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# Long-term Profitability Analysis of Commercial Banks in Nepal

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***Abstract :*** *With the growing number of commercial banks in the country, a question as to whether they remain profitable in the long-term has become relevant. To address the question, the article has sampled 7 commercial banks established in and before 1995 and having positive net-worth growth for the period between 2003/04 and 2009/10. Considering the net-worth of commercial banks as the long-term investment, the study has examined their profitability in terms of various financial tools and indicators to conclude that they are likely to be financially sound and viable in the next 5 years also.*

## I. INTRODUCTION

Profitability is a measure of firm's efficiency (Khan & Jain, 1998). It is also a control measure of the earning power of a firm as well as operating efficiency. Weston & Copland (1998) described profitability as net result of a large number of policies and decisions. Ratios are used to measure profitability and these give final answers about how effectively the firm is being managed. Therefore, management, creditors and owner of the company are also interested in the profitability ratio of the firm (Pandey, 1995).

Brigham and Houston (2004) views that financial profitability lies in a firm's ability to generate revenues in excess of its costs: for either long or short term. In the long run, a firm should be able to maintain the value of invested capital and able to yield a profit, which exceeds the opportunity cost of capital meaning that the yield generated by the firm should exceed the opportunity cost of capital. In order to examine long-term profitability, especially Net present value (NPV), profitability index (PI) and internal rate of return (IRR) are used. Short-term profitability, on the other hand, refers to a firm's ability to make an operating profit for which financial ratios on a yearly basis are used (Bierman and Smidt, 1980).

Elumilade et al. (2006) described investment decision as one of the most significant decision areas that affect the future profitability either because it might result in an increase in revenue or because it can cause an increase in efficiency and a reduction in costs.

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Van Horne (1996) suggested the methods of evaluation of capital budgeting that are average rate of return (ARR), pay-back period (PBP), internal rate of return (IRR), net present value (NPV), and profitability index (PI). In order to measure long-term profitability, current study uses especially net present value (NPV), profitability index (PI) and internal rate of return (IRR), the major techniques of capital budgeting. The current study has used these three techniques on the financial performance of selected commercial banks in Nepal, so that the management makes the decision either to accept or reject the proposal.

Pradhan (2007) evaluated the financial ratios, financial distress and stakeholder losses in corporate restructuring and attempted to explain the behaviour of financial ratios in financially distressed firms. But, it did not address any long-term profitability position of the studied firms by using capital budgeting techniques.

Etelälahti et al. (1992) described that investments usually refer to the utilization of long-term benefits through short-term costs. It is highly common that cash-flows are skewed so that the initial cost is high and the benefits are realizing later.

Honko et al. (1982) viewed capital investments as a significant outlay of money in order to receive future benefits. They also highlight that capital investments are important not only to the enterprise in question, but to the society as a whole. In addition, the future direction and survival of a company is mainly determined by the capability to direct its funds towards productive and profitable purposes.

If companies do not evaluate projects correctly, and steer the available financial resources to right targets which give out returns more than the cost of capital, it will result to deteriorating value of the corporation (Arnold et al., 2000; Klammer et al., 1991).

Poudel, et al. (2010) in their study of capital budgeting of organic coffee production in Gulmi District of Nepal, used Benefit-Cost ratio (B/C), Net Present Value (NPV), Internal Rate of Return (IRR), and Payback Period (PBP) to find out the project's profitability and economic viability.

Okechi (2004) presented a profitability assessment tool developed for the purposes of evaluating the feasibility of fish farming investment and operations. It applied indicators of investment returns such as net present value (NPV) and internal rate of return (IRR), payback period (PBP) and debt service coverage ratio to evaluate the profitability of the venture.

Elumilade (2006) used the interest rate as the discount rate for cash-flows. Hence, the current study has adopted the same approach to study the profitability of Nepali commercial banks.

Regmi (2005) analysed the profitability of Nepalese commercial banks by analysing the relationships between EPS, DPS and MPS of the banks. The study, however, did not deal with the profitability forecasting through capital budgeting techniques.

Previous studies related to profitability as well as profit planning and control for manufacturing companies but the number of studies on banks is smaller. Moreover, they did not apply the capital budgeting techniques as the long-term method for assessing the profitability of Nepali organisations. The current study is an attempt towards fulfilling this lacking to some extent.

## II. STATEMENT OF THE PROBLEM

The commercial banks in Nepal are a major player in Nepalese banking sector and financial services industry. With government-owned Nepal Bank Ltd and Rastriya Banijya Bank in operation for several decades, private and foreign joint venture banks also started operating since 1984 after the establishment of Nepal Arab Bank (NABIL) Ltd. (Sthapit, 2009). Growing competition in the financial sector, recent increase in transaction of security and capital markets as well as the taxation laid on higher deposits in banks are, among others, the factors affecting bank's profitability. The banks' capital budgeting decisions vis-a-vis their profitability also come under the influence of the rules and circulars of Nepal Rastra Bank, the central bank.

However, previous studies have not addressed banks' profitability on a long-term capital budgeting perspective although it is the area in which researchers, scholars, policy-makers and managers would be interested. Therefore, the study is an attempt to answer the following research questions:

- What is the growth rate of net worth of the commercial banks?
- To what extent have the commercial banks been able to raise their profitability?
- Are commercial banks in Nepal profitable in future?

## III. OBJECTIVES OF THE STUDY

The study has the main objective of assessing the profitability of commercial banks on the basis of their cash flows and net worth. The specific objectives to achieve the main objective are:

- To study growth rate of net-worth of the commercial banks
- To analyse profitability of commercial banks
- To assess forecasting of profitability of commercial banks

## IV. RESEARCH METHODOLOGY

The study has used a descriptive and analytical research design. It is based on secondary data taken from financial statements, annual reports, unpublished official records of concerned banks and web-sites of Nepal Rastra Bank (i.e., www.nrb.org.np) as well as Nepal Stock Exchange (i.e., nepalstock.com).

Considering the 24 commercial banks listed at Nepal Stock Exchange (NEPSE) as its total population, this study initially sampled the eight private commercial banks established in and before 1995 as shown in Table 1. However, since the current study related to the long-term investment profitability of commercial banks, it has taken the seven banks having a positive growth of their net-worth during the study period. Thus, it excluded from the sample set Nepal Bangladesh Bank Ltd. (NB) for having a negative average net-worth growth as shown with an asterisk mark in Table 1. Hence, the sample banks are Nabil Bank Ltd. (Nabil), Nepal Investment Bank Ltd. (NIB), Nepal Standard Chartered Bank Ltd. (NSCB), Himalayan Bank Ltd. (HB), Nepal SBI Bank Ltd. (NSBI), Everest Bank Ltd. (EB), and Bank of Kathmandu Ltd. (BOK):

Table 1: Selection of Sample Banks

| Year | Nabil | | NIB | | NSCB | | HB | | NSBI | | NB | | EBL | | BOK | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Net-worth | Growth rate | Net-worth | Growth rate | Net-worth | Growth rate | Net-worth | Growth rate | Net-worth | Growth rate | Net-worth | Growth rate | Net-worth | Growth rate | Net-worth | Growth rate |
| 2003/04 | 1,482 | 12.77 | 729 | 14.17 | 1,496 | 9.27 | 1,324 | -30.52 | 627 | 9.96 | 657 | -4.00 | 540 | 14.28 | 1,012 | 13.43 |
| 2004/05 | 1,658 | 11.90 | 1,180 | 61.88 | 1,582 | 5.79 | 1,542 | 16.43 | 689 | 9.95 | 235 | -64.27 | 693 | 28.19 | 990 | -2.19 |
| 2005/06 | 1,875 | 13.10 | 1,415 | 19.93 | 1,754 | 10.85 | 1,766 | 14.56 | 972 | 41.03 | -1,563 | -766.13 | 823 | 18.80 | 1,069 | 7.99 |
| 2006/07 | 2,057 | 9.70 | 1,878 | 32.69 | 2,116 | 20.65 | 2,147 | 21.54 | 1,153 | 18.69 | -2,624 | 67.94 | 1,062 | 29.01 | 993 | -7.12 |
| 2007/08 | 2,437 | 18.50 | 2,687 | 43.06 | 2,493 | 17.78 | 2,513 | 17.07 | 1,404 | 21.76 | -2,191 | -16.49 | 1,581 | 48.96 | 1,342 | 35.12 |
| 2008/09 | 3,130 | 28.40 | 3,908 | 45.45 | 3,052 | 22.46 | 3,120 | 24.15 | 1,703 | 21.24 | 1,112 | -150.75 | 2,205 | 39.48 | 1,742 | 29.77 |
| 2009/10 | 3,835 | 22.50 | 4,585 | 17.34 | 3,370 | 10.39 | 3,439 | 10.24 | 2,441 | 43.36 | 2,139 | 92.35 | 2,757 | 25.02 | 2,074 | 19.06 |
| **Average** | **2,353** | **16.70** | **2,340** | **33.50** | **2,266** | **13.88** | **2,264** | **10.49** | **1,284** | **23.71** | **-319*** | **-120.19*** | **1,380** | **29.10** | **1,317** | **13.72** |

The study covered the period of seven fiscal years from 2003/04 to 2009/10 to study the profitability of the investment (measured by net-worth) of commercial banks.

**Financial tools**: To assess the profitability, the study has used the interest rate for measuring the cost of capital of the studied banks, as Sherrick et al. (2000) opined the discounting rate reflects the appropriate cost of capital or rate of return on the investment (often an interest rate, or cost of capital calculation). Hence, the predicted cash-flows have been measured by using a discounted rate in the form of interest rate.

The research has used the net present value (NPV) of their predicted cash-flows to assess the profitability of the banks as aimed by the current study. In principle, positive NPV indicates an acceptable bank and negative NPV means that the bank-venture is not desirable. For the research purpose, the study has forecasted cash-flows of 5 years (i.e., 2010/11 to 2014/15) on the basis of previous years' data.

The study has also applied the Profitability Index (PI), the ratio of the present value of future cash flow over the initial cash outlay of the investment. For a bank-venture to be acceptable, its benefits must outweigh its costs. In principle, the PI value should be more than one to make the bank project acceptable.

Additionally, the study has also applied the Internal Rate of Return (IRR) to assess and forecast the profitability of the sampled banks, as it is a discounted profitability and theoretically should be more than the cost of capital to make the venture acceptable. IRR is that discount rate which sets the present value of the project cash flows equal to the initial investment outlay. The current study has used the interest rate as the discount rate for cash-flows, as per the model adopted by Elumilade (2006).

**Statistical tools**: The study has used arithmetic mean, growth-rate of the net worth, and Weighted rate of interest. To predict the 5-year cash-flows of the banks, the study has also run a simple regression on the past data. The data were processed and analysed on the SPSS and Excel worksheet software.

## V. LIMITATIONS OF THE STUDY

Since only seven banks established in and before 1995 having positive average growth rate in net-worth were selected as a sample, it has excluded more than a dozen of newer banks limiting its study area.

Historical data of 7 years (i.e., from 2003/04 to 2009/10) have been collected and analyzed.

Only limited statistical and financial tools, including simple average, net present value (NPV), Profitability index (PI) and internal rate of return (IRR) were used for data analysis. Not using more scientific and sophisticated tools may limit the validity of the study-findings.

## VI. ANALYSIS OF DATA

The article examines the profitability of seven commercial banks by analysing growth of their past net-worth, essentially the 'investment' of each bank venture.

### *4.1 Net-worth of Commercial Banks*

Table 2 shows that average net-worth of the seven banks ranged from Rs 1,030 million (in 2003/04) to Rs 3,214 million (in 2009/10). Their average net-worth figures have shown an increasing trend.

Table 2: Net-worth of Sampled Banks

(Rs. in million)

| Year | Nabil | NIB | NSCB | HB | NSBI | EB | BOK | Average |
|---|---|---|---|---|---|---|---|---|
| 2003/04 | 1,482 | 729 | 1,496 | 1,324 | 627 | 540 | 1,012 | **1,030** |
| 2004/05 | 1,658 | 1,180 | 1,582 | 1,542 | 689 | 693 | 990 | **1,191** |
| 2005/06 | 1,875 | 1,415 | 1,754 | 1,766 | 972 | 823 | 1,069 | **1,382** |
| 2006/07 | 2,057 | 1,878 | 2,116 | 2,147 | 1,153 | 1,062 | 993 | **1,629** |
| 2007/08 | 2,437 | 2,687 | 2,493 | 2,513 | 1,404 | 1,581 | 1,342 | **2,065** |
| 2008/09 | 3,130 | 3,908 | 3,052 | 3,120 | 1,703 | 2,205 | 1,742 | **2,694** |
| 2009/10 | 3,835 | 4,585 | 3,370 | 3,439 | 2,441 | 2,757 | 2,074 | **3,214** |

### *4.2 Growth Rate*

The study also considered growth rates of the net worth calculated by dividing difference between subject year net-worth and previous year net-worth by previous year net-worth.

The Table 3 shows that the average net-worth growth rate of the seven banks ranged from 10.49 percent (HB) to 33.50 percent (NIB). Their total average growth rate figured 20.16 percent.

Table 3: Average Growth Rate of Sampled Banks

*(Figures in percentage)*

| Years | Nabil | NIB | NSCB | HB | NSBI | EB | BOK | Average |
|---|---|---|---|---|---|---|---|---|
| 2003/04 | 12.77 | 14.17 | 9.27 | -30.52 | 9.96 | 14.28 | 13.43 | **6.19** |
| 2004/05 | 11.90 | 61.88 | 5.79 | 16.43 | 9.95 | 28.19 | -2.19 | **18.85** |
| 2005/06 | 13.10 | 19.93 | 10.85 | 14.56 | 41.03 | 18.80 | 7.99 | **18.04** |
| 2006/07 | 9.70 | 32.69 | 20.65 | 21.54 | 18.69 | 29.01 | -7.12 | **17.88** |
| 2007/08 | 18.50 | 43.06 | 17.78 | 17.07 | 21.76 | 48.96 | 35.12 | **28.89** |
| 2008/09 | 28.40 | 45.45 | 22.46 | 24.15 | 21.24 | 39.48 | 29.77 | **30.14** |
| 2009/10 | 22.50 | 17.34 | 10.39 | 10.24 | 43.36 | 25.02 | 19.06 | **21.13** |
| **Average** | **16.70** | **33.50** | **13.88** | **10.49** | **23.71** | **29.10** | **13.72** | **20.16** |

### *4.3 Discounting Rate of Commercial Banks*

The discount rate reflects the appropriate cost of capital or rate of return on the investment (often an interest rate, or cost of capital calculation). Several different concepts underlie the choice of an appropriate discount rate.

Table 4 shows that average interest rate of the seven banks ranged from 1.48 percent (of NSCB) and 2.66 percent (of Nabil) to 3.22 percent (of NSBI) and 3.16 percent (EB). The total average interest rate of the banks, therefore, figured 2.77%, which was taken as a discounting rate or cost of capital for this study.

Table 4: Average Interest Rate of Sampled Banks

(Figures in percentage)

| Year | Nabil | NIB | NSCB | HB | NSBI | EB | BOK | Average |
|---|---|---|---|---|---|---|---|---|
| 2003/04 | 1.97 | 2.74 | 1.30 | 2.23 | 3.50 | 3.90 | 3.31 | **2.71** |
| 2004/05 | 1.68 | 2.43 | 1.31 | 2.26 | 2.83 | 2.90 | 2.70 | **2.30** |
| 2005/06 | 2.09 | 2.52 | 1.31 | 2.45 | 2.88 | 2.86 | 2.74 | **2.41** |
| 2006/07 | 2.54 | 2.71 | 1.65 | 2.55 | 3.36 | 2.70 | 2.55 | **2.58** |
| 2007/08 | 2.64 | 2.79 | 1.59 | 2.58 | 2.93 | 2.61 | 2.59 | **2.53** |
| 2008/09 | 3.22 | 3.53 | 1.53 | 2.70 | 2.93 | 2.98 | 3.06 | **2.85** |
| 2009/10 | 4.48 | 4.99 | 1.64 | 4.13 | 4.11 | 4.18 | 4.34 | **3.98** |
| **Average** | **2.66** | **3.10** | **1.48** | **2.70** | **3.22** | **3.16** | **3.04** | **2.77** |

### *4.4 Cash Flows*

Cash flows were calculated summing net profit, depreciation and amortisation of expenses. The Table 5 shows that the average cash flows of the seven commercial banks from 2004 to 2010 ranged between Rs 285 million and Rs 902 million. They have registered a steady annual growth, without having any fluctuations in between.

Table 5: Cash Flows of Sampled Banks

(Rs in million)

| Year | Nabil | NIB | NSCB | HB | NSBI | EB | BOK | Average |
|---|---|---|---|---|---|---|---|---|
| 2003/04 | 505 | 181 | 619 | 298 | 76 | 165 | 151 | **285** |
| 2004/05 | 580 | 270 | 622 | 346 | 74 | 191 | 165 | **321** |
| 2005/06 | 698 | 396 | 689 | 527 | 136 | 266 | 232 | **420** |
| 2006/07 | 731 | 562 | 712 | 576 | 274 | 327 | 296 | **497** |
| 2007/08 | 810 | 779 | 822 | 724 | 283 | 507 | 406 | **619** |
| 2008/09 | 1,099 | 1,013 | 1,049 | 845 | 371 | 699 | 511 | **798** |
| 2009/10 | 1,221 | 1,400 | 1,116 | 614 | 485 | 902 | 573 | **902** |

### *4.5 Predicted Cash Flows*

On the basis of average growth rate, net worth for next 5 years (i.e., from 2010/11 to 2014/15) were predicted. Similarly, cash flows were predicted for next five years (i.e., from end of 2010/11 to 2014/15) also by using a simple regression method on predicted net-worth figures.

The Table 6 shows that coefficient of average predicted net-worth is 0.287 and p-value is 0.000 (i.e., 0.000 < 0.01). This means that coefficient of average net-worth is significant at 1 percent level of significance. So, the model is fitted.

The predicted cash flows of the seven commercial banks from 2010/11 to 2014/15 have shown an annual increment from Rs 722 million in 2010/11 to Rs 1497 million in 2014/15.

Table 6: Average Predicted Net-worth and Cash flows

| Year | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 |
|---|---|---|---|---|---|
| Average Predicted Net Worth (x) | 2,492 | 2,994 | 3,597 | 4,323 | 5,194 |
| Average Predicted Cash Flow (y) | 722 | 866 | 1,039 | 1,247 | 1,497 |
| Regression model | y = 6.585 + 0.287x | | | | |
| | p-value | | | (0.000) | |
| | Standard error | | | (0.013) | |

### *4.6 NPV, PI, and IRR*

From the Table 7, it is clear that the average NPV of the seven commercial banks has figured in the positive at Rs 1,690 million. It indicates that the sampled commercial banks will continue to be profitable for next 5 years. It is also substantiated by their average PI which is 1.53 times (i.e., 1.53 >1); it indicates that the commercial banks are profitable for next 5 years.

Table 7: Calculation of NPV, PI, and IRR

(Rs in million)

| Year | Average Cash Flow |
|---|---|
| Current Year | -3,214 |
| 2010/11 | 722 |
| 2011/12 | 866 |
| 2012/13 | 1,039 |
| 2013/14 | 1,247 |
| 2014/15 | 1,497 |
| **TPV (Total present value** | 4,904 |
| Net Investment | -3,214 |
| NPV | 1,690 |
| PI (times) | 1.53 |
| IRR | 17.38% |

Similarly, it is also found that average IRR is 17.38 percent (i.e. 17.38% > 2.77%) which is greater than cost of capital. This shows that commercial banks are profitable in future for next 5 years.

## VII. CONCLUSION

Profitability analysis shows that all the sample banks are sound as per used criteria (i.e., NPV, PI and IRR). From the study, it is concluded that NPV is positive, PI is greater than 1 and IRR is greater than cost of capital. This means that profitability in future is sound for the commercial banks in Nepal. Since the only 15 years old commercial banks are selected as a sample and weighted interest rate is used as discounting rate, the result should not be generalised from this study.

## VIII. FURTHER RESEARCH

The present study has covered only commercial banks established in and before 1995, and excluded those set up after that year. It has also studied data of only 7 fiscal years. Therefore, further studies should also cover as many more banks and years as possible to make their findings more valid. They also should use more scientific tools and analysis.

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