Post Liberalization Policy Reforms of Financial Sector in Nepal : Development and Challenges of Commercial Banking

Bhusal, Bhim Prasad
Graduate School of Economics, Kyushu University

https://doi.org/10.15017/25128

出版情報：経済論究. 143, pp.77-98, 2012-07. 九州大学大学院経済学会
バージョン：
権利関係：

Post Liberalization Policy Reforms of Financial Sector in Nepal: Development and Challenges of Commercial Banking

Bhim Prasad Bhusal†

Contents

1 . Introduction

Nepal is situated in between two giant 21st century economies; China to the North and India to the South, East and West. Also its position as a landlocked nation is an obstacle to the development process. Natural resource development and infrastructure development are major challenges for the country, in one hand. On the other hand, Nepal is fighting to overcome high levels of poverty by increasing access to financial and banking services and improving the economic growth. During the course of development, Nepal implemented more liberalized policies in the mid of 1980s, making the financial system much more competitive and complex.

Before the mid 1980s, tight regulatory policies characterized Nepal's financial system. But after this period Nepal began eliminating such policies and started to liberalize various sectors of the economy (such as financial, foreign trade and public enterprises). The primary objective of liberalization was to minimize the role of government in the economy by increasing private sector's role thereby stimulating economic growth and alleviating poverty through broad-based economic growth (Thapa and Shrestha, 2005). Liberalization of the financial system brought many changes in several macroeconomic and financial indicators. These changes are contributing to widen and deepen the financial system. Some important indicators, such as liquid liabilities, and credit supply to the private sector have increased tremendously since liberalization.

† Graduate School of Economics, Kyushu University, 6-19-1, Hakozaki, Higashi-ku, Fukuoka, Japan.
Email: bhusalbp@en.kyushu-u.ac.jp

The non-bank financial system has also experienced drastic changes. The banking system has a longer history than the capital market and other non-bank financial intermediaries. Implying banking sector development has influences on economic growth in Nepal.

The objectives of this paper are three fold. First, it attempts to shed light on the reform policy implemented in Nepal's financial sector. Secondly, it empirically investigates factors influencing the development of commercial banks and finally, discusses the problems and challenges these banks have to face. Policies introduced to the system have helped it to develop. Policy reform refers to a process of deregulating interest rates, eliminating credit controls, easing entry barriers for banks and other financial institutions, increasing supervision, and liberalizing international capital flows (Baliamoune and Chowdhury, 2003). As mentioned, these market oriented policies were adopted from the mid of 1980s. Therefore, implementations of policy reform may have impacted Nepal's financial development and the economic growth process. On the other hand, Nepal's financial system has become more fragmented as a result of these policies, creating challenges for the banking system due to limited expansion of banking services in rural and non-monetized sectors. In addition, facilitating the provision of new entry of private sector banks and non-bank financial institutions boosts competition. On the other hand, empirical researches that evaluate banking sector development in Nepal are insufficient. Hence this paper is important for three reasons; first it will shed light on policies introduced into the financial system from the mid 1980s to present. Secondly, it clearly shows the factors affecting commercial bank development in Nepal. Lastly, it raises key points on the challenges that, Nepal's banking system is facing relative to its experience of more open policies.

To achieve the aim of this paper, we briefly discuss financial policies adopted in the financial sector in the post liberalization period in the second section. The third section deals with commercial bank development during the post liberalization period. The fourth section analyses factors affecting commercial bank development. The fifth section discusses challenges and problems faced by the banking system in Nepal. The last section concludes.

2 . Policy Implementations for Financial Development in Post Liberalization Period

Nepal has gradually experienced a series of economic reform measures since the mid of 1980s. Reform measures have resulted in the widening and the deepening of the financial system both in terms of volume and nature of financial services (Poudyal, 2005). Gradually after 1984, various reform policies were introduced to reduce large government participation by easing private sector participation.

Financial sector then needed to increase activities for economic growth and development. The prevailing system had been a highly controlled environment where direct policy measures by the

Table 1: Policy Implementation for Financial Liberalization (*to be continued on the next page*)

Year	Policy	Objectives
1. Interest rate deregulations		
1984	Partial deregulations	To stimulate savings and create free competition environment in financial system
1986	Permission of fixing banks interest rates within a floor and ceilings	
1986	Permission of interbank borrowings	
1988	Treasury Bills Auction	
1989	Complete Deregulations of interest rates	
1993	Narrow down in interest rates	
2003	Spread regulations abolitions	
2. Abolition of entry barriers		
1984	Ease of entry barriers for joint venture banks	To make more participation of private sector in the system and promote economic growth and social status through microfinance
1991	Establishment of citizen investment trust	
1992	Liberalized the entry barriers more	
1993	Establishment of Microfinance credit banks (Gramin Bikash Bank)	
1993	Elimination of SLR from banks to NRB	
3. Legal and institutional reforms		
1985	Enactment of Finance Company Act, 1985	Avail consumer credit and promote competition
1987	Entry in Structural Adjustment Program (SAP)	To increase the role of market forces in financial system
1989	Establishment of Credit Information Bureau	Discourage Risky lending, enhance recovery of loans
1991	Creation of Rural self reliance Fund	Improve rural credit system
1992	Insurance Act	Open insurance sector to the private sector
1992	Co-operatives Act	To gather the small savings undertaking limited financial transaction
1992	Entry in Enhanced Structural Adjustment Program (ESAP)	To complete the objectives of SAP
1994	Introduction of Privatization Act	Minimize government role in public sector utilities
1997	Enactment of International Financial Centre Act	Develop a regional offshore financial centre
1999	Enactment of financial intermediaries act	Formalize the informal finance
2001	Restructuring of 2 public sector banks	To overcome the loss and reduce bank NPLs
2002	Enactment of NRB Act	Increase Autonomy of Central Bank
2003	Establishment of Debt recovery Tribunal	Reduce NPLs
2006	Bank and financial Institutional Act	To regulate financial institutions in development activities
4. Privatization		
2002	Privatization of state owned banks	Allowing foreign parties to manage private banks and then privatize
1992	New Industrial Policy	To ease the barriers for new entry in financial markets
1989	Divestment of 10% of public sector share from NBL.	A step of privatization of state owned commercial banks

Table 1: Policy Implementation for Financial Liberalization (*continued from previous page*)

5. Reforms in treasury bills auction (1988)		
1988	Amendment of treasury bills auction	To attract commercial banks to invest on the bills
1989	Establishment of Credit Information Bureau	To check possible fraud and irregularities in banking transactions
7. Shift in monetary policy stance (1989)		
1989	Direct monetary policy to indirect policy	To remove direct control on price or interest as well as on the volume of loans of commercial banks
8. Strengthening of government owned commercial banks (1991)		
1991	Implementation of evaluation conducted under UNDP in 1989 of financial positions of two state owned commercial banks, NBL and RBB	To evaluate and recommend corrective and preventive measure to improve their financial performance
9. Reforms in capital market (1992)		
1992	Amendment of Security Exchange Act	To reform capital market
1994	Establishment of Security Board	To check the regulatory and trading functions of security markets
1994	Introduction of floor trading securities	To develop market capitalization
2007	Securities Act	To establish Security Board of Nepal (SEBON)
10. Initiation of development banks (1996)		
1995	Enactment of Development Bank Act	To expand development banks regionally and nationally
11. Revision of NRB Act (2001)		
	To establish Central Bank as a part of government's overall financial sector development	
12. Enactment of Debt Recovery Act (2002)		
	To reduce the increasing pressures of bad loans in banks and financial institutions	
13. Credit deregulation activities		
1989	Abolition of credit ceiling	Freeing banks to extend credit
14. Reforms in insurance sector (1990)		
1992	Insurance Act (1992)	To involve the private sector more in insurance activities

Source: Author's own construction using information from NRB.

central bank deterred the private sector for taking part in development activities. Hence, opening up the financial sector to private sector investment and decontrolling of the financial system became essential. The central bank began liberalization by adopting a free entry policy for banks and financial institutions. Removal of entry barriers for banks and other financial institutions opened the door for the private sector. As an outcome of removing entry barriers, the first joint venture bank, called Nabil Bank Ltd., was established in 1984. Nabil bank was very important to the modernization of banking services because they introduced new managerial skills and technology (Pant, 2009). Table 1 summarizes liberalization policies adopted by the Nepalese financial system from mid of 1980s.

Similarly, the removal of entry barriers aimed to attract private sector investment to the commercial banking industry as well as to attract private joint venture banks with foreign collaboration. The entry of such joint venture banks was expected to bring foreign capital, technical know-how, modern banking skills, and, to widen and deepen the national financial structure (Acharya *et al.,* 1998). With the objective of promoting healthy competition among banks, the Commercial Bank Act of 1974 was amended in 1984. Following the amendment of the Act, joint venture banks started entering the financial system. In 1985, the Finance Companies Act was enacted in order to allow finance companies to work in the financial system. This was done with the objective of serving small borrowers and meeting the demand for consumer credit. The Act was amended in 1992 and many new financial companies entered the system. By 2009 the number of financial companies reached 78 (NRB, 2010).

During the mid 1980s macroeconomic imbalance reached a peak due to the adoption of expansionary monetary and fiscal policies resulting in inflation. Balance of payments (BOPs) imbalances on current account and trade imbalances grew large. This led Nepal to embark upon a stabilization program in 1985 that was followed by the Structural Adjustment Programs (SAPs) in 1987 (Osmani and Bajracharya, 2008).

Then Structural Adjustment Programs speed up liberalization activities with the help of the IMF. These programs emphasized increasing the role of market activities in the financial system. One action of the program was to introduce the regular Treasury bill auction. The purpose of initiating treasury bills was not only to attract commercial banks to invest in bills but also was to bring flexibility in interest rates.

Similarly, in 1988 a study called "Commercial Bank Problems Analysis and Strategy Study (CBPASS)" was conducted with the guidance of the IMF under SAP to improve the financial conditions and organizational structure of two state owned commercial banks, NBL and RBB. SAP tried to improve the activities of market forces, and it was a reason that Nepal entered the Enhanced Structural Program (ESAP) in 1992 (Pant, 2009).

The liberal system mainly emphasized the mobilization of savings for investment. One of the actions related to it was the establishment of Citizen Investment Trust (1991). This trust now works to mobilize contractual savings. Similarly, the existence of non-monetization and lack of credit availability in rural sectors were problems identified by the central bank and the government at that time. In the meantime, the concept of the Gramin Bikash Bank was becoming popular to mobilize credit to rural areas. Therefore, these two factors brought about the idea of establishing the Regional Rural Development Banks (1993) to enhance accessibility of formal credit to rural population. Now, these banks operate under the Development Bank Act -1996.

The central bank imposed measures to control commercial bank the credit during the controlled system period. Those measures were gradually removed after liberalization, and

commercial banks became free to allocate credit. For instance, the central bank removed the provision of SLR in 1997 that started commercial banks had to maintain at a certain percentage of assets in the form of government securities and cash reserves. It hindered the lending capacity of many commercial banks. The NRB Act of 2002 made NRB more independent to execute policies to ensure efficient and healthy financial system growth under a prudential regulatory and supervisory mechanism. The central bank, with the guidance of the government, imposed priority sector lending on commercial banks. This provision was phased out from 2007.

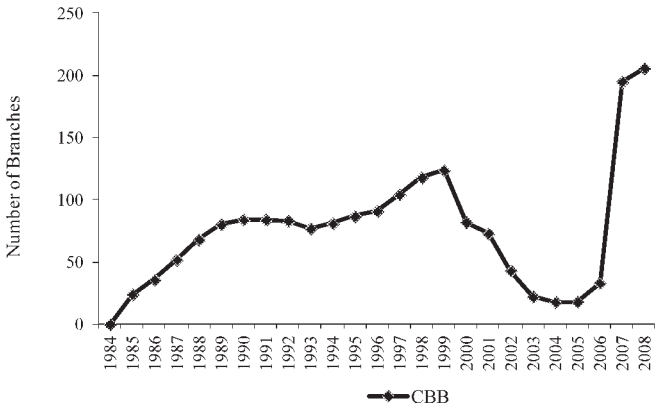
Therefore, the importance of financial liberalization policy implementation cannot be underestimated because it supported Nepal's financial development.

3 . Commercial Bank Development in the Modern Liberalized Phase (1984 onwards)

The open and liberal system initiated from the mid of 1980s created an environment to promote financial development as well as welcomed several new financial institutions. Before this period, the financial system was centrally regulated, government dominated and limited to banking institutions only. Liberalization provided an opportunity for private and foreign agents to take part as government role. Now we explain the performance of the system in the post-liberalization period.

The central bank had a policy of expanding bank branches during the controlled system period.

Figure 1: Development of Commercial Bank Branches



Note: CBB = includes foreign joint venture and domestic commercial bank branches. For beginning year, number of branches is set to 0.
Source: Constructed using data from Nepal Rastra Bank, 2010.

However, this policy[1)] could not meet its target due to the high level of control, because it was limited to state owned banks. At the beginning of financial liberalization, the country had 357 commercial bank branches (see figure 1). The number peaked to 481 in 1999. Due to domestic political instability and internal conflicts, banks could not work efficiently and some branches closed in 2006. After 2006, a peace process helped to reopen closed branches and also open new branches.

Banks are more likely to provide risks sharing and information services than the central bank, or other financial intermediaries (King and Levine, 1993). Principally, commercial banks select different categorical projects and expand credits in investment activities as well. In the banking system, the higher the level of deposit collection higher will be the level of credit allocation. In the money market of Nepal, commercial banks are assumed to be the most reliable financial intermediaries. Therefore, the growth of commercial banks is more stable in comparison to other financial institutions. The number of commercial banks reached 26 in 2009 from just 2 in 1984 (NRB, 2010).

Banking institutions, especially, commercial banks are more likely to tolerate risks in financing, and their services affect many public decisions in financial activities. There has been a dramatic increase in their banking activities during post liberalization period. For instance, deposit collection by commercial banks reached 51 percent of GDP in 2008 from 18 percent in 1984. Similarly, there was a significant increase in the assets and credit allocations of banks during this period. Figure 2 provides the performance of some indicators of commercial banks in the post liberalization period.

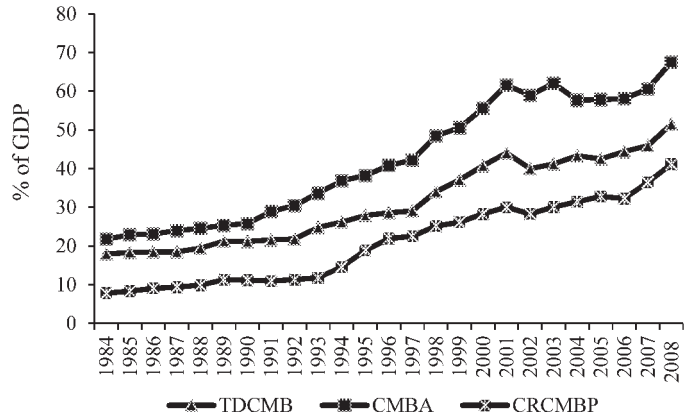
An increase in financial assets ratio represents an increase in the share of financial assets by commercial banks. In the post liberalization time deposit rates and loan rates are left to be determined freely in the market. This implies commercial banks are free to increase their assets and liabilities. Therefore, it can be said that commercial banks benefitted from liberalization, and they used several monetary instruments to raise their assets. Their total assets as a percentage of GDP increased from 22 percent in 1984 to 67 percent in 2008.

Progress was mainly in the form of credit allocation to the private sector. The credit allocation to the private sector was very low, nearly 8 percent of GDP, in 1984 but increased almost five times to reach 42 percent in 2008. From 1989 to 1992, commercial banks' activities were stagnant. This was a political transition period, and after regime change in 1990, the conditions for financial intermediaries became increasingly improved. Similarly, political instability appeared again in the early 2000s through the mid of 2000s, and the investment environment deteriorated.

---

1) The central bank aimed at achieving one bank branch per thirty thousand people by 1977 but was limited to only 0.5 bank branch per thirty thousand people by 1980 (Aghvely *et al*., 1979).

Figure 2: Commercial Banks Activities



Note: TDCMB＝Total deposits of commercial banks, CMBA＝Assets of commercial banks, CRCMBP＝Credit supplied by commercial banks to private sectors.
Source: Constructed using data from Nepal Rastra Bank, 2010.

Significant increases in commercial bank branches, rapid increases in their activities, and the establishment of new banks shows that access of financial services is increasing rapidly, and it is contributing to increased bank usage by the population.

4．Factors Influencing the Development of Commercial Banks

The principal function of commercial banks is to serve as an intermediary between savers and borrowers. Banks collect funds from different types of savers, providing interest in return, and extend credit to borrowers for a wide range of purposes. Credit is extended to private investors, households, retail traders, corporations, enterprises and so on. The development of commercial banks could be evaluated by deposits collected, and to what extent they supply credit. Therefore, the credit supply level represents the degree of commercial bank development. This section investigates factors that influence credit supply by commercial banks in Nepal.

4.1 Data and methodology

The bank data are collected from Banking and Financial Statistics published by the central bank (Nepal Rastra Bank) that provides bank statistics from 1999 to 2009. The banks we have included in our study are 14 commercial banks[2)]. Accepting deposits from savers and making loans to borrowers are the most fundamental functions and their primary objective is to

2）See appendix for the commercial banks used in the sample. Sampling banks are used with serial numbers 1-14.

maximize profits. Development of these banks is directly associated with deposit collections and loan supply. Therefore, loans and advances (credit) can be assumed as a proxy for the development of commercial banks. We try to investigate which factors are influencing commercial banking development in Nepal in the post liberalization period and simple static panel model as in equation (1) is employed.

$$Y_{it} = \alpha_i + \beta FD_{it} + \gamma X_{it} + u_{it} \quad \cdots\cdots(1)$$

where, Y_{it} represents the proxy for commercial bank development. Credit supplied as a percentage of GDP is one proxy for commercial bank development. FD represents variables related to the financial sector that affect credit allocation by commercial banks and X represents some control variables other than financial variables. We use these variables as a percentage of GDP rather than ratio of financial variables to total credit because we need to establish the relationship between financial development and economic growth. Therefore, the operation of financial development variables is related to the economy not to the financial market. We now provide brief explanations regarding the expected sign of variables.

GDP growth

One of the explanatory variables is GDP growth and the credit of banks should be positively connected to GDP growth. Firms, individuals, private sector etc. require loans for financing of working capital requirements (Bernanke and Blinder, 1988). An increase in GDP is expected to have a positive impact on the private sector leading more credit demand by that sector. We can expect a positive impact on GDP from lending. In such a case, credit demand may go up because an unexpected rise in real GDP may trigger increased consumption and investment that leads to increased credit. Therefore, higher levels of output should increase the supply of loans at any given rate of interest (Woodford, 2010).

Spread

Policy variables such as spread, lending rates, deposit rates play vital role to determine the level of credit supply by banks. In the banking system lending rates represent financing costs for borrowers and earning rates are provided to depositors. The level of credit supply is highly influenced by lending interest rates. A rise in interest rates has a negative impact on lending because when financing costs increase credit demand decreases (Hofmann, 2001). When analyzing monetary aggregates, spreads (difference between lending rate and deposit rate) is better indicator because the variation in spreads carries information about the business cycle, such as in the words of Kashyap *et al*. (1993) spreads reflects expected future default risks, in the words of Lapp (1997) spreads may forecast declines in the economic activity (Barran *et al.*, 1995). Similarly, the willingness of banks to supply credit depends on the spread between the rate that

banks lend and the rate they provide to the depositors. But this represents the actual cost of financing for borrowers. Therefore, if this cost is higher borrowers have disincentives for borrowing. We expect a negative spread coefficient in the relationship between credit and spread.

Inflation

The sign of the coefficient of inflation is an undetermined priory. In the case of a positive sign, a rise in inflation may lead to a fall in the real cost of loans, thereby creating an incentive to demand more loans by investors, households and firms. In contrast, a rise in inflation coincides with unevenness of rates which generates uncertainty about the future return on investment. This deforms investment of firms and ultimately reduces the demand for loans (Calza *et al*., 2003).

Deposits

Banks are those financial intermediaries which supply the funds of depositors. To lend, these institutions highly depend on deposits from people and the amount of credit supply depends on the amount of their deposits (Weller, 2001). First, banks aim to collect a higher level of deposits, providing safety and security to depositors, then supply credit to the desired agents. In the financial intermediation deposit is a crucial variable.

Bank Investment

Banks lend out a certain portion of their deposits and the rest has to be kept for making investments for prescribed items. Investments by commercial banks are comprised of investments in government securities; shares, debentures central bank bond and other investments[3)]. If the amount of funds for bank investment increases, loans will decline. Therefore, we expect a negative coefficient of bank investment in the relationship between credit and bank investment.

Domestic Investment

One explanatory variable inserted in the model is lag of domestic investment. The level of credit supply sometimes may depend on past economic situation such as domestic investment of the country. Banks in the developing countries like Nepal look at past for their current activities. Banks may change their level of credit supply looking for the past year's investment level. Similarly, some investors who depend on bank credit for the investment also demand credit if in the previous year's government investment level was better. Therefore, past real investment can influence the present bank credit supply.

3）Items described on the *Banking and Financial Statistics* published by the NRB.

Our baseline specification of the model to explain commercial banking development in Nepal includes the variables; GDP growth, spread, inflation, bank deposits, level of bank investment and lag of domestic investment.

$$L^c = f(GDP,\ \gamma^{spread},\ inf,\ dep^c,\ invest^c,\ rinv1) \quad \cdots\cdots(2)$$

In addition, it is worthwhile testing whether the results from this model are robust. So, we use an alternative measure of commercial bank development, namely credit supply to the private sector.

4.2 Estimation results and discussion

For the preliminary insight into the relationship between commercial bank development and factors influencing banks, we have summarized the data and arranged it as summary statistics and correlation coefficients of variables in table 2. Deposits, inflation and growth of the economy have positive relationship with loans whereas spread and bank investments have negative relations. The positive correlation between economic growth and credit implies that the higher the credit supply by banks the higher the level of economic activities, and higher economic growth. Private sector credit by banks measures direct credit intermediation.

Table 2: Summary Statistics and Correlation Matrix, annual data (1999-2009, observations =154)

Variable	Observations	Mean	Std. Dev.	Minimum	Maximum
la	154	2.120	2.988	0.138	25.383
crps	154	1.753	1.442	0.138	7.537
deposits	154	3.395	4.708	0.110	40.829
binv	154	0.549	0.683	0.000	4.735
inf	154	6.109	3.066	2.480	11.600
sprd	154	6.146	1.378	1.750	10.500
gdpgr	154	1.928	1.550	-2.090	4.180
rinv1	153	2.120	2.987	0.138	25.382

Correlation Matrix

	la	crps	deposits	binv	inf	sprd	gdpgr	rinv1
la	1.000							
crps	0.636	1.000						
deposits	0.970	0.643	1.000					
binv	-0.724	-0.445	0.809	1.000				
inf	0.042	0.040	-0.069	-0.024	1.000			
sprd	-0.151	-0.112	-0.080	0.099	-0.245	1.000		
gdpgr	0.106	0.045	0.087	0.048	0.296	-0.126	1.000	
rinv1	0.057	0.003	-0.087	-0.054	0.771	-0.120	0.264	1.000

Notes: la = loans and advances of commercial banks, crps = credit of commercial banks to the private sector, binv = bank investments, inf = inflation, sprd = spread, gdpgr = growth rate of GDP, rinv1 = lag of domestic investment.

Similarly, the correlation between credit to the private sector and other variables can be observed from this table. The correlation matrix shows that there is no multi-collinearity problem, which arises due to the high correlation within the independent variables.

The panel estimation is a better estimation than cross section OLS estimation. This methodology consists of large numbers of observations with increasing degrees of freedom, and reduces the collinearity between explanatory variables and hence increases the efficiency of estimation (Hsiao, 2003). Different commercial banks are functioning under the rules and regulation implemented by the central banks. These banks also experience with their own policies and programs that influence their activities (such as credit supply, deposit collection and other activities). Banks also differ in their sizes that can help them to fulfill their objectives. Therefore, commercial banks experience some time invariant components and individual specific effects. To account for these effects, we use panel data models; fixed effects, and random effects model. Fixed effects model does not consider individual bank activities that banks are experiencing such as a discount on opening the bank account by adults or children, exemption of minimum charges to open bank account within a special time offered by bank, insurance on deposits and others which can influence the banking activities. This model is utilized in order to get rid of the specific individual effects and other time invariant effects. Under this model any bank taken in the sample has no its specific characteristic that can affect its activities besides other banks over the sampling period. In contrast to the fixed effects, the random effects model assumes that banks experience different time invariant factors and individual specific effects. We can find such situations in the Nepalese banking industry in the post liberalization period. When liberalization policies were implemented in the financial system, various commercial banks entered into the market with special programs and policies to capture market share, and compete with both bank and non bank financial intermediaries. The panel random effects model helps to account for such time invariant effects and individual bank specific effects.

Utilizing three static models, namely pooled OLS, fixed effects and random effects we estimated model (2), which represents commercial bank development in Nepal, and report the results in table 3. Three methods are utilized to investigate whether the estimations are robust enough or not rather than testing the appropriate model. Factors that influence the supply of credit by commercial banks are employed with some policy variables in three models. GDP growth and inflation are not utilized at once in the same model because the macroeconomic models empirically proved that these variables highly correlate each other[4]. Commercial bank deposits have a positive and significant link with loans and advances in all models whereas investment is negative as expected but significant only in few cases. The spread plays an important role in the

4) For example, see Dornbusch (1996), Mallik and Chowdhury (2001), Gali and Gertler (2007).

Table 3: Regression Results for Panel Data Set

Variables	Dependent Variable: Loans and Advances									Dependent Variable: Credit to the Private Sector								
	Pooled OLS			*FEM*			*REM*			*Pooled OLS*			*FEM*			*REM*		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Constant	0.61***	0.49**	-0.974	0.341	0.126	-1.48	0.55**	0.41	-0.97	1.15**	0.734	-0.94	2.13***	1.875***	1.56	1.93***	1.63***	-0.94
	(0.007)	(0.057)	(0.430)	(0.213)	(0.689)	(0.223)	(0.019)	(0.134)	(0.429)	(0.016)	(0.177)	(0.711)	(0.000)	(0.000)	(0.393)	(0.000)	(0.001)	(0.710)
Deposits	0.69***	0.69***	0.69****	0.70***	0.70****	0.69****	0.69****	0.70***	0.68***	0.25***	0.25***	0.29***	0.15***	0.16***	0.15***	0.16***	0.17****	0.29***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
Binv	-0.60***	-0.63***	-0.61***	-0.46**	-0.49**	-0.47**	-0.59***	-0.61***	-0.61***	-0.39	-0.44***	-0.48*	-0.48	-0.52*	-0.49	-0.43	-0.47	-0.48*
	(0.000)	(0.000)	(0.000)	(0.031)	(0.019)	(0.026)	(0.000)	(0.000)	(0.000)	(0.125)	(0.000)	(0.057)	(0.121)	(0.096)	(0.118)	(0.132)	(0.101)	(0.055)
Spread	-0.08***	-0.07**	-0.08**	-0.06	-0.04**	-0.049**	-0.08**	-0.07*	-0.08**	-0.002	0.02	-0.02	-0.11*	-0.08	-0.1	-0.08	-0.06	-0.02
	(0.009)	(0.023)	(0.018)	(0.136)	(0.329)	(0.22)	(0.019)	(0.052)	(0.016)	(0.976)	(0.728)	(0.773)	(0.089)	(0.202)	(0.103)	(0.181)	(0.369)	(0.773)
gdpgr	0.01	—	—	0.02	—	—	0.015	—	—	-0.005	—	—	0.006	—	—	0.005	—	—
	(0.545)	—	—	(0.563)	—	—	(0.552)	—	—	(0.924)	—	—	(0.865)	—	—	(0.900)	—	—
Inflation	—	0.01	—	—	0.02	—	—	0.02	—	—	0.04	—	—	0.02	—	—	0.023	—
	—	(0.279)	—	—	(0.143)	—	—	(0.229)	—	—	(0.210)	—	—	(0.305)	—	—	(0.253)	—
rinv1	—	—	0.07894	—	—	0.08921	—	—	0.0789	—	—	0.11	—	—	0.03	—	—	0.10
	—	—	0.183	—	—	(0.12)	—	—	(0.180)	—	—	(0.390)	—	—	(0.739)	—	—	(0.388)
R2	0.97	0.97	0.95	—	—	—	—	—	—	0.44	0.44	0.43	—	—	—	—	—	—
Adj R2	0.95	0.96	0.94	—	—	—	—	—	—	0.42	0.43	0.41	—	—	—	—	—	—
W_R2	—	—	—	0.96	0.96	0.94	0.96	0.96	0.94	—	—	—	0.23	0.24	0.17	0.232	0.238	0.146
B_R2	—	—	—	0.98	0.98	0.98	0.99	0.99	0.98	—	—	—	0.54	0.56	0.57	0.64	0.656	0.847
O_R2	—	—		0.97	0.96	0.95	0.97	0.97	0.95			—	0.37	0.38	0.35	0.41	0.41	0.433
F-stat	1212.64	1219.44	779.88	882.34	894.67	550.91	4458.79	4484.38	3119.5	28.71	29.44	28.35	10.46	10.8	6.78	53.49	55.19	113.39
Prob>F	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Het-test																		
chi2(1)	15.01	15.01	26.67	20540.35	20849.93	14396.22	2.76	3.14	3.15	172.02	165.35	434.8	5579.37	6899.88	5482.27	125.22	125.17	87.59
Prob>chi²	0.0001	0.000	0.000	0.000	0.000	0.000	0.0966	0.0764	0.0759	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
No of obs	154	154	153	154	154	153	154	154	153	154	154	153	154	154	153	154	154	153
Heteroscadesticity corrected values																		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Constant	0.61***	0.49*	-0.97	0.34	0.13	-1.48	0.55	0.41	-0.975	1.15**	0.73	-0.937	2.13	1.88	1.56	1.93	1.63	-0.938
	(0.007)	(0.075)	(0.447)	(0.234)	(0.258)	(1.69)	(0.154)	(0.192)	(1.72)	(0.011)	(-0.260)	(0.742)	(0.303)	(0.624)	(2.82)	(0.448)	(0.711)	(1.92)
Deposits	0.69***	0.69***	0.68***	0.70*	0.71*	0.70*	0.70*	0.70**	0.69	0.25***	0.26***	0.29**	0.149	0.16*	0.15	0.16	0.17*	0.29
	(0.000)	(0.000)	(0.000)	(0.078)	(0.067)	(0.077)	(0.054)	(0.048)	(0.052)	(0.001)	(0.001)	(0.015)	(0.107)	(0.098)	(0.108)	(0.101)	(0.094)	(0.141)
Binv	-0.61***	-0.63***	-0.61***	-0.456	-0.495	-0.469	-0.59	-0.61	-0.613	-0.3923	-0.44	-0.48	-0.48	-0.52	-0.49	-0.44	-0.48	-0.47
	(0.001)	(0.001)	(0.001)	(0.511)	(0.454)	(0.486)	(0.365)	(0.337)	(0.326)	(0.222)	(0.16)	(0.160)	(0.760)	(0.712)	(0.740)	(0.687)	(0.647)	(0.416)
Spread	-0.087**	-0.079**	-0.08**	-0.06**	-0.04**	-0.05**	-0.08**	-0.07**	-0.08**	-0.002	0.025	-0.02	-0.11**	-0.08*	-0.1**	-0.08**	-0.06**	-0.02*
	(0.010)	(0.029)	(0.016)	(0.043)	(0.035)	(0.036)	(0.038)	(0.030)	(0.033)	(0.973)	(0.701)	(0.740)	(0.044)	(0.056)	(0.043)	(0.046)	(0.046)	(0.0674)
gdpgr	0.012	—	—	0.02**	—		0.016**	—		-0.01	—	—	0.007**	—		0.005**	—	
	(0.562)	—	—	(0.030)	—		(0.032)	—		(0.929)	—	—	(0.034)	—		(0.034)	—	
Inflation	—	0.014	—	—	0.021**		—	0.02**		—	0.04	—	—	0.021**		—	0.03**	
	—	(0.325)	—	—	(0.025)		—	(0.025)		—	(0.187)	—	—	(0.043)		—	(0.040)	
rinv1	—	—	0.079	—	—	0.09*	—	—	0.08*	—	—	0.11	—	—	0.03	—	—	0.104*
	—	—	(0.189)	—	—	(0.091)	—	—	(0.089)	—	—	(0.437)	—	—	(0.135)	—	—	(0.096)

***, **, * represent significant level at 1%, 5% and 10% respectively. Values in the parentheses represent p-values. gdpgr=growth rate of GDP, binv=investment of commercial banks, rinv1=lag of domestic investment, FEM=fixed effects model, REM=random effects model, W_R²=within R², B_R²=between R², O_R²=overall R², Het Test=Breusch Pagon Heteroscedasticity Test.

banking system that helps to determine the level of credit supply. Generally higher spreads imply banks desire to earn through interest margin. However, if banks set high lending rates in comparison to deposit rate the cost of financing for borrower imposes higher burdens, and they will become unwilling to borrow, which distorts the credit supply of banks. It is evident in the case of loans and advances, but there is no impact by the spread on private credit. This implies that private borrowers who borrow money from commercial banks do not much concern themselves with the bank rate. GDP growth shows a positive and significant impact to the credit supply. If the economic condition of the country is better, investors are more interested in investment activities and borrowing money from banks. Inflation, an important variable has positive and significant coefficient with both bank development variables. Lenders seem to be sensitive to inflation. When price levels rise, they demand more loans to produce more goods and services, and may generate higher profits by selling goods at higher prices. The lag of domestic investment has a positive coefficient as expected but significant only in few cases at 10 percent level. This implies credit supply depends on the past level of investment.

5 . Challenges and Problems of Banking Sector

a. Expansion of Non-bank financial institutions and inefficiency of banking institutions

Liberalization extended the financial system from urban to rural areas. The market is now comprised of new non bank financial institutions, new banks, branches of new and old commercial banks, development banks and so on. At the same time, the financial market has been dominated by non-bank financial institutions such as co-operatives and NGOs, finance companies and microcredit development banks rather than banking institutions because non-bank financial institutions could be established easily at a lower cost, with less capital and less legal barriers. As the rate of monetization increased, the rate at which non-banks were established also increased at a rapid rate[5]. However, banking institutions and their branches expanded at a very low rate in comparison to non-bank financial institutions.

Similarly, liberalization created an appropriate environment for non-bank financial institutions to grow and to collect small deposits at the local level. Deposits at the local level were totally absorbed by these institutions. Therefore, this is a reason that the banking sector suffered from liquidity constraint from time to time, preventing banks from supplying credit at the required level. Therefore, openness has contributed to monetization through the rapid development by

5) According to NRB, QEB (2010), one financial company was established in 1992 grew to 77; two Micro-credit Development Bank were established in 1993 grew to 15; 9 co-operatives established in 1994 grew to 16 by 2009. Similarly, 13 NGOs were established in 1994 grew to 45 by 2009 and 4 insurance companies were established in 1983 grew to 25 by 2009.

non-bank financial institutions rather than development of banking institutions.

b. Failure to capture the market activities by banks

The central monetary authority implemented policy reforms to expand and develop the financial system, but at the same time, the banking sector could not capture market share. There are some reasons that banking sector could not succeed in capturing more share. First, the central monetary authority initiated liberal policies in the financial system but in the meantime it did not consider effective policies capturing certain types of activities. Secondly, banking institutions and branch did not grow at the required rate in rural areas or in those areas where the financial sector is still absent because establishment is costly, requires huge capital, and entails a lengthy legal process. This made it difficult to access banking services and products encouraging non-bank financial institutions to open in rural and urban areas. In a very short period, these institutions occupied a large sector of the financial market and the availability of these institutions was very high meaning they could easily overcome the rate of non-monetization. Thirdly, the government and the central bank could not force banks to earn profits from productive investments in the economy, rather than allowing them to earn from non-productive investments. This led banks to suffer from non-performing loans and discourages the effective allocation of savings in the economy.

c. Non-performing loans problem

Although the central bank continued to implement reform policies its impact on the banking sector was limited. One of the reasons may be that non performing loans (NPLs) by commercial banks were high. Some figures of commercial banks such as capital adequacy ratio in 2005 remained at -6.3 percent and the accumulated loss of two state owned commercial banks brought NPLs to 19 percent (Ferrai *et al.,* 2007). The public and privately owned banking institutions are all suffering from this problem (see table 4). It indicates that NPLs is a problem in the commercial banking system.

Three state owned big banks namely Nepal Bank Ltd, Rastriya Banijya Bank and Agriculture Development Bank have been suffering from a high amount of non-performing loans for a long time. These banks could gradually improve their NPLs status due to implementation of prudential regulation of international standards, strengthening NRB's supervisory system and implementing suggestions from CBPASS (Dahal, 2009). Other privately owned banks such as Nepal Bangladesh Bank, Nepal Credit and Commerce Bank, Lumbini Bank also have a high percentage of non-performing loans. High volume of NPLs of commercial bank is weakening the allocation of credit to the economy and it is encouraging banks to remain at the survival level. These factors are contributing to discourage to supply credit and the policy imposed by the central bank is ineffective for bank development.

Table 4: Non-performing Loans as % of their Total Gross Loan

	2003	2004	2005	2006	2007	2008	2009
Agriculture Development Bank *	—	—	—	20.59	17.96	11.63	8.83
Nepal Bank Ltd *	60.47	53.74	49.64	18.18	13.49	8.95	5.91
Rastriya Banijya Bank *	60.15	57.64	50.70	34.83	27.65	21.65	15.68
NABIL Bank Ltd	5.54	3.35	1.32	1.38	1.12	0.79	0.80
Nepal Investment Bank	1.98	2.47	2.69	2.07	2.37	1.12	0.82
Standard Chartered Bank	4.13	3.77	2.69	2.13	1.83	0.92	0.66
Himalayan Bank	10.08	8.88	7.44	6.60	3.61	2.35	2.16
Nepal SBI Bank	8.90	6.24	6.54	6.13	0.46	3.65	2.02
Nepal Bangladesh Bank	12.73	10.81	19.04	29.88	39.76	31.10	19.30
Everest Bank Ltd	2.20	1.72	1.63	1.27	0.80	0.64	0.48
Bank of Kathmandu	8.67	6.66	4.99	2.72	2.51	1.76	1.27
Nepal Credit and Commerce Bank	20.63	12.72	8.64	21.87	31.37	16.36	2.74
Lumbini Bank	11.70	7.36	15.23	30.99	20.37	14.87	9.06
Nepal Industrial and Commercial Bank	6.66	3.92	3.78	2.60	10.97	0.86	0.90
Machhapuchre Bank	2.08	0.98	0.39	0.28	1.16	1.04	2.75
Kumari Bank	1.70	0.76	0.95	0.92	0.73	1.35	0.43
Laxmi Bank	0.00	0.00	1.63	0.78	0.35	0.13	0.05
Siddhartha Bank	0.00	1.61	2.58	0.87	0.34	0.60	0.45

Note: *represents the state owned banks.
Source: Nepal Rastra Bank, *Banking and Financial Statistics,* 2010.

d. Unequal distribution of banking institutions and their centralization

Financial institutions, especially banks and their branches are expanding centrally rather than going toward the periphery. The periphery of the country is highly unbanked and non-monetized. The accessibility of banking services is very low in rural and village areas of the country, and since Nepal is a rural country this is an important issue. The expansion of commercial bank branches (table 5) provides an example of expansion of banking system in Kathmandu valley, hills and the Terai region[6]. The expansion of bank branches became centrally oriented from 1986 to

6) Country is divided into 75 administrative districts. Among them 3 are in Kathmandu valley, 52 in hilly region and 20 in southern plain land called Terai region.

2009. The percentage of bank branches in the valley increased more than double during this period. In the case of out of the valley, the percentage of bank branches with total bank branches has been decreasing. The situation is dismal in the case of the hills which constitutes 52 administrative districts. This provides the evidence of centralization of the banking system rather than spreading out to the rural and non-monetized areas.

Table 5: Distribution of Bank Branches

Year	Total no. of Bank Branches (1)	Kathmandu Valley (3 Dist)		Hills (52 Dist)		Terai (20 Dist)	
		No. of Branches	Branches as a % of (1)	No. of Branches	Branches as a % of (1)	No. of Branches	Branches as a % of (1)
1986	393	56	14.25	167	42.49	170	43.26
1987	409	59	14.43	173	42.30	177	43.28
1988	425	59	13.88	184	43.29	182	42.82
1989	437	63	14.42	190	43.48	184	42.11
1990	441	65	14.74	192	43.54	184	41.72
1991	441	65	14.74	192	43.54	184	41.72
1992	440	62	14.09	193	43.86	185	42.05
1993	434	59	13.59	191	44.01	184	42.40
1994	438	62	14.16	190	43.38	186	42.47
1995	444	65	14.64	190	42.79	189	42.57
1996	448	67	14.96	190	42.41	191	42.63
1997	461	70	15.18	194	42.08	197	42.73
1998	475	75	15.79	195	41.05	205	43.16
1999	481	75	15.59	192	39.92	214	44.49
2000	439	75	17.08	164	37.36	200	45.56
2001	430	83	19.30	145	33.72	202	46.98
2002	400	82	20.50	130	32.50	188	47.00
2003	379	87	22.96	125	32.98	167	44.06
2004	375	89	23.73	119	31.73	167	44.53
2005	375	92	24.53	122	32.53	161	42.93
2006	390	94	24.10	126	32.31	170	43.59
2007	552	128	23.19	161	29.17	263	47.64
2008	555	157	28.29	156	28.11	242	43.60
2009	800	260	32.50	215	26.88	325	40.63

Note: Dist＝Administrative District.
Source: Nepal Rastra Bank, *QEB*, 2010.

e. Low capacity to mobilize the savings

The banking sector indicators (see table 6) seem to be unsatisfactory. Banks have the authority to create credit; however, the ratio of credit to GDP is less than the ratio of deposit to GDP. The banking sector seems incapable of allocating credit vis-à-vis deposit collection. Among three relative measures and absolute measures[7] of banking variables, investment/GDP is the lowest. This level shows that banks have very low capacity to mobilize their resources and

7) Beck *et al*. (2000) categorize banking indicators into relative size measures (as a % of total central bank assets) and absolute size measures (as a % of GDP).

remain at the survival state. In addition, effective policies could not be implemented by commercial banks into investment activities. This also contributed to policy reform having little impact on the financial system.

Table 6: Some Indicators of Commercial Banks

Indicators	2001	2002	2003	2004	2005	2006	2007	2008	2009
Deposit/GDP	44.25	43.85	41.42	43.56	42.82	44.53	46.91	51.91	58.71
Credit/GDP	26.56	26.80	25.30	26.09	27.78	27.03	32.22	36.90	41.47
Bank Investment/GDP	6.19	8.10	9.22	9.25	10.21	12.56	13.00	13.27	13.63
Credit/Tot Deposit	60.03	61.13	61.08	59.89	64.86	60.71	68.69	71.09	70.64
Bank Investment/Tot Deposit	14.00	18.48	22.26	21.24	23.84	28.21	27.71	25.57	23.22

Note: Bank investment activities implies investments in government securities; shares, debentures central bank bond and other investments
Source: Nepal Rastra Bank, *Banking and Financial Statistics*, 2010.

6 . Conclusion

Commercial banking in Nepal occupies the majority of the financial system, and has a history longer than other financial intermediaries. Banks contribute to economic growth by channeling credits and other services. In this paper we provided a short investigation about commercial banking development, and looked into the challenges and problems facing by those banks. The liberalized environment implemented in the 1980s created competition, and challenges because of the entry of new financial intermediaries. Therefore, one of the objectives of commercial banks' expansion, via branch extension, was to capture market share and compete with the new and existing financial intermediaries.

Macroeconomic factors such as GDP growth, inflation and past domestic investment level are contributing to develop commercial banking industry in Nepal. Investors seek economic prosperity from investment activities. As such investors wish to invest by borrowing from banks. Excess deposit collection, sometimes called banking healthiness, is a major factor that helps banks to supply loans. This indicator had a positive and significant influence on credit supplied by commercial banks in Nepal. Bank investment activities are reducing the level of credit supply. However, it is not a robust finding that the spread rate is deteriorating the credit supply. This provides evidence that liberalization policies are not helping to develop commercial banking in Nepal.

The presence of some problems in the banking sector of Nepal is weakening the impact of liberalization. Among them, for instance, banks are suffering from a problem of high non-performing loans, discouraging banks to extend credit. The expansion of commercial banks

seems very slow in comparison to other bank and non-bank financial institutions. And, banks could not capture local savings, preventing them from allocating resources appropriately. Similarly, commercial banks could not capture monetary activities held by the government and other service sectors.

Some policies could be prescribed on the basis of the above analysis. The central bank needs to encourage commercial banks to mobilize services in rural and non monetized sectors. Commercial banks should mobilize savings, reduce high levels of nonperforming loans, and expand services by reducing lengthy and tedious legal processes. Such provisions could be employed through the central monetary authority. This research provides evidence that credit supply depends on strong economic conditions. Therefore, economic conditions should be improved to attract private sector investment. This can either be done by improving political stability or by providing appropriate security to investors. In addition, effective policies should be implemented to allow commercial banks to conduct further investment activities.

Appendix: List of Commercial Banks

S.N.	*Commercial Banks (Establishment)*	*Head Office*	*Ownership Type*
1.	Nepal Bank Limited (1937/11/15)	Kathmandu	State owned
2.	Rastriya Banijya Bank(1966/01/23)	Kathmandu	State owned
3.	Agriculture Development Bank (1968/01/02)	Kathmandu	State owned
4.	Nabil Bank Ltd (1984/07/12)	Kathmandu	Joint venture bank with Dubai Bank
5.	Nepal Investment Bank Ltd[a] (1986/02/27)	Kathmandu	Domestic private sector
6.	Standard Chartered Bank Ltd (1987/01/30)	Kathmandu	Joint venture bank (Standard C. Group and domestic private sector)
7.	Himalayan Bank Ltd (1993/01/18)	Kathmandu	Joint venture bank (Habib Bank of Pakistan and Nepalese private sector)
8.	Nepal SBI Bank Ltd (1993/07/07)	Kathmandu	Joint venture bank (State Bank of India; Employees Provident Fund and Agriculture Development Bank of Nepal)
9.	Nepal Bangladesh Bank Ltd 1993/06/05	Kathmandu	Joint venture bank (IFIC Bank of Bangladesh and Nepalese private sector)
10.	Everest Bank Ltd (1994/10/18)	Kathmandu	Joint venture bank (Punjab National Bank, India and domestic promoters)
11.	Bank of Kathmandu (1995/03/12)	Kathmandu	Domestic private sector
12.	Nepal Credit and Commerce Bank[b] (1996/10/14)	Rupendehi	Domestic private sector
13.	Lumbini Bank Ltd (1998/07/17)	Chitwan	Domestic private sector
14.	Nepal Industrial and Commercial Bank (1998/07/17)	Morang	Domestic private sector
15.	Machhapuchhre Bank Ltd (2000/10/03)	Pokhara	Domestic private sector
16.	Kumari Bank Ltd (2001/04/03)	Kathmandu	Domestic private sector
17.	Laxmi Bank Ltd (2002/04/03)	Birgunj	Domestic promoters, Citizen Investment Trust and general public
18.	Siddhartha Bank Ltd (2002/12/14)	Kathmandu	Domestic promoters
19.	Global Bank Ltd (2007/01/02)	Parsa	Domestic private sector
20.	Citizen Bank International (2007/06/21)	Kathmandu	Domestic private sector
21.	Prime Commercial Bank (2007/09/24)	Kathmandu	Domestic private sector
22.	Sunrise Bank Ltd (2007/10/12)	Kathmandu	Domestic private sector
23.	Bank of Asia Ltd (2007/10/12)	Kathmandu	Domestic private sector
24.	Development Credit Bank (2008/05/25)	Kathmandu	Domestic private sector
25.	NMB Bank Ltd (2008/06/05)	Kathmandu	Domestic private sector
26.	Kist Bank Ltd (2009/05/07)	Kathmandu	Domestic private sector

Note: a = Nepal Investment Bank, previously Nepal Indosuez Bank Ltd., was established as a joint venture bank between French partner called Credit Agricole Indosuez. This institution divested its share to Nepalese private sector in 2002 and changed its name to Nepal Investment Bank Ltd., b = this bank was established as a joint venture bank with Bank of Ceylon, Sri Lanka named as Nepal-Bank of Ceylon (NBOC). Its name was changed to Nepal Credit and Commerce Bank (NCC Bank), when the share of Bank of Ceylon was transferred to Nepalese promoters.

Source: Nepal Rastra Bank, *Banking and Financial Statistics*, 2010.

References

Acharya, K.P., Thapa N.B. and Sharma, S. (1998). *Economic Liberalization in Nepal: Sequence and Process*, National Labor Academy: Kathmandu.

Aghevli, B.B, Khan, M.S., Narvekar, P.R. and Short, B.K. (1979). Monetary Policy in Selected Asian Countries. IMF *Staff Paper,* 26(4), 775-824.

Baliamoune, M.N. and Chowdhury, A. (2003). The Long-run Behavior and Short-run Dynamics of Private Savings in Morocco. *Savings and Development*, 27(2), 135-160.

Barran, F., Coudert, V. and Mojon, B. (1995). Interest Rates, Banking Spreads and Credit Supply: the Real Effects, *CEPII, Working Paper*, No. 95-01.

Beck, T. Demirguc-Kunt, A., Levine, R. and Maksimovic, V. (2000). Financial Structure and Economic Development - Firm, Industry, and Country Evidence *Policy Research Working Paper Serie*s, No. 2423, The World Bank.

Bernanke, B. and Blinder, A. (1988). Credit, Money and Aggregate Demand. *American Economic Review*, 78, 435-39.

Calza, A., Manrique, M. and Sousa, J. (2003). Aggregate Loans to the Euro Area Private Sector. ECB *Working Paper*, No. 202.

Dahal, B. (2009). Experience of the Nepalese Commercial Banks and Challenges Ahead. *Nepalese Finacial System: Growth and Challenges*, Nepal Rastra Bank, Kathmandu.

Demetriades, P.O. and Luintel, K.B. (1996). Banking Sector Policies and Financial Development in Nepal. *Oxford Bulletin of Economics and Statistics*, 58(2), 355-372.

Demirguc-Kunt, A. and Levine, R. (2001). Bank-Based and Market-Based Financial Systems: Cross-Country Comparisons. In A. Demirguc-Kunt and R. Levine (Eds.), *Financial Structure and Economic Growth.* The MIT press: Cambridge, Massachusetts, London.

Dornbusch, R., Fischer, S. and Kearney, C. (1996). *Macroeconomics*. The Mc-Graw-Hill Companies, Inc., Sydney.

Edirisuriya, P. (2007). Effects of Financial Sector Reforms in Sri Lanka: Evidence from the Banking Sector. *Asia Pacific Journal of Finance and Banking Research,* 1(1), 45-63.

Ferrai, A., Jaffrin, G. and Shrestha, S.R. (2007). *Access to Financial Services in Nepal*, The International Bank for Reconstruction and Development/ The World Bank, Washington, D.C.

Friedman, B.M. and Kuttner, K.N. (1992). Money, Income, Prices and Interest Rates. *American Economic Review*, 82(3), 217-35.

Gali, J. and Gertler, M. (2007). Macroeconomic Modeling for Monetary Policy Evaluation. *Journal of Economic Perspectives*, 21, 25-45.

Hofmann, B. (2001). The Determinants of Private Sector Credit in Industrialized Countries: Do Property Prices Matter? *BIS Working Paper,* No. 108, Basel.

Kashyap, A.K. (1993). Monetary Policy and Credit Conditions: Evidence from the Composition of External Finance. *The American Economic Review*, 83(1), 78-98.

Khatiwada, Y.R. (1994). *Some Aspects of Monetary Policy in Nepal*. South Asian Publishers Pvt. Ltd. New Delhi, India.

King, R.G. and Levine, R. (1993). Finance and Growth: Schumpeter might be Right. *Quarterly Journal of Economics*, 108(3), 717-737.

Lapp, J.S. (1997). Interest Rates, Rate Spreads and Economic Activity. *Contemporary Economic Policy*, 15(3), 42-50.

Mallik, G. and Chowdhury, A. (2001). Inflation and Economic Growth: Evidence from four South Asian Countries. *Asia-Pacific Development Journal*, 8(1), 123-135.

Ministry of Finance (MoF). (2011). *Economic Survey*. Kathmandu, Nepal.

Nepal Rastra Bank (NRB) (2010). *Quarterly Economic Bulletin (QEB)*. Research Department, Kathmandu, Nepal.

Nepal Rastra Bank (NRB) (2010). *Banking and Financial Statistics*. Bank & Financial Institutions Regulation Department, Kathmandu, Nepal.

Odedokun, M.O. (1996). Alternative Econometric Approaches for Analyzing the Role of the Financial Sector in Economic Growth: Time Series Evidence from LDCs. *Journal of Development Economics,* 50, 119-46.

Osmani, S.R. and Bajracharya, B.B. (2008). Nepal. *Handbook on the South Asian Economy*, Choudhury, A. and Mahmud, W. (Eds.), Edward Elgar Publishing Ltd.

Pant, B. (2009). Nepalese Financial System: Policy Development and Challenges. *Nepalese Financial System: Growth and Challenges*, Nepal Rastra Bank, Kathmandu.

Poudyal, N.P. (2005). *Financial System and Economic Development; 50 years of Nepal Rastra Bank*, Nepal Rastra Bank, Nepal.

Sharma, G.N. (1987). *Monetary Structure of the Nepalese Economy; Policy Issues in Theory and Practice*. South Asian Publishers, New Delhi.

Stiglitz, J.E. (1994). The Role of the State in Financial Markets. Proceedings of the World Bank Annual Conference on Development Economics.

Thapa, P.J. and Shrestha, S.K. (2005). Economic Reforms in Nepal: Performance and Prospects. In R. Jha (Eds.), *Economic Growth, Economic Performance and Welfare in South Asia*, Palgrave, MacMillan.

Weller, C.E. (2001). The Supply of Credit by Multinational Banks in Developing and Transition Economies: Determinants and Effects. United Nations, *DESA Discussion Paper*, No. 16.

Woodford, M. (2010). Financial Intermediation and Macroeconomic Analysis. *Journal of Economic Perspective*, 4, 21-44.

World Bank, World Development Indicators Online Data Base. (2010). Retrieved on December 2010, from data.worldbank.org/data-catalog.