graded to 3.

(ii) Credit ceilings toward other sectors: Credit ceilings were present till 1989 and then removed. Therefore, it is graded as 0 before 1989 and 3 onwards.

(iii) High reserve requirements: It is the summation of cash reserve requirement (CRR) and statutory reserve requirement (SLR). The reserve requirement below 10 percent of deposit liabilities is noted as fully liberalized, 10-15 as largely liberalized, 15-25 as partially repressed and above 25 percent as completely repressed. It is ranked by 3, 2, 1 and 0 respectively.

d. **Regulations and Securities Market**: The variable regulations and securities markets include the presence and magnitude of control measures (e.g. on staffing, branching and advertisement) and presence of prudential regulations in the banking system.

(i) Operational restrictions and prudential regulations: It explains whether there are operational restrictions regarding staffing, bank branching, advertising etc and establishment of new securities markets. Absence of prudential regulation in the banking sector until 1987 is graded by 0, presence of prudential regulation up to 2000 by 1 and onwards 2.

(ii) Securities market development: Existence of securities market since 1984 is graded by 1 until 1993; stock market was reorganized onwards and is graded by 2. Foreign institutional investors were not allowed participation in the stock market.

e. **Restriction in international financial transactions**: International financial transactions comprise of presence of multiple exchange rates, restrictions on current account and capital account convertibility.

(i) Restriction on current account convertibility: Current account was convertible partially in 1992 and fully since 1993. Therefore, it is graded 0 up to 1991, 2 for 1992 and 3 onwards.

(ii) Restriction on capital account convertibility: Capital account convertibility captures four components. Investment outflow and portfolio investment are prohibited and ranked by 0 for the whole period. Foreign direct investment was allowed partially (in the financial sector) since 1984, more sectors were opened since 1993. Therefore, it is graded by 0 before 1984, 1 up to 1993 and 2 onwards.

(iii) Use of multiple exchange rates: Multiple exchange rates were present until 1991 (ranked 0), brought into single rate in 1991 (ranked 1) and market forces were allowed to determine exchange rate by since 1992 with frequent interventions of the NRB (ranked 2).

f. Privatization of the financial sector: Policies relating to privatization explain the level of privatization of the public sector banks and financial institutions. It was in the year 1998 that Nepal Bank Limited was divested by 10 percent to limit government ownership to 40.5 percent. Therefore, it is graded 0 until 1997 and 1 onwards 2003.

When controls were lifted, there were jumps of more than one unit along that dimension. Reversal or impositions of controls were also recorded in the form of shifts from a higher to a lower score. The index allows distinguishing the dimensions of financial sector reforms, year of major reforms undertaken and minor policy changes as well as policy reversal.

Restrictive measures on international financial transactions by domestic financial institutions and non-financial corporations indicate the extent of capital control.[1] Regulation on interest rates on deposit and lending (price indicators), credit allocation, foreign currency deposits and reserve requirements measure the state of liberalization of domestic financial sector. Thus, information on price indicators is primarily the indicator of domestic financial liberalization whereas the remaining variables quantify the degree of repression. Similarly, regulations on repatriation of capital, interest and dividend income measure the state of liberalization of stock market (Appendix D).

The most frequently used indicators of financial repression (credit controls, interest rate controls and controls on international financial transactions) are highly correlated with each other. Table 4.3 shows the correlations among different components of financial liberalization. A higher correlation between the components indicates that their liberalization tend to occur simultaneously. Credit controls, interest rate control, entry barriers, regulations and controls in international financial

[1] Restrictions on international financial transactions may take various forms. At the most extreme it may prohibit borrowing overseas, or it may allow conditional capital inflows (say, minimum maturity period) or non-interest reserve requirements on foreign borrowing.

transaction are highly correlated with correlations ranging from 0.76 to 0.96 and are frequently used for financial repression. Privatization is the least correlated with the others.

The single index of financial liberalization is derived through two aggregation methods by using above indictors: (a) Sum of all indices (Simple Aggregation Method), and (b) The method of Principal Component.

Simple Aggregation Method

As discussed above, each component is graded between the values at a maximum of 3 for complete liberalization and 0 for fully repression. All the components of each indicator are simply summed together to arrive at a single index while adopting the simple aggregation method.

Table No. 4.2

Liberalization Index (Simple Aggregation Method)

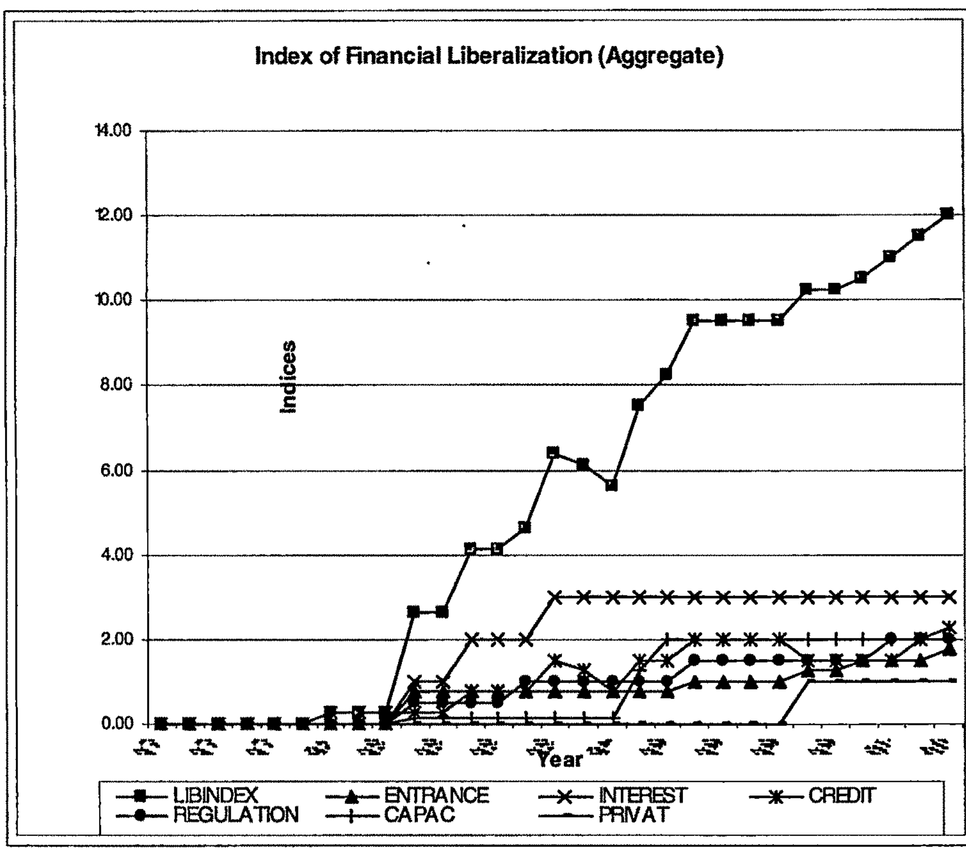
Year	ENTRANCE	INTEREST	CREDIT	REGULATION	CAPAC	PRIVAT	LIBINDEX
1975	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0
1981	0	0	0.25	0	0	0	0.25
1982	0	0	0.25	0	0	0	0.25
1983	0	0	0.25	0	0	0	0.25
1984	0.75	1	0.25	0.5	0.13	0	2.63
1985	0.75	1	0.25	0.5	0.13	0	2.63
1986	0.75	2	0.75	0.5	0.13	0	4.13
1987	0.75	2	0.75	0.5	0.13	0	4.13
1988	0.75	2	0.75	1	0.13	0	4.63
1989	0.75	3	1.5	1	0.13	0	6.38
1990	0.75	3	1.25	1	0.13	0	6.13
1991	0.75	3	0.75	1	0.13	0	5.63
1992	0.75	3	1.5	1	1.25	0	7.50
1993	0.75	3	1.5	1	2.00	0	8.25
1994	1.00	3	2	1.5	2.00	0	9.50
1995	1.00	3	2	1.5	2.00	0	9.50
1996	1.00	3	2	1.5	2.00	0	9.50
1997	1.00	3	2	1.5	2.00	0	9.50
1998	1.25	3	1.5	1.5	2.00	1	10.25
1999	1.25	3	1.5	1.5	2.00	1	10.25
2000	1.50	3	1.5	1.5	2.00	1	10.50
2001	1.50	3	1.5	2	2.00	1	11.00
2002	1.50	3	2	2	2.00	1	11.50
2003	1.75	3	2.25	2	2.00	1	12.00

Source: Appendix C

Note: CAPITA = control in international transactions;
CREDIT = administrative control over credit allocation;
ENTRANCE = restrictions imposed on new entrants;
INTEREST = interest rate control;
PRIVAT = divestment of public enterprises; and
REGULATION = presence of prudential regulations and securities markets

Graph: 4.1

Financial Liberalization Index (Aggregate Method)



Method of Principal Component

The different policies of financial repression (and financial development indicators as well) are found coexisting and they are highly correlated. The method of principal component is used to overcome the problem of multicollinearity among policy variables while quantifying above mentioned policy variables in the financial system and constructing the index of financial liberalization (and financial development). Correlation among the variables is given in the table no. 4.3. The method of principal components involves linear transformation of a large number of policy variables, which are possibly correlated. In this method, a new series is developed with standardized variables so that they are uncorrelated and they are ordered in terms of variance. The standardized series is constructed by deducting the mean of the variables and dividing it by the standard deviation. The variances of each policy variable are divided by the square root of the sum of the variance to get the loadings for each policy variable. Finally, the standardized series are multiplied by respective loading.

Table No. 4.3

Correlation Coefficient Matrix for Financial Liberalization Variables

	ENTRANCE	*INTEREST*	*CREDIT*	*REGULATION*	*CAPITAC*	*PRIVAT*	*Sum*
ENTRANCE	1	0.8824	0.8585	0.9553	0.8045	0.7203	5.2211
INTEREST	0.8824	1	0.9166	0.9134	0.7583	0.4466	4.9173
CREDIT	0.8585	0.9166	1	0.9354	0.8816	0.4839	5.0759
REGULATION	0.9553	0.9134	0.9354	1	0.8747	0.6642	5.3429
CAPITAC	0.8045	0.7583	0.8816	0.8747	1	0.6350	4.9540
PRIVAT	0.7203	0.4466	0.4839	0.6642	0.6350	1	3.9499
Sum	5.2211	4.9173	5.0760	5.3429	4.9540	3.9499	29.4612
Loadings	0.6983	1.8276	0.9741	0.84483	0.8362	0.2069	**5.4278**

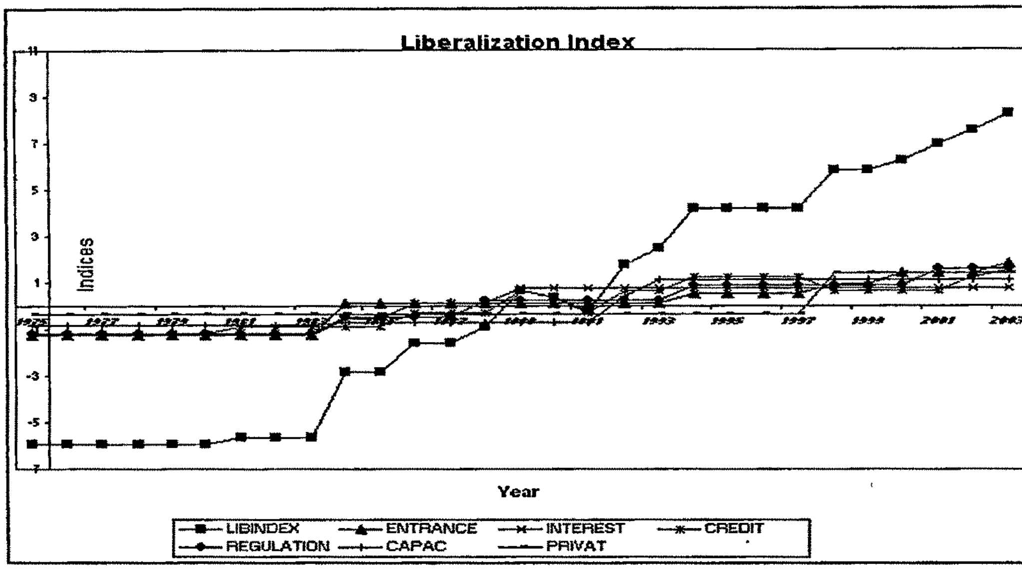
Table: 4.4

Liberalization Index (Principal Component Method)

Year	ENTRANCE	INTEREST	CREDIT	REGULATION	CAPITAL	PRIVATIZATION	LIBINDEX
1975	-1.225	-1.213	-1.155	-1.174	-0.802	-0.365	-5.934
1976	-1.225	-1.213	-1.155	-1.174	-0.802	-0.365	-5.934
1977	-1.225	-1.213	-1.155	-1.174	-0.802	-0.365	-5.934
1978	-1.225	-1.213	-1.155	-1.174	-0.802	-0.365	-5.934
1979	-1.225	-1.213	-1.155	-1.174	-0.802	-0.365	-5.934
1980	-1.225	-1.213	-1.155	-1.174	-0.802	-0.365	-5.934
1981	-1.225	-1.213	-0.859	-1.174	-0.802	-0.365	-5.638
1982	-1.225	-1.213	-0.859	-1.174	-0.802	-0.365	-5.638
1983	-1.225	-1.213	-0.859	-1.174	-0.802	-0.365	-5.638
1984	0.091	-0.549	-0.859	-0.479	-0.682	-0.365	-2.844
1985	0.091	-0.549	-0.859	-0.479	-0.682	-0.365	-2.844
1986	0.091	0.114	-0.266	-0.479	-0.682	-0.365	-1.587
1987	0.091	0.114	-0.266	-0.479	-0.682	-0.365	-1.587
1988	0.091	0.114	-0.266	0.216	-0.682	-0.365	-0.892
1989	0.091	0.778	0.624	0.216	-0.682	-0.365	0.661
1990	0.091	0.778	0.327	0.216	-0.682	-0.365	0.364
1991	0.091	0.778	-0.266	0.216	-0.682	-0.365	-0.228
1992	0.091	0.778	0.624	0.216	0.397	-0.365	1.740
1993	0.091	0.778	0.624	0.216	1.116	-0.365	2.459
1994	0.529	0.778	1.216	0.910	1.116	-0.365	4.185
1995	0.529	0.778	1.216	0.910	1.116	-0.365	4.185
1996	0.529	0.778	1.216	0.910	1.116	-0.365	4.185
1997	0.529	0.778	1.216	0.910	1.116	-0.365	4.185
1998	0.968	0.778	0.624	0.910	1.116	1.400	5.796
1999	0.968	0.778	0.624	0.910	1.116	1.400	5.796
2000	1.406	0.778	0.624	0.910	1.116	1.400	6.235
2001	1.406	0.778	0.624	1.605	1.116	1.400	6.929
2002	1.406	0.778	1.216	1.605	1.116	1.400	7.522
2003	1.845	0.778	1.513	1.605	1.116	1.400	8.257

Graph: 4.2

Financial Liberalization Index



The index prepared through the method of principal component as given in Table 4.4 also shows gradual liberalization of the financial sector. Graph 4.2 shows the gradual process of financial liberalization with partial repression. The reform process is stretching more than a decade. Although the process of reforms began by mid-1980s, major reforms have taken place in the late 1980s and comprehensive reform waited until the restoration of democracy in 1990. This index, thus, jointly evaluates the liberalization of the domestic financial sector, the stock market and international financial transaction.

4.8 Index of Financial Development

The present study attempts to develop the index of financial development in Nepal over a period of 1975 to 2003. The study follows the methodology developed by King and Levine (1993a), Beck *et al* (2000), Levine (2004) natural logarithms of following variables are used as the proxy for financial development while generating the index of financial development in the present. They are: (a) Ratio of liquid liabilities of the financial system to GDP (M2GDP), (b) Ratio of credit to private sector to GDP (PRIVY),

(c) Ratio of domestic assets of commercial banks to the sum of domestic assets of Nepal Rastra Bank and commercial banks (BANK), and (d) Ratio of private sector credit to total loans and advances of commercial banks (PRIVATE).

a. **Liquid Liabilities** (M2GDP) is the ratio of liquid liabilities of the financial system, i.e., the sum of currency, demand and time deposits liabilities of financial intermediaries) to GDP [King and Levine (1993a) have used this measure].

b. **Private Credit** (PRIVY) is the ratio of commercial bank credits to the private sector to GDP. It excludes credit to the public sector and cross claims of one group of banks on another [however, King and Levine (1993 a, b) have used the credit issued by the central bank and development banks as well].

c. **Bank** (BANK) is the ratio of domestic assets of commercial bank to the sum of domestic assets of commercial banks and central bank. It measures the degree of credit allocation by the commercial banks. The motive behind this measure is commercial banks identify profitable investment, monitor managers, facilitate risk management, and mobilize savings than the central bank.

d. **Private Sector Credit** (PRIVATE) is the ratio of commercial banks' credit to the private sector to their total loans and advances. It measures the extent of bank credit to the private sector out of their total of loans and advances.

The Index of Financial Development is also generated by using simple aggregation method and Principle Component Method. The variables used are natural log values of the ratios of M2 to GDP (M2GDP), credit to private sector to GDP (PRIVY), private sector credit to total loans and advances of commercial banks (PRIVATE) and domestic assets of commercial banks to the sum of domestic assets of NRB and commercial banks (BANK).

All the variables LBANK, LPRIVATE, LPRIVY and M2GDP have grown over the period. Table 4.5 and Graph 4.3 show the variables LBANK and LPRIVATE have increased at a slow pace than LPRIVY and LM2GDP. LPRIVY and LM2GDP have increased at a faster rate than the former two. It shows their contribution on financial development in comparison to the two variables LBANK and LPRIVATE. Financial development is adversely affected during the period 1983 to 1985.

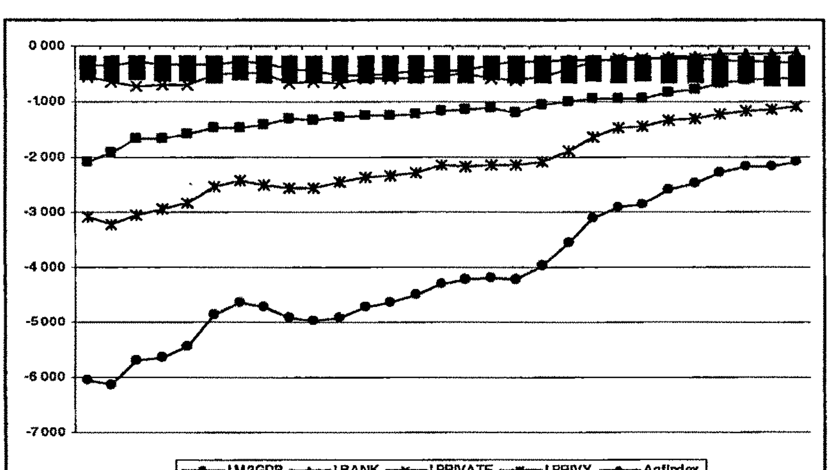
Table: 4.5

Index of Financial Development (Aggregate Method)

Year	LM2GDP	LBANK	LPRIVATE	LPRIVY	AGFINDEX
1975	-2.083	-0.343	-0.551	-3.080	-6.057
1976	-1.930	-0.362	-0.637	-3.222	-6.150
1977	-1.679	-0.267	-0.718	-3.042	-5.707
1978	-1.655	-0.341	-0.694	-2.945	-5.635
1979	-1.594	-0.333	-0.687	-2.838	-5.453
1980	-1.486	-0.320	-0.529	-2.526	-4.861
1981	-1.465	-0.276	-0.476	-2.415	-4.633
1982	-1.424	-0.317	-0.494	-2.487	-4.723
1983	-1.298	-0.407	-0.671	-2.550	-4.926
1984	-1.326	-0.456	-0.628	-2.549	-4.959
1985	-1.285	-0.519	-0.661	-2.439	-4.904
1986	-1.256	-0.527	-0.579	-2.356	-4.717
1987	-1.251	-0.489	-0.586	-2.326	-4.652
1988	-1.228	-0.432	-0.579	-2.267	-4.507
1989	-1.171	-0.443	-0.538	-2.142	-4.294
1990	-1.151	-0.433	-0.495	-2.157	-4.236
1991	-1.125	-0.345	-0.588	-2.148	-4.206
1992	-1.200	-0.291	-0.610	-2.127	-4.229
1993	-1.042	-0.284	-0.560	-2.078	-3.964
1994	-1.010	-0.240	-0.407	-1.886	-3.542
1995	-0.953	-0.250	-0.288	-1.626	-3.117
1996	-0.949	-0.247	-0.235	-1.478	-2.909
1997	-0.955	-0.238	-0.217	-1.451	-2.862
1998	-0.829	-0.199	-0.215	-1.343	-2.586
1999	-0.770	-0.181	-0.225	-1.306	-2.481
2000	-0.677	-0.146	-0.238	-1.227	-2.288
2001	-0.607	-0.141	-0.265	-1.160	-2.174
2002	-0.594	-0.150	-0.287	-1.137	-2.168
2003	-0.572	-0.117	-0.310	-1.079	-2.077

Graph 4.3

Index Of Financial Development (Aggregate Method)



Principal Component Method

As shown in Table 4.7 and Graph 4.4, the index of financial development (principal component method) clearly depicts the development of different variables. The level of financial development was less than average of the overall period before 1993. Among different variables, BANK is found to be increased than others before 1981, mainly due to increase in bank lending to the public enterprises and government. It declined after the initiation of economic stabilization programme in the early 1980s. After liberalization, total domestic assets of commercial banks increased more than that of the central bank. LPRIVATE has an inclining trend but the pace is rather slow over time. LPRIVY is found to be declined before 1980s. However, it is improved gradually after the initiation of reforms with a smooth growth path until 1994. Emergence of new banks and financial institutions in private sector after 1994 contributed to the growth of the ratio of private credit to GDP since 1994. Further, its growth is affected due to poor investment environment 1998 onwards. The growth of M2GDP is observed at the level above zero since 1989. Its trend is smooth in comparison to other variables. However, it turned down in the year 1992 due to the adoption of contractionary monetary policy during 1991 and 1993. As we look at the index of financial development (LFINDEX) financial development before 1980 was attributed to expansion of bank branches. However, there was a set back in the process of financial development during the years of crisis of the early 1980s. There was an improvement after 1985 due to the establishment of joint venture banks and partial deregulation of interest rates. However, the pace of financial development seems slow after 1999.

Table: 4.6

Correlation Matrix of the Variables of Financial Development

	LM2GDP	LBANK	LPRIVATE	LPRIVY
LM2GDP	1	0.5554	0.7666	0.9658
LBANK	0.5554	1	0.7303	0.6617
LPRIVATE	0.7666	0.7303	1	0.8948
LPRIVY	0.9658	0.6617	0.8948	1
SUM = Sj	3.2879	2.9475	3.3918	3.5223
Sj square	10.8100	8.6876	11.5040	12.4068
LOADINGS	0.4990	0.4474	0.5148	0.5346

The index of financial development shows a variable path of development of the financial system in Nepal. Financial development was at the lowest level by -2.5 in 1976 and reached at 3.0 in 2003. The index turned positive by 1994; however, the extent of development is stagnant with a change each year being less than unity. Table 4.4 shows a slow pace of financial development.

Table: 4.7

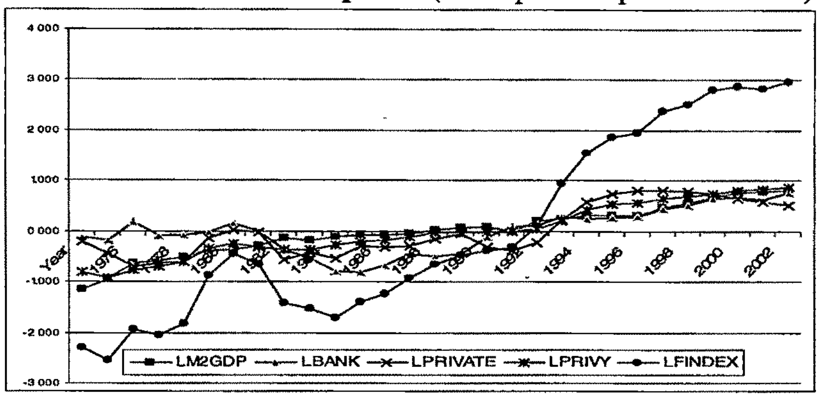
Index of Financial Development

(Principal Component Method)

YEAR	LM2GDP	LBANK	LPRIVATE	LPRIVY	LFINDEX
1975	-1.161	-0.114	-0.210	-0.808	-2.293
1976	-0.962	-0.185	-0.467	-0.928	-2.542
1977	-0.635	0.179	-0.714	-0.777	-1.946
1978	-0.603	-0.106	-0.641	-0.695	-2.045
1979	-0.524	-0.076	-0.618	-0.606	-1.824
1980	-0.383	-0.027	-0.142	-0.343	-0.895
1981	-0.363	0.145	0.016	-0.251	-0.446
1982	-0.303	-0.014	-0.038	-0.311	-0.665
1983	-0.138	-0.360	-0.570	-0.364	-1.432
1984	0.175	-0.548	-0.442	-0.363	-1.527
1985	-0.121	-0.794	-0.540	-0.270	-1.726
1986	-0.083	-0.824	-0.292	-0.201	-1.400
1987	-0.077	-0.675	-0.315	-0.176	-1.243
1988	-0.047	-0.459	-0.294	-0.126	-0.926
1989	0.027	-0.499	-0.170	-0.021	-0.663
1990	0.054	-0.459	-0.041	-0.034	-0.481
1991	0.087	-0.121	-0.322	-0.026	-0.382
1992	-0.010	0.086	-0.388	-0.009	-0.321
1993	0.195	0.115	-0.236	0.032	0.107
1994	0.237	0.285	0.226	0.194	0.942
1995	0.312	0.246	0.583	0.412	1.553
1996	0.316	0.258	0.745	0.536	1.855
1997	0.308	0.291	0.797	0.559	1.955
1998	0.472	0.442	0.804	0.649	2.368
1999	0.550	0.513	0.775	0.681	2.519
2000	0.671	0.647	0.735	0.747	2.799
2001	0.762	0.664	0.653	0.803	2.882
2002	0.779	0.631	0.587	0.822	2.819
2003	0.808	0.760	0.519	0.871	2.958

Graph: 4.4

Index of Financial Development (Principal Component Method)



4.9 CAUSAL RELATIONSHIP BETWEEN FINANCIAL LIBERALIZATION AND FINANCIAL DEVELOPMENT

We have already observed that the indices of financial liberalization and financial development have rising trend, indicating increase in the degree of financial liberalization and the level of financial development. Both these indices are highly correlated and the coefficient of correlation is 0.933. It is the change in the policy i.e. change in the degree of financial liberalization promotes financial development. At the same time, the level of financial development will compel the government to go for further financial liberalization. In the light of this, the simple technique of Granger causality is applied to find out whether the bi-directional causality between the two exists or not.

The existence of a relationship between two variables as obtained by regression analysis sorts out the dependence of one variable on other variables but it does not necessarily imply causation. Granger causality test, developed by Granger (1969) and Sims (1972) is used to test whether changes in one variable causes change in another or both of them are endogenously determined. The following is the method of Granger causality test in brief. Given the two variables X and Y, we estimate two equations, one unrestricted and the other restricted, as given below.

Unrestricted Regression: $$Y_t = \sum_{i=1}^{p} \alpha_i Y_{t-i} + \sum_{j=1}^{q} \beta_j X_{t-j} + u_t \quad (1)$$

Restricted Regression: $$Y_t = \sum_{i=1}^{p} \alpha_i Y_{t-i} + u_t \quad (2)$$

where, u_t is white noise, p is the order of the lag for Y, and q is the order of the lag for X. The sum of squared residuals from each regression to calculate an F statistic and test whether the group of coefficients $\beta_1, \beta_2, \beta_3, ...\beta_m$ are significantly different from zero. If they are, we can reject the hypothesis that "X does not cause Y". The F statistic is as follows:

$$F_c = \frac{(ESS_R - ESS_{UR})/q}{ESS_{UR}/(n-k)} \quad (3)$$

where n is the number of observations, and k is the number of parameters used in the unrestricted model in Equation (1), ESSU is the error sum of squares for Equation (1), and ESSR is the error sum of squares for the restricted model (2). Under the null hypothesis of X not Granger-causing Y, Fc has the F-distribution with q df. for the numerator and (n-k) df for the denominator. However, the numbers of lags 'q' in these regression is arbitrary and boils down to a question of judgment and are usually chosen to be large (Ramanathan, 2002).

Table: 4.8

Granger Causality Test for Financial Liberalization and Financial Development

Pair-wise Granger Causality Tests		
Sample: 1975 2003, Lags: 2, Number of Observations: 27		
Null Hypothesis:	F-Statistic	Probability
1. LIBINDEX does not Granger Cause LFINDEX	3.096	0.0654
2. LFINDEX does not Granger Cause LIBINDEX	3.352	0.0536

The Table: 4.6 shows that the calculated value of F is greater than the Table value of F at 6.54 percent for the first equation and 5.3 percent level of significance for the second equation. It shows the existence of bi-directional causality between the LFINDEX and LFINDEX. However, if we strict to 1 percent level of significance as usual, we cannot find any causal relationship between the two variables. In brief we can say that both the indices are affected by each other. However, the relationship is not very strong.

4.10 CONCLUSION

Financial liberalization is a process of removing restrictions taking several years to complete. Further, it is also characterized by reintroduction of restrictions at times, but temporarily. Institutional reforms do not predate liberalization but they are vital for the success of financial sector reforms. It covers information on the quality of institutions as well as laws governing the functioning of the financial system. Improved quality of institutions is less likely to reduce financial instability.

In brief we conclude that Nepal has implemented various policies on liberalizing financial sector over a period of time. These policies are reflected in the index of financial liberalization which is estimated. Similarly, estimated index of financial development also shows steady rise and thereby gradual financial development in Nepal. The study also reveals the bidirectional causality between financial liberalization and financial development indicating that financial liberalization leads to financial development and vice versa.