

Determination of Interest Rate in Nepalese Finance Companies

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Abstract

Finance companies are the institutions that are incorporated under company act to perform non-banking activities arrangements and operation of different schemes. The finance companies survive by making profit which is the interest spread i.e. difference between interest received and interest charged. The main aim of this paper was to determine the responsible factors for the interest rate determination of Nepalese financial companies. The factors affecting interest rate charged and offered by Nepalese financial companies are analyzed using Regression Analysis. Out of the total financial companies only two ICFC Finance Company and United Finance Company are taken as samples. Secondary data are collected from various publications, websites, and annual reports. Interest rate on deposit of ICFC Finance has significant negative association with inflation rate and significant positive relation with interest rate on loan and advance of the company. Similarly, interest rate on loan and advance of the company has significant positive relation with interest rate on deposit and interest rate on loan and advance also has positive relation with inflation rate. Interest rate on deposit of United Finance has significant negative association with inflation rate and significant positive relation with interest rate on loan and advance of the company. Similarly, interest rate on loan and advance of the company has significant positive relation with both interest rate on deposit and inflation rate.

Keywords : *Interest Rate, Inflation Rate, Loan and Advance*

INTRODUCTION

Background of the Study

Interest rates are among the most closely watched variables in the economy. Their movements are reported almost daily by the news media because they directly affect our everyday lives and have importance consequence for the health of the economy. They affect personal decision such as whether to consume or save, whether to buy a house and whether to purchased bonds or put funds in to a saving account. Interest rate also affect the economy decisions of business and household, such as whether to use their funds to invest in new equipment for factories or to save their money in a bank (Thapa, 2013).

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An interest rate, is the amount of interest due per period, as a proportion of the amount lent, deposited or borrowed (called the principal sum). The total interest on an amount lent or borrowed depends on the principal sum, the interest rate, the compounding frequency, and the length of time over which it is lent, deposited or borrowed. It is defined as the proportion of an amount loaned which a lender charges as interest to the borrower, normally expressed as an annual percentage. It is the rate a bank or other lender charges to borrow its money, or the rate a bank pays its savers for keeping money in an account. Annual interest rate is the rate over a period of one year. Other interest rates apply over different periods, such as a month or a day, but they are usually annualized (Shrestha & Bhandari, 2004).

In finance and economics, a financial institution is an institution that provides financial services for its clients or members. One of the most important financial services provided by a financial institution is acting as a financial intermediary. Most financial institutions are regulated by the government. Finance companies lending operation have tended to implement the operation of commercial banks mainly on urban areas. These companies are not allowed to accept demand and saving deposit from public and have thus concentrated in mobilizing funds through fixed deposits. Thus finance companies are the institutions to perform non-banking activities arrangement and operation of different schemes whereby they collect the fund under different arrangement. They have made and disburse the funds to demanders of funds and meet their objectives. The paper examines the interest rate pass through of the policy interest rate to the market interest rate in Nepal (Barro & Grossman, 2001).

The basic function of the economy is to allocate scarce resources to produce goods and services demanded by the society. The production of the goods and services require the transformation of the resources land, labor, capital, technology, managerial skill and information. Among these capital is considered as the most important and called as life blood of the business for the production of the goods and services (Rose, 2003).

Capital formation and its proper utilization are essential for economic development on any country. In such a context, the players in the financial system (borrowers, depositors, and the intermediaries) play a prominent role. Financial institutions are business organization that acts as a mobilized and depositories of savings of and as suppliers of credit and finance. As a financial intermediary financial companies contribute for the economic development as they collect surplus fund from the nook and the corner of the country. And simultaneously making loan available to other customers who have cash shortage for investment and other usage by providing interest to the depositors and charging interest to the borrowers. The slow growth and traditional attitude of commercial banks in mobilizing financial resources, lack of financial innovations and growing interest of public on Upahar or installment program are the major reasons among other for the establishment of financial companies. After the government adopted the open and liberal policies in financial sector, among other institutions finance companies has been incorporated under company act 2053. Finance company is perhaps the fastest growing financial institutions in Nepal. The first of it was established in 1992 named Nepal Awash Development finance Co. Ltd. (NADF). Finance Companies are

licensed by Nepal Rastra Bank in 'Class C'. Finance Companies in Nepal are also playing vital roles for the development of economy status of Nepal. Nepal has many nationalized and private finance companies. There are 22 finance companies licensed by NRB in Nepal (Nepal Rastra Bank, 2018).

Finance company are authorized to accept deposits under several schemes and to mobilize the funds in wide range productive sectors like agricultural, industrial, trade and commerce. Finance companies are popular between low income and middle class people for financing which also perform the varying roles of providing specialized services to their clients offering higher rate of interest and revenue generation. The finance company is defined by the dictionary of modern economy as A finance intermediary not a bank which may obtain fund from its own capital resources by accepting deposit (usually for fixed periods) or even by borrowing from other institution which then lends for variety of purpose, especially to finance hire purchase contracts but leasing (Thapa & Rana, 2011)

Statements of the Problems

Finance companies in Nepal are committed to avail the capital for different sectors and these are established targeting different groups. Interest charge and offered by the institution was regulated by central bank until before few years, but now these institutions are free to fix their interest rates.

Nepalese market has not reached its maturity but in recent years institution is determining their interest rate themselves. Thus, it is important to know whether the interest rate is determined by market forces or by managerial discretion. Bankers and other financial institutions use various methods of interest calculation. Correspondingly true affecting rates also differs. Therefore, this researcher has influenced analysis that what factors affect interest rates and what is the method used in interest calculation. Research questions of the study are:

- How interest rate on deposit is affected by inflation rate and interest rate on loan and advance of finance companies in Nepal?
- What is the impact of inflation rate and interest rate on deposit into interest rate of loan and advance of finance companies in Nepal?

Objectives of the Study

The basic objective of this study is to identify the influencing factors of the interest rate charged and offered by Nepalese finance companies through examination of the relation between influencing factors and interest rate is the main aim of this study. Some other specific objective are as follows:

- To examine the impact of inflation rate and interest rate on loan and advance into interest rate on deposit of Nepalese financing companies.
- To identify impact of inflation rate and interest rate on deposit into interest rate on loan and advance of Nepalese financing companies.

LITERATURE REVIEW

Interest rate is the amount charged, expressed as a percentage of principal, by a lender to a borrower for the use of assets. Interest rates are typically noted on an annual basis, known as the annual percentage rate (APR). The assets borrowed could include, cash, consumer goods, large assets, such as a vehicle or building. Interest is essentially a rental, or leasing charge to the borrower, for the asset's use. In the case of a large asset, like a vehicle or building, the interest rate is sometimes known as the "lease rate". When the borrower is a low-risk party, they will usually be charged a low interest rate; if the borrower is considered high risk, the interest rate that they are charged will be higher (Vane Horne, 2001).

The rate of interest is the price a borrower must pay to secure scarce loanable funds from a lender for an agreed-upon time period. It is the price of credit. The rate of interest is the ratio of two quantities: the money cost of borrowing divided by the amount of money actually borrowed, usually expressed on an annual percentage basis. Interest rates send price signals to borrowers, lenders, savers and investors. For example, higher interest rates generally bring forth a greater volume of saving and stimulate the lending of funds. Lower rate of interest, on the other hand, tend to dampen the flow of saving and reduce lending activity. Higher interest rates tend to deduce the volume of borrowing and capital investment, and lower interest rates stimulate borrowing and investment spending. An interest rate, or rate of interest, is the amount of interest due per period, as a proportion of the amount lent, deposited or borrowed (called the principal sum). The total interest on an amount lent or borrowed depends on the principal sum, the interest rate, the compounding frequency, and the length of time over which it is lent, deposited or borrowed. It is defined as the proportion of an amount loaned which a lender charges as interest to the borrower, normally expressed as an annual percentage. It is the rate a bank or other lender charges to borrow its money, or the rate a bank pays its savers for keeping money in an account. The neo-classical economist, however, define it as a price for the user loanable funds but the modern economist in their effort to avoid these divergent and controversial views about the nature of interest, have explained it in terms of productivity, saving, liquidity preference and money. In other words, interest is simultaneously the pure yield of capital for saving, for the going of liquidity and supply of money (Kohn, 1993).

The interest rate is the price a borrower must pay a secure scarce loanable fund from a lender for an agreed-upon period. It is the price of credit. Interest rate is the price of acquiring credit, usually expressed as a ratio of the cost of securing credit to the total amount of credit obtained. Interest rate usually expressed on an annual percentage basis. Interest rates and price signals to borrowers, lender, savers and investors. High interest rates generally bring forth a greater volume of savings and stimulate savings, but tend to reduce the volume of borrowing and capital investment. Lower interest rates on the other hand, tend to dampen the flow of saving and reduce lending activities, and stimulate borrowing and investment spending. The rate of interest is the price a borrower must pay to secure scarce loanable funds from a lender for an agreed upon time period. It is the price of credit. The rate of interest is the ratio of two quantities, the money cost of borrowing divided by the amount of money actually borrowed,

usually expressed on an annual percentage basis. The cost of borrowing money, measured in Rupee per year per rupee borrowed, is the interest rate. Interest rate sends price signals to borrower, lenders, savers and investors. For example, higher interest rate generally brings forth a greater volume of saving and stimulates the lending of funds. Lower rate of interest, on the other hand, tend to dampen the flow of saving and reduce lending activity. Higher interest rates tend to reduce the volume of borrowing and capital investment, and lower interest rates stimulate borrowing and investment spending (Thapa, 2013).

Interest Rates as the Allocation Mechanism

In market-based economy, price is the allocating mechanism. When it is the market for allocating savings, interest rate becomes the price mechanism. Borrowers with unusually productive investment opportunities, as measured in terms of risk and return, can pay a saver a higher income in the form of an interest rate on the savings they borrow than borrowers with less productive investors (Copeland & Weston, Managerial finance, 2003).

Function of the Interest Rate in the Economy

- The rate of interest performs several important functions in the economy:
- It helps guarantee that savings will flow into investment to promote economic growth.
- It rations the available supply of credit, generally providing loanable funds to those investment projects with the highest expected returns.
- It brings the supply of money into balance with the public's demand for money.
- It is an important tool of government policy through its influence on the volume of savings and investments. If the economy is growing too slowly and unemployment is high, the government can use its policy tools to lower interest rates in order to stimulate borrowing and investments. On the other hand, economy experiencing rapid inflation has traditionally called for a government policy of higher interest rates to reduce borrowing and spending and encourage more savings.

Different Interest Rates Charged by Financial Institutions

Nominal/Quoted Interest Rate

Normally, the rate which is promised to pay or charged by the financial institutions can be defined as the nominal or quoted rate. Banks and financial institutions charge and receive the interest on the loan provided by them; on the other hand, they paid interest to the depositors for depositing the funds on their institutions. Basically, the quoted rate of interest by the banks are on the annual basis, that's why, it is the interest rate which should be paid or received for the use of capital for a year. The nominal rate is the published or the quoted interest rate on a security or loan. For example, an announcement in the financial press that major commercial banks have raised their prime lending rate to 10 percent per annum indicates what nominal interest rate is now being quoted by banks to their best customers (Rose, Financial institutions and instruments in a global market place, 2003). Mathematically, nominal interest could be presented as;

Nominal Interest Rate = Real Interest Rate + Inflation Premium

Real Interest Rate

The real interest rate is the return to the lender or investor measured in terms of actual purchasing power. In a period of inflation, of course, the real rate will be lower than the nominal rate. The real interest rate is the return purchasing power to the lenders of funds (Rose, Financial institutions and instruments in a global market place, 2003). It is the rate of return from a financial assets expressed in terms of its purchasing power (adjusted for inflation). Mathematically, if the inflation premium is deducted from the nominal interest rate then real interest could be found. So,

$$\text{Real Interest Rate} = \text{Nominal Interest Rate} - \text{Inflation Premium}$$

Periodic Interest Rate

The periodic interest rate is the rate charged by a lender or paid by a borrower each period for a loan. It can be a stated as rate per year, per six month, per quarter, per month, or per day and so on. This rate is calculated by dividing the nominal interest rate by the number of period in a year. We can find the periodic interest rate as follows;

$$\text{Periodic Interest Rate} = \frac{\text{Nominal Rate No. of Compounding}}{\text{Periods per Year}}$$

Effective Annual Interest Rate

The effective annual interest rate is the interest rate compounded annually that provides the same annual interest as the nominal interest rate does when it compounded per year.

$$\text{Effective Annual Interest Rate} = (1 + \text{Perodic rate}) - 1$$

The effective annual interest rate generally is not used in calculation or for determination of interest. The effective interest rate is useful in comparing securities with different compounding periods.

Factors Affecting Interest Rates

Impact of Economic Growth on Interest Rates

Assume that because of more optimistic economic projections, most increase their planned expenditures for expansion, which translates into additional borrowing. The aggregate demand schedule would shift outward (to the right). The supply of loanable funds schedule may also shift, but it is more difficult to know how it should shift. It is possible that the increased expansion by business could lead to more income for constructing crew and other, who service the expansion. Thus the quantity of savings, and increase causing on outward shift in the supply schedule. Yet, there is no assurance that the volume of savings will truly increase. Even if a shift were to occur, it would likely to be of a smaller magnitude than the shift in the demand schedule. As an example we can consider how a slowdown in economy would affect the demand and supply schedule of loanable fund and equilibrium interest rate. The demand schedule would shift inward (to the left) reflecting less demand for loanable funds at any possible interest rate. The supply schedule could be possibly shifted a little, but

it is questionable which way it would shift. One could argue that a slowdown should cause increased saving at any possibility of being laid off. Yet, the gradual reduction in labor income that occurs during an economic slowdown could reduce household's ability to save historical data support this later expectation. Any shift that occurs would likely to be minor relative to the shift in the demand schedule. Therefore, the equilibrium interest rate is expected to decrease (Barro & Grossman, Money employment and inflation, 2001).

Impact of Inflation on Interest Rates

Changes in the inflation can affect interest rates by affecting the amount of spending by house hold or business. Decision to spend affect the amount saved (Supply of funds) and the amount borrowed (Demand for Funds). Assumed the inflations rate is expected to increase. Household that supply funds may reduce their savings at any interest rate level so that they can make more purchases now before price rise. This shift in behavior is reflected by an inward shift in the supply curve of loanable funds. In additions, Household and business may be willing to borrow more funds at any interest rate level so that they can purchase product before price increase. This is reflected by an outward shift in the demand curve for loanable funds. The new equilibrium interest rate is higher because of the shift in saving and borrowing behavior (Thapa, 2013). This relationship between interest rate and expected inflations is often referred to as the fisher effect. Some prices of individual goods and services are always rising while others are declining. However, inflation occurs when an increase in some general index of price, such as the consumer price index or the broad based impact Gross Product Deflector, takes places. There is a positive correlation between inflation and interest rate in the market. Since the inflation reduces purchasing power of consumer (investors) they must be compensated for the decreased purchasing power. Therefore, an increase in inflation leads to increase in quoted market interest rate is known as inflation premium. The implicit Gross National Product Deflector is sometimes referred to as the overall price index since it incorporated the prices on all components of the gross national product: consumption, investment, government spending and export (Thapa, 2013).

The Fisher Effects

A well-known economist Irving Fisher in 1996 developed a relationship between nominal and real rate of interest. When you borrow or lend, you normally do so in dollar terms. If you take out a loan, the loan is denominated in dollars, and your promised payments are denominated in dollars. These dollar flows must be corrected for inflation to calculate the repayment in real terms. A similar point holds if you are a lender: you need to calculate the interest you earn on saving by correcting for inflation. The Fisher equation provides the link between nominal and real interest rates. To convert from nominal interest rates to real interest rates, we use the following formula:

Real Interest Rate = Nominal Interest Rate – Inflation Rate.

To find the real interest rate, we take the nominal interest rate and subtract the inflation rate. This is appropriate when you wish to understand the real interest rate actually paid under a

loan contract. But at the time a loan agreement is made, the inflation rate that will occur in the future is not known with certainty. Instead, the borrower and lender use their expectations of future inflation to determine the interest rate on a loan. From that perspective, we use the following formula;

Contracted Nominal Interest Rate = Real Interest Rate + Expected Inflation Rate

We use the term contracted nominal interest rate to make clear that this is the rate set at the time of a loan agreement, not the realized real interest rate. According to Fisher, if expected real interest rate is held fixed, changes in nominal rate will reflect shifting inflation premiums (i. e. changes in the public's view on expected real rate of return tends to stable over time because it depends upon the long term factors like productivity of capital, volume of savings in economy etc. in the short term, the nominal interest rate is only influenced by the change in the inflation premium. Therefore, rise in the expected inflation rate causes the same rise in the nominal interest rates.

The Harrod - Keynes Effect of Inflation

A Fisher effect of inflation contradicts with the views developed by the British economist Sir Roy Harrods. Harrods's view is based on Keynesian liquidity preference theory of interest. According to him, real rate is affected by the inflation but nominal rate need not to be affected. Under liquidity preference theory rate is determined by the demand for and supply of money, the nominal rate must remain unchanged whatever may be the expectation will lower the real rate of interest. There is less than one to one relationship between changes in expected inflation and nominal interest rates with the inflation caused wealth, income and depreciation effect. That is, a rise in expected inflation reduces the real rate of return to lender and derives to nominal interest rates higher but rise in nominal rate is less than the increase in expected inflation. Nevertheless, according to the inflation caused income tax effect, if investors desire to protect (i.e. hold constant) his or her expected real after tax rate of return, then nominal rate has to increase by a greater amount than any rise in the expected inflation rate because otherwise real after tax returns will decline when inflation increases (Copeland & Weston, Managerial finance, 2003).

Impact of Price Deflation

Deflation tends to force real interests rates higher even as nominal interest rates drop downward zero. These elevated real interest rates tend to slow investment spending and decrease the development of new jobs. Real economic output will decline as factors come to produce less and business profit fall. At the same time lenders gain at an expense of borrowers because the formers purchasing power rises, and business trying to borrow money have to struggle to raise the capital they require to grow and put people back to work. The price deflation can result lower output of goods and services, but forces real interest rates upward. However, business and the financial system are much better positioned to day deal with moderate deflation, in part because of the development of so many risk management tools (Barro & Grossman, Money employment and inflation, 2001).

Impact of Money Supply on Interest Rates

The central bank can affect the supply of loanable funds by increasing or reducing the total amount of deposit held by commercial banks or their depository institutions. When the central bank increases the money supply, which places downward pressure in interest rate. However, if the central bank's action affects inflator expectations, this would also increase the demand for loanable funds. Which could offset the effect of the increase in the supply of loanable funds? Assuming no change in demand, this action places upward pressure on interest rates.

Impact of Budget Deficit in Interest Rates

When the government enacts fiscal policies that result in more expenditure than tax revenue, the budget deficit is increased. How an increase in the government deficit would affect the interest rates, assuming no other changes in habits by consumers and firms occur a higher government deficit increases the quantity of loanable funds demand at any prevailing interest rates, causing an outward shift in the demand schedule. Assuming no offset increase in the supply schedule, interest rate will rise. Given a certain amount of loanable funds supplied to market (through savings), excessive government demand for these funds tend to "crowd out" the private demand for funds. The government may be willing to pay whatever is necessary to "crowding out effect." The supply schedule might shift a counter argument outward, if the government creates more jobs by spending more funds than collects from the public (this is what causes the deficit in the first place). If this were to occur, the deficit might not necessarily place upward pressure on interest rates. Much research has investigated this issue (in USA) and, in general has shown that higher deficits place upward pressure on interest rates. The increase in public debt refers in increase in the government's demand for loanable funds. However, because other factors can offset this increased demand for loanable funds by the government does not always result in higher interest rates (Rose, Financial institutions and instruments in a global market place, 2003).

Term Structure of Interest Rates

We have seen how risk liquidity, and tax considerations can influence rates. Another factor that influences the interest on a bond is its term to maturity. Bonds with identical risk liquidity, and characteristics may have different interest rates because the time remaining to maturity is different. A plot of the yield on the bond with differing term to maturity but the same risk, liquidity and tax consideration is called a yield curve, and it describe the term structure of interest rate for particulars type of bond such as government bond. The term structure of interest rates is the relationship between interest rates or bond yields and different terms or maturities. The relationship between the rates of return on financial instruments and their maturity is called the term structure on interest rates. This term structure may be presented visually by drawing a yield curve for all securities having the same credit quality. The term structure of interest rates is also known as a yield curve, and it plays a central role in an economy. The yield curve considers only the relationship between the maturity or term of a lean or security and its yield at one movement in time. For example, we cannot draw a yield curve for securities bearing different degree of credit risk or subject to different tax laws

because both risk and tax laws affect relative yields along with maturity. The term structure reflects expectations of market participant about future changes in interest rates and their assessment of monetary policy conditions (Shrestha & Bhandari, Financial markets and institution, 2004).

How open market operations affect interest rate?

Even though most interest rates are market determined the central bank has considerable authority and powerful mechanisms to affect the level of interest rates by controlling the supply of loanable funds. The primary tool is open market operation. Through open market operation, the central bank purchases the securities it adds to the supply of loanable funds, the sellers of the securities the central bank purchased can reinvest in other loans and investments. When the central bank sells securities, the opposite occurs. When the central bank uses open market operation to increase bank funds, banks have a larger supply of excess funds to lend out. Second, banks with excess funds may offer new loans at lower interest rates in order to make use of these funds. Third, these banks may also lower interest rates offered on deposits because they have more than adequate funds to conduct existing operations. As bank deposit rates declining household with available fund may search for alternatives investment such as treasury securities or other debt securities, the yield will decline. Thus, open market operation used to increase bank funds influence not only bank deposits and loan rates but the yields on other debt securities as well. The reduction in yields on debt securities lowers the cost of borrowing for the issuers of new debt securities as well. The reduction in yields on debt securities lowers the cost of borrowing for the issuers of new debt securities. This can encourage potential borrowers to borrow and make expenditure that might not have made if interest rates were higher. If open market operation is used to reduce banks funds by, selling the treasury securities by increasing the level of discount rate and by increasing the reserve requirements the opposite affect occurs. More banks have different funds and fewer banks have any excess funds. Thus, there is upward pressure on the interest rate offered to bank deposits. A bank deposit rate rises, some investors may be there by increasing the yield offered on the instruments. The actions of the central bank also affect the level of aggregate employment and inflation. The central bank tends to faster stimulative open market policies when the economy has slack resources and unemployment and restrictive during period of low employment and rising inflation.

Research Methodology

Research methodology refers to the four various sequential steps to be adopted by a researcher in the studying a problem with certain objective in view. Research is the process of systematic and in-depth study or search for any particular topic, subject, or area of investigation backed by collection, presentation, interpretation or relevant details or data.

Research Design

The research design is the plan structure and strategy of investigation conceived so as to obtain answer to research questions and to control variances. Research design is needed because it facilitate the smooth scaling of the various research operations, thereby making

research as efficient as possible yielding maximum information with minimum expenditure of effort, time and money. Descriptive cum analytical research design is used in this study and interpretation of finding with collecting data. This design explored quantitative fact about the finance company and their interest rates, influencing factors and financial condition of the company.

Population and Samples

A small portion chosen from the population for studying its properties is called a sample and the number of units in the sample is known as sample size. There are 22 finance companies operating in Nepal which is the population for the study and among them two finance companies are selected as sample for the study using non-random sampling method namely ICFC Finance Company Ltd. and United Finance Company Ltd.

Nature and Source of Data

For this study only secondary data are used and the data are collected mainly from published annual report of the sample companies and other relevant data are collected from official website of the companies and the NRB bulletins.

Data Analysis Tools

Regression Analysis

In statistical modeling, regression analysis is a set of statistical processes for estimating the relationships among variables. It includes many techniques for modeling and analyzing several variables, when the focus is on the relationship between a dependent variable (interest rate on loan and advance and interest rate on deposit) and one or more independent variables (loan and advance, total deposit and inflation rate). More specifically, regression analysis helps one understand how the typical value of the dependent variable (or 'criterion variable') changes when any one of the independent variables is varied, while the other independent variables are held fixed. The statistical software Eviews is used to analyze the impact of the independent variables into dependent variable under the regression model.

Model 1: Regression Equation for dependent variable interest rate on deposit and independent variables inflation rate and interest rate on loan and advance

$$Y = b_0 + b_1X_1 + b_2X_2 + e$$

Where,

Y = Trend value or dependent variable i.e. Interest Rate on Deposit

b_0 = Value of Y when all X_1 and X_2 are zero (Constant)

b_1 = Estimated regression coefficient of independent variables X_1

b_2 = Estimated regression coefficient of independent variables X_2

X_1 = Independent variable i.e. Inflation Rate

X_2 = Independent variable i.e. Interest Rate on Loan and Advance

e = Residual term of the regression equation which are not included in the equation

Model 2: Regression Equation for dependent variable interest rate on loan and advance and independent variables inflation rate and interest rate on deposit

$$Y = b_0 + b_1X_1 + b_2X_2 + e$$

Where,

Y = Trend value or dependent variable i.e. Interest Rate on Loan and Advance

b_0 = Value of Y when all X_1 and X_2 are zero (Constant)

b_1 = Estimated regression coefficient of independent variables X_1

b_2 = Estimated regression coefficient of independent variables X_2

X_1 = Independent variable i.e. Inflation Rate

X_2 = Independent variable i.e. Interest Rate on Deposit

e = Residual term of the regression equation which are not included in the equation

Limitations of the Study

Every research have its own restriction and limitation due to the proper time resource and knowledge. Despite the enough effort of researcher, this paper is also not free from limitation. Following are the major limitations of this study;

- Although there is other 22 C class finance company working all over Nepal, the samples cover only two finance companies, which is a small sample to represent all company's information. As the samples have drawn at random for convenience there may exist some sampling errors.
- This paper is based on only secondary data collected from published annual report and web site of the sample finance companies and this study covered only 5 Fiscal years from 2014/15 to 2018/19.
- Only determining factors as deposit, loan and advance and inflation rate for interest rates determination are considered, other aspects has not been studied.
- The source of data i.e. published annual report and internet web site is assumed to be correct.

Data Analysis and Result

Regression Analysis in the Data ICFC Finance Ltd.

In this part of the analysis how company's interest rate is affected by interest rate of deposit, loan and advance and inflation rates are analyzed using regression analysis.

Analysis of Model 1:

This model used interest rate on deposit of ICFC Finance as dependent variable and inflation rate and interest rate on loan and advance as independent variables. And the analysis result is presented below:

Table: 1

Regression Analysis Result of ICFC Finance (Model 1)

Dependent Variable: IRD Included observations: 5				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.0434	0.0158	-2.7424	0.1112
Inflation Rate	-0.2077	0.0524	-3.9648	0.0581
Interest Rate on Loan and Advance	1.0182	0.1004	10.1398	0.0096
R-squared	0.9919			
S.E. of regression	0.0022			
F-statistic	122.4705			
Prob(F-statistic)	0.0081			

Table 1 show regression analysis result for the dependent variable interest rate on deposit of ICFC Finance and independent variables inflation rate and interest rate on loan and advance of the company. Results show r-squared value of 0.9919 which means that change in interest rate on deposit of ICFC Finance Company is 99.19% affected by inflation rate and interest rate on loan and advance of the company and remaining 0.81% is not affected by these variables. Since the Prob(f-statistics) for the regression equation is less than 5%, the regression equation is significant.

The coefficients of inflation rate and interest rate on loan and advance are -0.2077 and 1.0182 respectively, which means that if inflation rate increased by 1% the interest rate on deposit of ICFC Finance decreased by 0.2077% and on the other hand if interest rate on loan and advance of the company increased by 1%, interest rate on deposit also increased by 1.0182%. Since, the p-values of the coefficients calculated for inflation rate and interest rates are 0.0581 and 0.0096 which are less than 10% and 5% significance level respectively. So, it can be concluded that the coefficients estimated are significant at 10% and 5% significant level.

Analysis of Model 2:

This model used interest rate on Loan and advance of ICFC Finance as dependent variable and inflation rate and interest rate on deposit as independent variables. And the analysis result is presented below:

Table: 2

Regression Analysis Result of ICFC Finance (Model 2)

Dependent Variable: ILA Included observations: 5				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	0.0448	0.0112	3.9810	0.0577
Inflation Rate	0.1944	0.0641	3.0320	0.0937
Interest Rate on Deposit	0.9634	0.0950	10.1398	0.0096
R-squared	0.9872			
S.E. of regression	0.0022			
F-statistic	76.9938			
Prob(F-statistic)	0.0128			

Table 2 show regression analysis result for the dependent variable interest rate on loan and advance of ICFC Finance and independent variables inflation rate and interest rate on deposit of the company. Results show r-squared value of 0.9872 which means that change in interest rate on deposit of ICFC Finance Company is 98.72% affected by inflation rate and interest rate on loan and advance of the company and remaining 1.28% is not affected by these variables. Since the Prob(f-statistics) for the regression equation is less than 5%, the regression equation is significant.

The coefficients of inflation rate and interest rate on deposit are 0.1944 and 0.9634 respectively, which means that if inflation rate increased by 1% the interest rate on loan and advance of ICFC Finance increased by 0.1944% and similarly, hand if interest rate on deposit of the company increased by 1%, interest rate on loan and advance also increased by 0.9634%. Since, the p-values of the coefficients calculated for inflation rate and interest rates are 0.0937 and 0.0096 which are less than 10% and 5% significance level respectively. So, it can be concluded that the coefficients estimated are significant at 10% and 5% significant level.

Regression Analysis in the Data United Finance Ltd.

In this part of the analysis how company's interest rate is affected by interest rate of deposit, loan and advance and inflation rates are analyzed using regression analysis.

Analysis of Model 1:

This model used interest rate on deposit of United Finance as dependent variable and inflation rate and interest rate on loan and advance as independent variables. And the analysis result is presented below:

Table: 3

Regression Analysis Result of United Finance (Model 1)

Dependent Variable: IRD Included observations: 5				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.0333	0.0086	-3.8524	0.0613
Inflation Rate	-0.2306	0.0192	-11.987	0.0069
Interest Rate on Loan and Advance	1.0231	0.0674	15.1760	0.0043
R-squared	0.9960			
S.E. of regression	0.0010			
F-statistic	250.9662			
Prob(F-statistic)	0.0040			

Table 3 depict regression analysis result for the dependent variable interest rate on deposit of United Finance and independent variables inflation rate and interest rate on loan and advance of the company. Results show r-squared value of 0.9960 which means that change in interest rate on deposit of United Finance Company is 99.60% affected by inflation rate and interest rate on loan and advance of the company and remaining 0.40% is not affected by these variables. Since the Prob(f-statistics) for the regression equation is less than 5%, the regression equation is significant.

The coefficients of inflation rate and interest rate on loan and advance are -0.2306 and 1.0231 respectively, which means that if inflation rate increased by 1% the interest rate on deposit of United Finance decreased by 0.2306% and on the other hand if interest rate on loan and advance of the company increased by 1%, interest rate on deposit also increased by 1.0231%. Since, the p-values of the coefficients calculated for inflation rate and interest rates are 0.0069 and 0.0043 which are less than 5% significance level respectively. So, it can be concluded that the coefficients estimated are significant at 5%.

Analysis of Model 2:

This model used interest rate on Loan and advance of United Finance as dependent variable and inflation rate and interest rate on deposit as independent variables. And the analysis result is presented below:

Table: 4

Regression Analysis Result of United Finance (Model 2)

Dependent Variable: ILA Included observations: 5				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	0.0334	0.0063	5.3064	0.0337
Inflation Rate	0.2229	0.0266	8.3663	0.0140
Interest Rate on Deposit	0.9690	0.0638	15.1760	0.0043
R-squared	0.9920			
S.E. of regression	0.0010			
F-statistic	123.5099			
Prob(F-statistic)	0.0080			

Table 4 show regression analysis result for the dependent variable interest rate on loan and advance of United Finance and independent variables inflation rate and interest rate on deposit of the company. Results show r-squared value of 0.9920 which means that change in interest rate on deposit of ICFC Finance Company is 99.20% affected by inflation rate and interest rate on loan and advance of the company and remaining 0.80% is not affected by these variables. Since the Prob(f-statistics) for the regression equation is less than 5%, the regression equation is significant.

The coefficients of inflation rate and interest rate on deposit are 0.2229 and 0.9690 respectively, which means that if inflation rate increased by 1% the interest rate on loan and advance of United Finance increased by 0.2229% and similarly, hand if interest rate on deposit of the company increased by 1%, interest rate on loan and advance also increased by 0.9690%. Since, the p-values of the coefficients calculated for inflation rate and interest rates are 0.0140 and 0.0043 which are less than 5% significance level respectively. So, it can be concluded that the coefficients estimated are significant at 5%.

Major Findings

The coefficients of inflation rate and interest rate on loan and advance are -0.2077 and 1.0182 respectively, which means that if inflation rate increased by 1% the interest rate on deposit of ICFC Finance decreased by 0.2077% and on the other hand if interest rate on loan and advance of the company increased by 1%, interest rate on deposit also increased by 1.0182%. Since, the p-values of the coefficients calculated for inflation rate and interest rates are 0.0581 and 0.0096 which are less than 10% and 5% significance level respectively. So, it can be concluded that the coefficients estimated are significant at 10% and 5% significant level.

The coefficients of inflation rate and interest rate on deposit are 0.1944 and 0.9634 respectively, which means that if inflation rate increased by 1% the interest rate on loan and advance of ICFC Finance increased by 0.1944% and similarly, hand if interest rate on deposit of the company increased by 1%, interest rate on loan and advance also increased by 0.9634%. Since,

the p-values of the coefficients calculated for inflation rate and interest rates are 0.0937 and 0.0096 which are less than 10% and 5% significance level respectively. So, it can be concluded that the coefficients estimated are significant at 10% and 5% significant level.

The coefficients of inflation rate and interest rate on loan and advance are -0.2306 and 1.0231 respectively, which means that if inflation rate increased by 1% the interest rate on deposit of United Finance decreased by 0.2306% and on the other hand if interest rate on loan and advance of the company increased by 1%, interest rate on deposit also increased by 1.0231%. Since, the p-values of the coefficients calculated for inflation rate and interest rates are 0.0069 and 0.0043 which are less than 5% significance level respectively. So, it can be concluded that the coefficients estimated are significant at 5%.

The coefficients of inflation rate and interest rate on deposit are 0.2229 and 0.9690 respectively, which means that if inflation rate increased by 1% the interest rate on loan and advance of United Finance increased by 0.2229% and similarly, hand if interest rate on deposit of the company increased by 1%, interest rate on loan and advance also increased by 0.9690%. Since, the p-values of the coefficients calculated for inflation rate and interest rates are 0.0140 and 0.0043 which are less than 5% significance level respectively. So, it can be concluded that the coefficients estimated are significant at 5%.

Conclusion

Interest rate on deposit of ICFC Finance has significant negative association with inflation rate and significant positive relation with interest rate on loan and advance of the company. Similarly, interest rate on loan and advance of the company has significant positive relation with interest rate on deposit and interest rate on loan and advance also has positive relation with inflation rate.

Interest rate on deposit of United Finance has significant negative association with inflation rate and significant positive relation with interest rate on loan and advance of the company. Similarly, interest rate on loan and advance of the company has significant positive relation with both interest rate on deposit and inflation rate.

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