

Relationship between Financial Development and Economy: A Case of Nepal

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Abstract

This paper has examined the relationship between financial development and economy in Nepal over the period 1994 to 2011. As a financial development, the study has included deposit (term and current), credit and investment as driver of financial development which impact to the Nepalese economy. To examine the relationship between financial development and economy, multiple regression analysis has been used. The result confirms that only deposit has positive impact on the Nepalese economy among the other used variable in the study. The findings imply that Nepal can accelerate their economy by improving their financial system through effective regulatory policy reform.

Key words: Financial growth, banks, economy, Nepal.

1. Introduction

It has been acknowledged in prior research that there is a significant and strong relationship between country's financial sector and overall country's economic growth. The country can develop its economic growth quickly if the country has well financial system (Auranzeb 2012). Likewise, the regularities (regulatory) bodies regularly monitor the banking sector for economic growth. In Nepal, Nepal Rastra Bank i.e. central bank reforms regulatory financial sectors, which indicate to the banking, sector (NRB 2010). These sectors contribute to the economy in two fold. First they play a primary role in the economy through development activities and second they provide capital to general public and development organizations for boost up through funded and non-funded credit facilities.

In Nepal, the common resource of supplies fund and the main source of financing to support national economic performance are commercial banks, development banks, finance companies and micro development banks. However, other savings and cooperative institutions and non-government organizations are also providing limited banking facilities.

Over the past decade, substantial interest focused on the link between the financial sector and economic growth. Endogenous growth theory emerged in the late 1980s and paved the way for new theories exploring the link. In addition, improved empirical methods added considerable value to subsequent studies. Many studies have been done such as financial sectors reforms, financial access in Nepal. As per our knowledge, there is not any studies have been done that examines the relationship between the financial system and economy situation of the country in the case of Nepal. This study attempts to bridge the gap in the literature. The purpose of this study is to determine the efficiency of performing indicators of banking industries and its relation on economics. The rest of the paper is organized as follows. Section 2 describes the present status of Nepalese banking industry. Section 3 reviews the empirical literature and the relationship of between the banking sector and economic growth. Section 4 shows the methodology and

section 5 and 6 describe the results and discussion respectively. The Final section concludes the study and provides some policy implications.

2. Present situation of banking industry in Nepal

Till the July end 2011, the number of banks and financial institutions are: 31 commercial banks, 87 development banks, 79 finance companies and 21 micro-credit development banks, and all these institutes are licensed by central bank. Similarly, other non-banking institutes such as 16 saving and credit co-operative and 38 non-government organizations (NGOs) that are also providing limited banking facilities allowed by central bank. Till 1956, there was only one commercial bank, Nepal Bank Limited, with the number of all other financial institution being zero. At the end of the 1984 three more commercial banks and one development bank were established. By the end of 2002, there were altogether 140 banks and financial institutions (18 commercial banks, 9 development banks, and 51 finance companies with the establishment of saving and credit cooperatives and NGOs). The growth scenario in terms of number has reached 272 banks and financial institutions with 31 commercial banks and 87 development banks and 79 finance companies with the establishment of savings and credit cooperatives and NGOs as shown in as end of July 2011. As the result of greater financial reform by (the) Government of Nepal, such as ease of licensing policies, statutory requirements, foreign exchange exposure, and cash reserve ratios; liberalization of the interest rates; full convertibility of current account and other prudential rules and regulatory reforms have accelerated the growth of banking industry in Nepal (NRB 2010).

3. Literature Review

Academic research about the finance and growth relationship dates back at least to Schumpeter (1911), Goldsmith (1969) and Fry (1995) who highlighted the positive influence of financial development on economic growth and negative influence of financial repression and growth. The role of (the) financial sector in the economic growth of a country has been a subject of great interest and debate among economists, researchers and policymakers all over the world. The debate has traditionally revolved around two issues. The first relates to whether development in the financial system results in a faster economic growth, and the second relates to how financial development affects economic growth. A well-developed financial system aid to mobilise saving, identify good project, lending opportunities, regular monitoring the management and diversify the risk.

These services materialize in a more useful allocation of resources, and a more quicker growth of physical and human capital and technological innovation. (Acaravei, Ozturk et al. 2009). Goldsmith (1969) studied 35 sample countries and found positive correlation between financial development and economic growth and proved that the financial system is directly related to the supply and quality of financial intermediation. McKinnon (1973) and Shaw (1973) proposed that state participation in the development of financial systems might be a problem for the economic growth. Shaw (1973) hypothesize that financial intermediaries encourage investment through the credit extension from lender to borrower, which, in turn, raises the level of output. Spencer (1977) noted that credit involve(s) an assurance by one party to pay another for money borrowed or goods and services received. Credit allocates savings into productive investment thereby encouraging economic growth. Dornbush and Reynoso (1989) concluded that financial factors play a vital role when financial instability becomes a dominant force in the economy. The most of financial intermediation between savings and investment is channelled through the banking sector.

Allen and Ndikumana (1998) conducted a study in Southern Africa and found no any significant relationship between financial development and economic growth where credit ratio has been used as proxy of financial depth. Aresis, Demetriades et al. (2001) studied the relationship between financial development and growth

in five developed countries i.e. Germany, USA, Japan, England and France in time series setting and found strong influence of financial development to economic growth. Favara (2003) examined the relationship between financial development and economic growth using two financial development indicators i.e. liquid liabilities credit to private sector, and found no evidence (for) the impact of financial development on growth patterns. In opposite direction Hondroyiannis, Lolos et al. (2005) and Nieuwerburgh, Buelens et al. (2006) found a positive relationship between the financial system and economic growth in Greece and Belgium respectively. Khan, Quyyum et al. (2005) investigated the relationship between financial development and economic growth in Pakistan over the period of 1971-2004 and found positive relationship between deposit and economic growth and also found that short-run economic growth is positively and significantly affected by changes in share of investment. Majid (2008) conducted a study in Malaysia to explore the relationship between financial development where he found that deposit has positively related with economic growth and in case of share of investment, he found no significant result. Fadare (2010) empirically identifies the effect of banking sector reforms on economic growth in Nigeria from 1999-2009 by using credit to the private sector and other variables as well. He found negative relationship however the result was insignificant. The result suggested that extending credit to the individual is not supposed the driver of economic growth if the financing is not a long-term. To solve this problem, it is necessary to implement effective regulatory policies to enforce lending in small industries with confirmation of guaranteed repayment. Auranzeb (2012) studied the relationship between deposit and investment to economic growth in Pakistan and found positive significant relationship.

4. Methodology

The data were taken largely from the banking and financial statistics report of the central bank over the period 1994 to 2011. The study applied an econometric multivariate regression model to test the significance of financial institution and economic growth. The GDP at producer price is assumed as dependent variable where Deposit to GDP, credit to GDP, Term deposit to GDP and Current Deposit to GDP are independent variables. The econometric model used in this study (which was in line with what is mostly found in the literature) is given as:

$$Y = \beta_0 + \beta F_{it} + e_{it}$$

Where, Y is the dependent variable, β_0 is constant and β is the coefficient of explanatory variable (financial development), F_{it} is the explanatory variable and e_{it} is the error term (assumed to have zero mean and independent across time period).

By adopting the econometric model as in equation above specifically to this study, equation 2 below evolves.

$$\text{Economy (GDP)} = \beta + \beta_1 D_GDP + \beta_2 C_GDP + \beta_3 INV_GDP + \beta_4 TD_GDP + \beta_5 CD_GDP + e_{it}$$

Description and measurement of variables

GDP	= Gross Domestic Product at producer's price.
D_GDP	= Deposit to GDP ratio at the end of year.
C_GDP	= Credit to GDP ratio at the end of year.
INV_GDP	= Investment to GDP ratio at the end of year.
TD_GDP	= Term deposit to GDP ratio at the end of year.
CD_GDP	= Current deposit to GDP ratio at the end of year.

This research is based on the following hypothesis that clearly defines the research criterion.

H1: Deposit to GDP has positive significant impact on economy.

H2: Credit to GDP has no significant impact on economy.

H3: Investment to GDP has no significant impact on economy.

H4: Term deposit to GDP has positive significant impact on economy.

H5: Current deposit to GDP has positive significant impact on economy.

5. Result and test the hypothesis

5.1 Descriptive Statistics

Table 1 present some descriptive statistics for the variable used in this study. The mean value of GDP is NPR.564, 995 million which is ranged from minimum to maximum NPR.199, 272 to NPR.1, 345,767million in eighteen years span.(Over a period of eighteen years)The mean value of total deposit of financial system to GDP is 41.48 per cent which has been recorded a minimum 26.30 per cent which was in 1994 and maximum 58.71 per cent in 2009. The result(s) show that the mean value total credit contribution of financial system to GDP is 27.42 per cent which reflect that the contribution of credit by financial system to GDP is approximately more than 60 per cent of total deposit to GDP. The mean value of interest bearing deposit and non-interest bearing deposit to GDP is 28.31 per cent and 6.61 per cent respectively. The minimum and maximum range of interest bearing deposit to GDP is 14.71 per cent with maximum 38.53 per cent. Similarly in case current deposit to GDP is recorded minimum 5.70 per cent whereas maximum is 8.79 per cent.

Table 1: Descriptive Statistics

Variables	Observation	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
GDP (in millions)	18	199272	1345767	564995.5	329972.25	1.1	0.58
D_GDP (per cent)	18	26.30	58.71	41.48	9.44	-0.09	-0.72
C_GDP (per cent)	18	13.70	41.71	27.42	7.77	0.42	-0.39
INV_GDP (per cent)	18	3.10	13.63	7.84	3.84	0.21	-1.54
TD_GDP (per cent)	18	14.71	38.53	28.31	7.61	-0.43	-1.35
CD_GDP (per cent)	18	5.70	8.79	6.61	0.91	1.39	1.56

5.2 Correlation Matrices

The Pearson's correlation matrices have been presented in Table 2. These matrices indicate the degree of freedom of correlation between each pair of independent variable. According to (Hair, Black et al. 2006) and (Tabachnick and Fidell 2007), a multicollinearity problem exists if the correlation between independent variable exceeds 0.9. The correlation shown in Table 2 indicated that highest correlation was between deposit to GDP and credit to GDP at 0.7, which suggest absence of multicollinearity problem in the model.

Table 2: Correlations Matrices

Variables	GDP	D_GDP	C_GDP	INV_GDP	TD_GDP	CD_GDP
D_GDP (per cent)	0.947**	1				
C_GDP (per cent)	0.958**	0.701**	1			
INV_GDP (per cent)	0.609**	0.685**	0.567**	1		
TD_GDP (per cent)	-0.002	0.082	-0.100	0.245	1	
CD_GDP (per cent)	0.073	0.308	0.208	0.050	0.050	1

** . Correlation is significant at the 0.01 level (single-tailed)

5.3 Regression Results

Table 3 show the analysis of variable of the variable. With F value of 72.3 (sig 0.000) for GDP as economy proxies, it clearly shows that there is strong relationship between dependent variable and independent variables at 5per cent significant level. The result indicates that the value of R-square is 9.8 per cent, per cent which represents the strong correlation between the observed value and predicted value of the dependent variable within the observation years. R square is called the coefficient of determination and it gives the adequacy of the model. The adjusted R square is 95.5per cent. This indicates that on an adjusted basis, the independent variables are collectively 95.5 per cent related to the dependent variable GDP. Durbin-Watson statistics is the ratio of sum of squares of successive difference of residuals to the sum of square of errors. As rule of thumb, if the Durbin-Watson statistics is less than 2, there is evidence of positive serial correlation (Buyukasalvarci and Hasan 2011). The Durbin-Watson statistic, which is 1.358, shows there is serial correlation between independent variables and GDP. The table show(s) the estimate coefficient of deposit to GDP is 0.733 with t value 2.582 and statistically significant. The result indicated that there is deposit to GDP ratio has positive influence on the economy. Thus our first hypothesis, that there is positive relationship between deposits to GDP is supported. The results show that there is (a) positive relationship between credit to GDP and term deposit to GDP with the economy however statistically not significant. So, our second and fourth hypothesis there is no significant relationship of credit to GDP and positive relationship of term deposit to GDP respectively is not supported. The estimate coefficient of investment to GDP is -0.100 with t value -1.181 show negative relationships between contribution of investment to GDP and economy however the result is not statistically significant. This indicates that there is no any influence of contribution of investment to GDP to the economy. Thus, the third hypothesis is not supported. It is found in the result that there is negative significant relationship of current deposit with GDP. Thus, our fifth and last hypothesis is not supported.

Table 3:Regression Results

Variables	Coefficients	t-statistics	Significant
D_GDP (per cent)	0.733	2.582	0.024
C_GDP (per cent)	0.367	1.473	0.166
INV_GDP (per cent)	-0.100	-1.181	0.261
TD_GDP (per cent)	0.041	0.624	0.544
CD_GDP (per cent)	-0.231	-3.708	0.003

R square	0.968
Adjusted R square	0.955
F statistics	72.370 (sig 0.000)
Durbin-Watson	1.358

6. Discussion

The result is consistent for deposit to GDP with the findings by (Khan, Quyyum et al. 2005) who stated that a rise in deposit rate in the short run would exert a positive effect on economic growth. It means that the savings rate in a country is crucial to the economic development. Positive but insignificant relationship of credit to GDP revealed that credit did not affect the productive sectors sufficiently for the latter to impact significantly on the Nepalese economy. The result is consistent with the findings of Allen and Ndikumana (1998), Favara (2003) and Fadare (2010). As can be seen from the result, the positive insignificant coefficient of credit to GDP means that there is some efficiency in lending by some banks which is trying to boost economy. Investment is an important channel through which financial development feeds economics (Kargbo and Adamu 2011). However, the insignificant positive relationship confirms that investment has no influence in the Nepalese economy which is consistent with the findings of Majid (2008). Term deposit and current deposit is sub-part of total deposit. Negative significant relationship between current deposit and GDP confirms that increasing current deposit have negative effect on GDP.

7. Conclusion and Recommendation

This paper investigates the relationship between banking industry performance and economy in Nepal over the period of 1994 to 2011. The paper contributes to the literature by investigating the financial development growth and its impact on economy in Nepalese context. The empirical methodology is based on multiple regression analysis.

The deposit ratio is better influence in the economy of Nepal. Other variables credit ratio, investment ratio and term deposit ratio has not be found as driver of Nepalese economy. In contrast of other findings, it is found that current deposit ratio has negative influence on Nepalese economy. One possible explanation may be why other financial development indicator is not stimulating the economy that for the financial development it is essential that expansion of the financial system be accompanied by allocating flow of funds toward investment activities. So, this paper suggests that countries should promote economic growth in order to encourage and thus benefit from financial development. The study concludes that Nepal should expand and improve their credit and investment system through appropriate regulatory and policy reforms in order to support higher economy growth. Besides this, the other implication for policy is that effort geared towards promoting domestic investment.

Reference:

- Acaravei, S. K., I. Ozturk, et al. (2009). "Financial Development and Economic Growth: Literature Survey and Empirical Evidence From Sub-Saharan African Countries." *SAJEMS* **12**(1).
- Allen, D. S. and L. Ndikumana (1998). Financial Intermediation and Economic Growth in Southern Africa. *Working Paper Series 1998-004*, The Federal Reserve Bank of ST.Louis
- Aresis, P., P. O. Demetriades, et al. (2001). "Financial Development and Economic Growth: The Role of Stock Markets." *Journal of Money, Credit & Banking* **33**(1): 16-41.
- Auranzeb (2012). "Contribution of Banking Sector in Economic Growth: A Case of Pakistan." *Economics and Finance Review* **2**(6): 45-54.

- Buyukasalvarci, A. and A. Hasan (2011). "Determinants of Capital Adequacy Ratio in Turkish Banks: A Panel Data Analysis." African Journal of Business Management**5**(27): 11199-11209.
- Dornbush, R. and A. Reynoso (1989). "A Financial Factors in Economic Development." America Economic Review**79**(2): 204-209.
- Fadare, S. O. (2010). "Recent Banking Sector Reforms and Economic Growth in Nigeria." Middle Eastern Finance and Economics**8**: 1450-2889.
- Favara, G. (2003). "An Empirical Reassessment of the Relationship between Financial Development and Economic Growth." ImF Working Paper No. 03/123.
- Fry, M. J. (1995). Money, Interest and Banking in Economic Development, Johns Hopkins University Press, Baltimore.
- Goldsmith, R. W. (1969). Financial structure and development, Yale University Press New Haven.
- Hair, J. F., W. C. Black, et al. (2006). Multivariate Data Analysis, Pearson Prentice Hall, 6th ed.
- Hondroyannis, G., S. Lolos, et al. (2005). "Financial Markets and Economic Growth in Greece, 1986-1999." Journal International Finance Markets Inst. Money**15**(173-188).
- Kargbo, S. M. and P. A. Adamu (2011). "Financial Development and Economic Growth in Sierra Leone." Journal of Monetary and Economic Integration**9**(2): 30-61.
- Khan, A., A. Quyyum, et al. (2005). "Financial Development and Economic Growth: A case of Pakistan." The Pakistan Development Review**44**(4): 819-837.
- Majid, M. S. A. (2008). "Does Financial Development Matter for Economic Growth in Malaysia? An ARDL Bount Testing Approach." Journal of Economic Cooperation**29**(1): 61-82.
- McKinnon, R. (1973). Money and capital in economic development, Brookings Institution Press, Washington.
- Nepal Rastra Bank (2010). "Banking and Financial Statistics." Bank and Financial Institution Regulation Department, Statistics Division, Nepal Rastra Bank, Nepal**54**.
- Nieuwerburgh, S. V., F. Buelens, et al. (2006). "Stock Market Development and Economic Growth in Belgium." Explorations in Economic History**43**(1): 13-38.
- Schumpeter, J. A. (1911). The Theory of Economic Development, Oxford University Press, Oxford.
- Shaw, E. (1973). Financial deepening in economic development, Oxford University Press New York.
- Spencer, H. M. (1977). Contemporary Macroeconomics Worth Publishers, New York.
- Tabachnick, B. G. and L. S. Fidell (2007). Using Multivariate Statistics, Allyn and Bacon, Boston, 5th ed.