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**Master's Thesis of Public Administration**

**The Analysis of Financial  
Performance of Public  
Enterprises in Nepal**

**네팔 공기업의 재무 성과 분석**

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# **The Analysis of Financial Performance of Public Enterprises in Nepal**

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# **Abstract**

## **The Analysis of Financial Performance of Public Enterprises in Nepal**

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The Constitution of Nepal directs us towards a socialism oriented economic system. The 15<sup>th</sup> periodic plan also had a vision for a self-reliant economy through robust and competitive Public Enterprises. Public Enterprises are regarded as the economic tool for planned and controlled economy affecting the economy and people's lives. However, Public Enterprises are not performing effectively and creating a significant risk to the government budget.

The Nepalese Public Enterprises have been generally criticized on the ground of financial performance. The Financial Performance of Public Enterprises has been a focus of interest in academic communities, the public, and the media. Despite the immense capital speculation, the public enterprises in Nepal unable to create the desirable budgetary return on the capital used. This study tried to explore the factors determining the financial performance of Public Enterprises in Nepal. For measuring the financial performance of public enterprises, profitability indicators of measurement of the performance is used.

This research examines the impacts of factors, including Liquidity, Leverage, Assets Utilization, and Firm Size, on the Financial Performance of Public Enterprises in Nepal. The study covers 26 Public Enterprises of Nepal as a sample. Dependent Variables of the Study is Return on Equity (Khadafi, Heikal, & Ummah), and Independent Variables are Liquidity as measured by Current Ratio (C.R.), Assets Utilization as measured by Total Assets Turnover Ratio (TATR), Leverage as measured by Debt to Equity Ratio (D.E.) and Firm size as

measured by Total Assets it possess. This research used quantitative research technique and used annual data from financial statements starting from the Year 2010 to 2019 A.D. Panel Regression Model was used to analyze the financial data. Breush-Pagan LM Test and F-Test are done to determine the most appropriate test. Existing theory posit a significant relationship. However, data analysis reveals no significant relationship between Nepalese Public Enterprises.

**Keywords:** Firm Performance, Liquidity, Assets Utilization, Leverage, Firm Size, ROE.

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# **Chapter I. Introduction**

## **1.1 Study Background**

Public Enterprises have played a significant role in establishing the welfare state through an available supply of essential goods and services. Public Enterprises are independent institutions to provide necessary goods and services related to citizens' daily lives at affordable prices, creating easy access to people, creating job opportunities, and building the foundation of development. Their role is crucial to increase the competitiveness of the private sector. The business principles and market rules are necessary conditions to operate the Public enterprises optimally. From this, it is easy to increase their efficiency on the delivery of goods and services and improve the efficiency of financial operation and working capacity and help control the monopoly of private sector. Public Enterprises are the economic tools for planned development and the Controlled economy. Public enterprises' existence is vital to ensure the supply of public goods and services that has to be provided by the state for the implementation of fundamental rights of the citizens.

There are 39 public enterprises; among them, 37 are in operation, and two enterprises are closed. Out of 37, while 26 public enterprises are earning a profit, 11 are in a loss (annual report of Public Enterprises, 2019). The existing public enterprises in Nepal are classified into six sectors like Industrial, Trading, Service, Social, Public Utility, and Financial industry. Public enterprises in Nepal are incorporated under various legal instruments, including the developing board act, corporation act, company act, commercial bank act, and distinct characters of their own.

**Table 1: Public Enterprises during various planning periods in Nepal**

<b>Periodic Plan</b>	<b>Total Number</b>
Before 1956	1
First Periodic Plan (1956-1961)	8
No Periodic Plan (1961-1962)	11
Second Periodic Plan (1962-1965)	22
Third Periodic Plan (1965-1970)	34
Fourth Periodic Plan (1970-1975)	61
Fifth Periodic Plan (1975-1980)	59
Sixth Periodic Plan (1980-1985)	54
Seventh Periodic Plan (1985-1990)	63
No Periodic Plan (1990-1992)	62
Eight Periodic Plan (1992-1997)	46
Ninth Periodic Plan (1997-2002)	43
Tenth Periodic plan (2002-2007)	36
Eleventh Periodic Plan (2007/08-2009/10)	36
Twelfth Periodic Plan (2010/11 -2012/13)	37
Thirteenth Periodic Plan (2013/14 -2015/16)	37
Fourteenth Periodic Plan (2016/17 -2018/19)	37
Fifteenth Periodic Plan (2019/20-2023/24)	37

Source: Paudel, 2006

In Article 50 (3), the Constitution of Nepal under directive principles of the state prescribed to develop the socialism oriented economic system through the coordinated and complementary role of public, private, and cooperative sectors. The government has pronounced open private partnerships to quicken the development's pace to grant Public Enterprises the opportunity to be a part of development. Subsequently, the private sector's competency, the confidence of government, and convictions of ordinary citizens can be considered the concrete columns for the improvement of Public Enterprises.

Public Enterprises are utilized as sustainable measures to attain welfare goals. Therefore, it is inescapable that we use as a measure of success, especially in the absence of other performance measures specifying the welfare objectives. To achieve these objectives, Public Enterprises have been advanced since the start of the First Five Year Plan in 1956.

The Fifteenth five-year plan is being executed from FY 2018/2019. This arrange has had the vision to contribute socialism-oriented and self-reliant economy through robust and competitive Public Enterprises. In this setting, the endeavors ought to be centered on relieving the overstated challenges by giving proficient and successful administration, keeping up the qualitative goods and benefits conveyance and accessibility in reasonable cost, and upgrading the set these services by ordinary individuals. As a result, the commitment of Public Enterprises will, moreover, be vital in achieving the long-term objectives of making "Prosperous Nepal and Happy Nepali" as pronounced by the government.

However, The challenge for public enterprises in Nepal is centered on striking a balance between its commercial and welfare aspects, leading to a problem in accountability and autonomy. These enterprises were victimized by excessive political interventions and mismanagement, continuously creating a financial burden on the government. Public Enterprises in Nepal have severe issues regarding the financial performance and need complete restructuring and

reform to improve performance. Overall, one of the significant challenges lies in maintaining the financial discipline of Public Enterprises in Nepal.

## **1.2 Purpose of Research:**

This study's fundamental objective is to review and analyze the financial performance of Public Enterprises in Nepal.

- i. To examine the effect of liquidity on the financial performance of public enterprises of Nepal
- ii. To investigate the impact of assets utilization on the financial performance of public enterprises of Nepal.
- iii. To examine the effect of leverage on the financial performance of public enterprises of Nepal.
- iv. To explore the impact of firm size on the financial performance of public enterprises of Nepal.

## **1.3 Research Questions:**

The research question is to explore the factors determining the financial performance of public enterprises in Nepal.

## **1.4 Significance and Relevance of the Study**

The present study assumes relevance in Nepal's new constitution pronounced socialism-oriented economy as the guiding principle. The public enterprises' performance has become a subject of discussion by the government and international donor agencies. One of the reasons for the country's economic backwardness is Nepal's public enterprises' inefficient performance. There is widespread demand for restructuring these enterprises in such a way as to make them profitable and self-sustaining.

Between the 1950s and 1970s, such an orientation towards public enterprises became entrenched in most developed and developing worlds (Haque, 2000). Nepal adopted this orientation in its industrial policy of 1957 for the first time. Industrial policy formally recognized the government's duty to promote, assist, and regulate industrial development in the country. (Paudel, 2006). The public enterprises were established in Nepal to push socio-economic development through government investment in infrastructure, services, and utilities. Profit was not the paramount consideration, and the private sector lacked incentives, capital, and experience to be attracted. Employment creation, increasing government revenue, and bringing the equity in the distribution of services were other primary objectives behind establishing the public enterprises. Public enterprises were taken as a tool to reduce poverty and income distribution. The public enterprises main goals were to accelerate economic development and move forward for industrial development in the country. They were also supposed to reduce the profit maximization of profit in the sectors in which there is limited competition, introduce new technology, mobilize government savings in the productive sector. Balance trade, institutionalize capital market and attain the goal of planned development. Public Enterprises in Nepal have established mainly to serve the following objectives (Shrestha, 1990):

- a) Infrastructural facilities and services
- b) Basic consumer and development goods,
- c) Adequate supplies of essential goods,

- d) Managerial support to needy enterprises and
- e) Entrepreneurial support to disadvantaged enterprises.

As per the stated objectives, the Public Enterprises are unable to attain the goals. Public Enterprises cannot prove its rationale through performance. The performance, thus, should be concentrated on different spheres of activities. On the other hand, Performance evaluation of these enterprises has to be based on its established objectives.

It would be ideal, in this manner, to look into the development of Public Enterprises earlier on the performance assessment of these enterprises. Nepal's government has realized the importance of performance management in public enterprises without much control and interference. Still, a lot more is needed to improve the state-owned enterprises' performance in Nepal's changed political context.

OECD guidelines on Corporate Governance of State-Owned Enterprises (the "SOE Guidelines") are universally accepted guiding instruments for SOE. Within the Asian region, only the OECD member countries Korea and Japan have associated themselves with the guidelines. However, many other participants in the Asia SOE network have cited the SOE guidelines as a point of inspiration for recent reforms. The OECD rules on corporate governance of Public enterprises are proposals to the government on how to guarantee that Public enterprises work efficiently, transparently, and accountably. Nearly all countries have some forms of performance evaluation system for Public enterprises. Only those countries with completely decentralized ownership have no formal evaluation system in place. (OECD,2016).

Public Enterprises as government approach in Nepal requires strategic thinking. After reviewing current literature on the relative performance of private and public firms, while in Korea, performances POEs are generally much better than those of Public enterprises and partially privatized enterprises. (Kim 2000). Privatization is suggested as the only solution to the Public's entry into Nepal by many experts and administrative reform commission. There are many steps to require doing before we lead to privatization, as in some cases, some public enterprises are essential to provide more extensive welfare of the citizens. Privatization in Nepal was taken as the only way to get rid of public enterprises' problems, but it showed mixed results. After privatization, some enterprises face the problem and do not perform well in Nepal. The privatization policy per se is not necessarily conneddutive to improving the efficiency of the enterprises. (Paudel, 2006). So, reform policy should be deeply studied and researched in Nepalese context to localize the policy alternatives to enhance public enterprises' efficiency and performance.

Even though the Public Enterprises in Nepal have enormously helped in mechanical and corporate sector development and in creating the required foundation and organization base, these enterprises are not working in an effective way. Thus, these enterprises have not been able to create a good financial capability on the one hand and illustrate anticipated effective workness on the other, subsequently all depending on government grant and subsidies. Their performance has been ceaselessly lagging behind the desired objectives. The Public Enterprises in Nepal has been increasingly seen as an obligation rather than a resource to the country. In show disdain toward the long-term assurance given to these enterprises, these have not been able to realize palatable budgetary capability and work efficiency.



## **1.5 Research Outline**

This thesis is written in 5 chapters. Chapters 1. Introduction the introduction, purpose of research, research questions, and significance, and relevance of study. Chapter 2. Literature Review consists of previous literature and concepts of this research, Return on Equity, Liquidity, Assets Utilization, Leverage, Firm Size and Sectors of Enterprises and several hypotheses are developed in order to have better understanding regarding Return on Equity and Liquidity, Assets Utilization, Leverage, Firm Size. Chapter 3. Describes the Research Methodology, Measurement of Variables, Data Gathering, and Population and sampling. Chapter 4. Data Analysis and Results interpretation. Chapter 5. Conclusion and Recommendations concluded the research while also providing some policy recommendations for Public Enterprises in Nepal.

## **Chapter 2. Literature Review**

### **2.1 Introduction**

Public Enterprises have been established in Nepal primarily to improve the economic conditions of the country. They are assigned the responsibility of strengthening the national economy and improving the people's living conditions. (K.C.,1994). Public Enterprises have been established in Nepal to achieve national, economic, social, and political goals (MOF, 2011). The partnership will be established with the private sector for re-operating sick public enterprises in industrial estates. Public enterprises will be operated through public-private and cooperative partnerships for increasing ownership of citizens. (Budget, 2018/19).

Public Enterprises can be assessed in terms of the benefits amplified additionally the capacity to ensure the public interest. (Shrestha,1988). Public Enterprises expands the savings provides employment. It empowers the country's industrialization to boost its social welfare. However, public enterprises continuously increasing operating expenses through high-wage enclaves eventually led to their demise (Putterman and Dong 2000). Klovienne, Gimzauskiene, and Misiunas (2015), in their Study of Baltic nations, recognized State-Owned Enterprises as vital in delivering public services such as water, transport, communication, health, education, and social services.

It is valuable to state a few major hypothetical and empirical findings relating to Public enterprises. This can be drained the conviction that it is valuable for the readers to see the big picture before getting into the details. The

maximum profitable result of execution is to investigate the scope for improvement within the operations and administrations of Public Enterprises and supply both government and supervisors with an instrument of change. (*Parris et.al,1986:138*). Performance analysis can moreover serve other purposes. They can offer assistance to public authorities to control the directions to whom they designate powers to act to the good of the government and Public. Besides, in the wrangle about over whether to privatize or to deregulate certain exercises, such studies, by appearing the relative shortcomings and qualities of public versus private production, ought to be a fundamental necessity. (*Parris et.al,1986:134*). An enterprise's success should be evaluated by its capacity to do the work it was created to do. This requires us to inquire approximately the reasons for making P.E. begin the study.

Performance evaluation gives a critical way for the control mechanism to the administration. Empowering government to recognize significant weaknesses, helps within the approach detailing as well as change. There is no academic consensus on how to evaluate the performance of public enterprises. Some studies prefer productivity and efficiency criteria, while others make extensive use of financial and profitability indicators. While profit-making is essential, focusing solely on this criterion when analyzing Public enterprises will mislead the policymakers. Besides, because many Public enterprises focus on improving social welfare rather than making a profit, such objectives should be duly taken into account when evaluating their performance.

There are numerous studies on public enterprises' economic performance, and they use various estimation methods depending on the analysis. Scholars concluded that Public enterprises show lower productivity than their private partners. Perkins (1996) showed that private firms in China outperformed Public enterprises regarding their total factor productivity. Also, since numerous public enterprises stress improving social welfare instead of making a profit, such goals should be appropriately considered when assessing their performance. Due to the lack of data, our analysis will not Public enterprise social impact. Researchers evaluated performance based on profitability and

other financial indicators, while others explored the difference in efficiency and productivity between public and privatized enterprises.

## **2.2 Definition of Public Enterprises:**

Three features define public enterprises. First, Public Enterprises are classified as a part of the public sector. Therefore they must be government-owned. Second, public enterprises are must engaged in manufacturing goods and services for sale and services. Third, Public Enterprises sales revenue should have some link with the cost (Paudel, 2006). The international center for public enterprises (ICPE) tried to reconcile and standardize the definition. (Manandhar, 1993) "A public enterprise is a productive organizational entity which engages in activities of a business character and markets any of its output and which is publicly-owned to the extent of 50% or more" (ICPE, 1981). Public Enterprise is an organization that is owned by public authorities, including central, state, or local authorities, to the extent of 50% or more.

In conclusion, public enterprises blend both 'public' and 'enterprises.' Public here means public interest, public ownership, public oversight, and transparency for management. Simultaneously, the enterprise dimension involves a business character, the principle of investment and return, and when its pricing has some relation to the expense, the output marketed.

## **2.3 Firm Performance:**

Performance can be defined as the degree to which intervention in development partner operates according to specific criteria/standards/guidelines or achieves results following stated goals or plans (Paudel, 2006). Connecting the previous definition of performance, furthermore, the "performance" of a

public enterprise could be defined as the attainment of objectives. Performance refers to the degree to which the objectives of enterprises are accomplished. More precisely, performance is interpreted in achieving the stated goals. Thus performance is essentially correlated with the objectives.

Performance measures are the economic lifeblood of units since without them, no choices can be made. Financial measures are among the most critical performance measures for the economic unit (Benjalux, 2006). Financial performance measures are used to determine the effectiveness of economic units in achieving specified objectives, targets, and vital success factors as indicators (Lähtinen, 2009). Firm Performance is very useful to management as it is the result that has been achieved by an organization in compliance with legal provisions and confirming the morale and ethics. Performance is the function of an organization's ability to gain and manage resources in several different ways to develop a competitive advantage. Firm performances measure the company's success in the present and predict company efficiency competitiveness in the future. In this study, we use the conventional method of measuring the financial performance i.e. Return on Equity (ROE) and Return on Assets (ROA).

(Victor Powell 1987:37) has explained that there are several indicators for measuring P.E. performance. However, the indices can be classified into six groups:

- i. General performance indices
- ii. Management performance
- iii. Financial performance
- iv. Investment performance
- v. Costs breakdown (input co-efficient)
- vi. Physical performance (i.e. resource use)
- vii. Economic Performance:

The economic performance gives a firm base for measuring the execution of Public Enterprises. It presents a picture of how distant the endeavors

have been able to extend of yields to a given level of inputs. Concerning economic performance, various indicators, such as capacity utilization, capital-output ratio, labor-output ratio, labor-administrative cost per output, etc. can be adopted.

It has been specified within the different intermittent plans that one of the basic reasons behind making Public Enterprises in Nepal is to create business openings and decrease economic imbalances. Hence, it can be watched that many Public Enterprises are anticipated to pursue social targets instead of financial ones.

The optimal objective function of a Public Enterprises involves three groups of variables, per employee profit, per employee costs, and Liquidity. While reviewing the literary works to find a way to evaluate the performance of public enterprises is to consider their profitability indicators. For this reason, we selected four variables to represent profitability: Return on Equity (ROE), Return on Assets (ROA), Profit Margin, and Cash Flow over Operating Income. ROE and ROA is the most traditional way of evaluating how the enterprises manage the capital. They are crucial elements for the analysis of the profitability of public enterprises. Return on Assets (ROA) is one of the profitability ratios. The financial statement analysis is most often highlighted because it measures the company's success to generate profits. It measures effectiveness to generate profit in the past and then predicts the future. A Higher ROA value indicates the company's better performance, as it shows a higher return on investment rate. A positive profit margin and positive cash flow indicate the profitability of a firm. Here I opted to use several indicators of profitability i.e, Return on Equity (ROE), to provide a more comprehensive framework of evaluation.

The optimal goal of public enterprises is to maximize profit per employee, minimize per employee cost, and maximize liquidity (cash flow, solvency, or power to pay back debt). To analyze the causal impact of various factors on a macro framework, panel regression was attempted with financial

performance as the dependent variable and Return on Equity (ROE) as the dependent variable while Liquidity, Leverage, Assets utilization, and firm size as an independent variable.

The financial performance involves a noteworthy performance evaluation of Public Enterprises. Financial profitability, concerning the financial performance evaluation, shows its "ability to keep down costs. Profitability also affects the amount of investment, for much industrial investment is financed out of reinvested profits, and hence the contribution of the firm to the overall growth of the economy" (kellick,1983). Similarly, (Mary M. Shirley, 1983:30) argues that "profit is a composite indicator that applies positive weights (price) to benefits (outputs) and negative weights to costs (inputs). If the prices are correct, a profit-maximizing firm strives to achieve maximum benefits for minimum costs- the definition of efficiency." The Nepalese Public Enterprises have been generally criticized on the ground of financial performance. Despite the tremendous capital speculation, these endeavors have not been able to uncover palatable budgetary returns on the capital utilized.

I briefly analyzed the sectoral investment, profitability, sectoral rate of return, and fund flow between government and Public Enterprises. The study will analyze financial performance using significant variables that are relevant influences financial performance.

### **2.3.1 Return on Equity (ROE):**

ROE is the profitability ratio that measures the company's ability to generate profit based on share capital owned by the company. An enterprise capable of generating a high return on equity is more likely to be one that is capable of generating cash internally. Return on Equity (ROE) and Return on Assets (ROA) is one of the all-time favorites and perhaps the most widely used overall measure of corporate financial performance (Rappaport, 1986). This was confirmed by (Monteiro, 2006), who stated that ROE is perhaps the most important ratio an investor should consider.

### **2.3.2 Liquidity:**

Whether a business can pay its bills on time is an accurate measure of liquidity. This is a significant factor for the creditors of the company. Liquidity ratios are financial ratios that are used to measure a firm's ability to pay its bills on time. They find out the company's capacity to fulfill its short run obligations. These ratios calculate the company's capacity to meet its short-term obligations out of existing or liquid assets and thus concentrate on current assets and current liabilities. The current ratio is usually used to measure the liquidity of the firm. One of the most common working capital measures is the current ratio, which compares current assets with current liabilities. The current ratio is negatively significant to Malaysian firms' financial performance (Binti Mohamad & Mohd Saad, 2010).

Cash management is not as easy as it seems. It includes various important aspects that enable the costs and benefits to be considered minutely. Some theories emphasize the estimation of the costs and advantages of various liquidity levels. The theory of trade-off advocates that the management of business emphasizes good liquidity levels in order to minimize the cost and increase the benefits of cash holdings. The cash reserves cost provides a low return due to liquidity premiums and tax drawbacks of these liquid assets. (Owolabi & Obida, 2012). The theory of the pecking order explains the need for cash holdings to increase efficiency. This philosophy was proposed by (Myers & Majluf, 1984), which helps to explain the significance of liquid assets held internally.

Wald, 1999 showed positive and significant relation between profitability and the debt-assets ratio. Profitability was defined in earnings before interest and tax (EBIT) (Rajan & Zingales, 1995). Various theories link working capital management and profitability. (Teruel and Solano, 2005) explain that risk and return theory suggests that higher risk investment will create higher returns. Therefore, companies with high liquidity in their working capital will



have a low risk of fulfilling their liabilities and will get a minimum return. Based on that, it can be said that to achieve a high level of profit, the business must possibly hold the working capital to gain a high return even though risk increases.

### **2.3.3 Assets Utilization:**

According to Ellis (1998), assets utilization measures which assets can produce and what they produce. Conversely, asset dis-utilization represents losses in revenue concerning the investment that may be attributable to the inefficient use of assets. (Okwo, Okelue, & Nweze, 2012) a study of investment in fixed assets and company profitability. It was discovered the relationship is positive, but the outcome is not statistically significant. Research on the optimal allocation of assets structure and business performance and the finding showed a statistically significant relationship between the structure of assets and business performance (Xu & Xu, 2013). (Ablanedo-Rosas, Gao, Zheng, Alidaee, & Wang, 2010) (Wu, Li, & Zhu, 2010) (Gupta, Jain, & Yadav, 2011) found out that assets utilization has a considerable impact on its financial performance.

### **2.3.4 Leverage:**

Most empirical studies have found a negative association between leverage and company returns. Leverage is negatively associated with operating performance (ROE). The influence of leverage on operating performance is non-monotonic, offering a possible reason for the mixed results to indicate the relationship between leverage and performance (Vithessonthi & Tongurai, 2015).

A firm's capital structure is the mixture of debt and equity that enterprises use in its operation. The theory of "Pecking order" suggests that public

enterprises will initially rely on internally through retained earnings. If this source of financing is unavailable, then only the company should eventually turn to debt. The last resort a company should finance itself is through issuing the new equity.

Aquino (2010) studied the capital structure of listed and unlisted Philippine firms. His study showed that a high debt ratio is positively associated with its growth rate and profitability. Joshua (2005) research paper revealed a significant relationship between total debt ratio to total assets and ROE. (George & Hwang, 2010) Found a significant negative relationship between leverage and stock return and primarily emphasized the reliance on the business sector. The results suggest that the financial performance between high levered and low levered companies have no significant difference. A negative relationship exists between leverage and financial performance (Nisha & Ghosh, 2018)

It means that the company's optimum capital structure would require the trade-off between the impact of corporate and personal income, bankruptcy costs and agency costs, etc. (Jensen & Meckling, 1976). (Modigliani & Miller, 1958) The "irrelevance" of capital structure. Their groundbreaking article found that in the absence of capital, the cost of bankruptcy, and tax subsidies on the interest payment. The enterprise is independent of the capital structure. The theorem of Modigliani-Miller has based on the premise that the chance is the allocation of cash flows to the company is independent of the composition of the resources.

The study of the optimal capital structure theory invariably starts with Modigliani & Miller, 1958). They assumed perfect and frictionless capital markets, in which financial innovation would quickly extinguish any deviation from their predicted equilibrium. Since then, the research has progressed from academic models to practical reality, and the literature shows that capital structure choice does matter and is relevant to firm value (Fischer, Heinkel, & Zechner, 1989; Jensen & Meckling, 1976; Myers & Majluf, 1984).

Leverage has been shown to be linked to business size, growth potential, liquidation, and asset valuation, and this is consistent with trade-off theory predictions. (Chang & Dasgupta, 2009). Studies that report the significance of target leverage as a determinant of the option of debt/equity choice also support the trade-off hypothesis (Jalilvand & Harris, 1984).

The pecking order model on the other hand typically outperforms the trade-off model when describing the time-series variation in leverage (Shyam-Sunder & Myers, 1999). He introduces a new test of the pecking order Model that shows that a simple pecking order model can outperform the static trade-off model while explaining the time-series variation target leverage. However, (Chirinko and Singha, 2000 point out a drawback of (Shyam-Sunder and Myers', 1999) model and argue that their model evaluates neither the pecking order nor the static trade-off model and suggests that alternative tests are needed to identify the determinants of capital structure that can better distinguish among competing hypotheses.

- **Agency Costs Theory:**

(Jensen & Meckling, 1976) Defining debt as a disciplinary mechanism to ensure that executives prioritize the production of wealth for the Shareholders. Therefore, increasing debts can be used to reduce the scope of managers and create the welfare of the equity holders. It means that debt repayment reduces the cash flows available to managers. On the other hand, however, he notes that this decline would reduce the likelihood of productive investment. Thus, less-debt firms have more investment options and have more liquidity than other successful companies in the industry. It means that debt repayment reduces the cash flows available to managers. On the other hand, (Huang, 2006) notes that this decline would reduce productive investment likelihood. Thus, less-debt firms have more investment options and have more liquidity than other successful companies in the industry.

- **Choice – pecking order theory of financing**

(Myers & Majluf, 1984) Pecking order theory assumed that companies prefer funding from internal sources to stock issuance, and when there is not an adequate internal source, they refer to borrowing debt.

The primary inference drawn from the theories of asymmetric knowledge is that a hierarchy of firm preferences regarding the financing of their investments. This hierarchy of firm preferences recommends using internally available funds, followed by debt, and finally through external equity. Hence, to maximize the return to shareholders, companies should favor internal finance over external finance, as financial performance is negatively linked to debt/leverage. (Dimitrov & Jain, 2003) Operational performance of firms proposed another. They argued that if managers have access to the inside information about the potential operating performance, they will borrow debt. Thus increasing the leverage is, therefore, signals poor performance of the firm.

(Titman & Wessels, 1988) Confirmed the results of Mayers that believed an increase of leverage would decrease profitability. However, unlike Mayers, Janson predicts a positive link between financial leverage and profitability in an efficient market. If the market is inefficient, there will be a negative relationship between them. (Titman & Wessels, 1988) concluded to the commonly recognized "capital structure irrelevance" principles where financial leverage does not affect its market value. Their theory was, however, founded on very limiting assumptions that do not exist in the real world. However, their theory was founded on very conservative assumptions that go into existence in the real world. These assumptions include a perfect capital market, homogeneous expectations, no taxes, and no transaction costs. (Friend & Lang, 1988) Their theory was, however, founded on very limiting assumptions that do not exist in the real world. debt/assets ratios. (Rajan & Zingales, 1995) a substantially negative association between profitability and leverage is also verified. To boost their financial performance, companies should either aim to maintain a target leverage level consistent with the trade-off theory or adopt a funding hierarchy consistent with the pecking order theory.

While a large amount of bad debt hinders business efficiency compared to revenue, the agency hypothesis can explain the detrimental impact of relatively high net worth on profit rates that increased borrowing appears to increase scrutiny by lending agencies, thereby giving managers of the company greater access to lenders' expertise in handling their financial circumstances. The dispute between shareholders' and creditors' advantages has advice such as borrower interest rate rises, the addition of supervision costs, and decreased investment. This dispute thus shows that high leverage contributes to poor results. (Jenson & Meckling, 1976)

Also, when associated with Trade-off Theory, which explains a balance between financial gains and losses on the use of debt, the balance factor can contribute to the lack of liquidity effect on profitability. This study's results are supported by the results of research conducted by (Wanguu & Kipkirui, 2015). However, this study's results do not align with (Shivakumar and Thimmaiah, 2015); studies conclude that liquidity significantly affects profitability.

### **2.3.5 Firm Size:**

A positive relationship between firm size and profitability was found by (Vijayakumar & Tamizhselvan, 2010). (Lee, 2009) examined the role that firm size plays in profitability. Results showed that firm size plays a vital role in explaining profitability. Papadognas (2007) analyzed a sample of 3035 Greek Manufacturing firms and revealed that for all size classes, firms profitability is positively influenced by firm size.

The size-profit relationship tested for companies operating in the financial services business. With the linear company size specification, the authors revealed that company size had a negative effect on its profitability. (Amato & Burson, 2007). The (Falope & Ajilore, 2009) study also found no significant differences in the effect of managing working capital between large and small companies in Nigeria using a sample of 50 listed companies.

The relationship between firm size and efficiency is unclear, a priori. The organizational theory and strategy perspectives provide an ambiguous prediction on the effect of size. On the one hand, larger size enables more significant differentiation and specialization and should lead to higher efficiency (Singla, 2011). On the other, it makes the managerial task more difficult due to increased coordination requirements and bureaucratization (Downs, 1967).

- **Theory of Scale of Economies:**

The theory of scale of economies assumes the cost-effectiveness gained by companies due to their scale of operation. The cost per output unit decreases with increasing scale. Based on economies of scale, the degree of market influence may include technological, statistical, organizational, or related factors.

The rationale of the scale economy for a positive relationship between company size and profitability is prominent in the works of (Hall & Weiss, 1967), (Stekler, 1964), (Alexander, 1949). (Akbas & Karaduman, 2012) examined the scale and profitability of businesses. They used panel data for the period 2005-2011 from public manufacturing companies in Turkey. Their research found that the company's size had a significant and essential impact on profitability. (Demsetz, 1973) showed different explanations for the relationship between company size and profitability, suggesting that big corporations' greater profits do not have to do with economies of traditional scale. Demsetz claims that, due to superior management, some companies are only more effective than others.

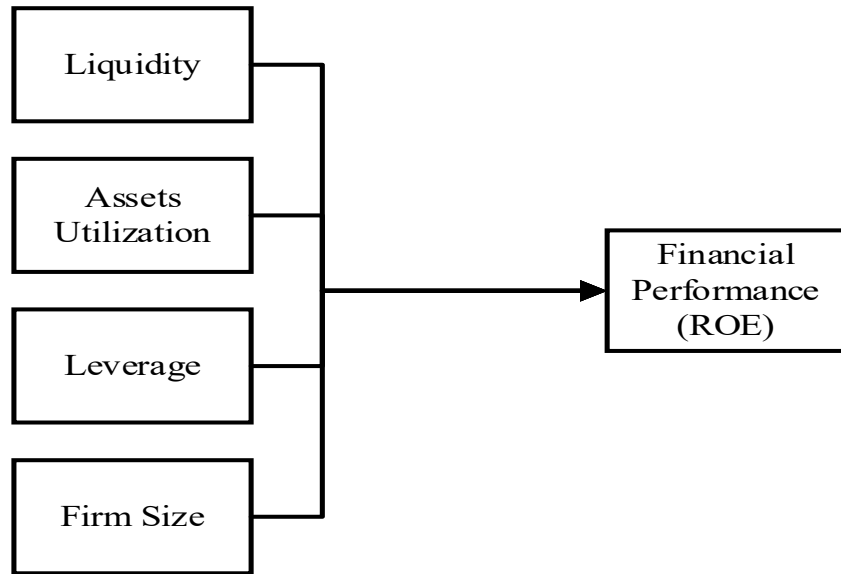
## **Chapter 3. Research Method**

An efficient research method must be applied to address the research questions and to test the hypothesis formed. This chapter addressed the research framework used, explanations of how the calculation is carried out for each element, data collection method, population and study, data analysis, and research validity and reliability.

### **3.1 Research Framework:**

The method chosen for this study is the Quantitative Approach. This approach emphasizes the statistical and numerical analysis of data collected. The variables' analysis is based on specific theories, and specific hypotheses are formulated to determine the theories' significance.

The purpose of this study is to conduct an in-depth analysis to find empirical evidence on whether there is a relationship between Return on Equity (ROE) and Liquidity, leverage, assets utilization, firm size, and sectors of enterprises. Hence, the research purpose is categorized as Explanatory Research (Babbie, 2020). To understand the relationship between the variables, the following research framework is used.



**Figure 1: Conceptual Framework of the Study.**

### **3.1.1 Measurement of Liquidity:**

Liquidity is an independent variable. Liquidity refers to the company's ability to fulfil maturing obligations and transform assets into cash. It refers to the ease and pace at which a company can turn its non-cash assets into cash and the scale of the company's investment in non-cash assets with its short-term liabilities. Liquidity is one of the standard indicators used to measure a debtor's capacity to pay off current obligations. Liquidity is analyzed to determine whether the enterprise can cover its short-term debt with existing liquid assets. Without a significant price concession, the assets is transformed into cash (Salehi & Biglar, 2009). Liquidity's measurement value is used from the annual performance of public enterprises (Yellow Book) published by the Ministry of Finance.



### **3.1.2 Measurement of Assets utilization:**

Asset utilization is the assets turnover ratio that measures the enterprises' productivity in generating income or sales. It compares to the amount of sales on total assets. The assets turnover ratio lets investors understand how enterprises use their assets efficiently to generate revenue. This ratio is used by investors to compare the enterprises to assess who is getting the most out of their assets to generate sales. The assets turnover ratio is determined by dividing the average total assets by net sales or total operating revenue.

### **3.1.3 Measurement of Leverage:**

According to (Rajan & Zingales, 1995), leverage is the ratio of total liabilities to total assets. It is an alternative for the residual claim of equity holders. In simple words, leverage refers to the use of external debt to amplify the return on investment. Leverage refers to a company's funding practices and its ability to satisfy its financial commitments. It is calculated by the debt ratio (total debt-to-total assets ratio), the debt-to-equity ratio, and the financial leverage's effect on earnings. The measurement value of leverage is used from the annual performance of public enterprises (Yellow Book) published by the Ministry of Finance. The data of leverage was not available for all enterprises. So only nine enterprises were taken into consideration to measure their impact on Return on Equity.

### **3.1.4 Measurement of Firm size:**

The Industrial Enterprise Act 2020 of Nepal classifies enterprises based on the value of fixed assets. Since the size of public enterprises is not categorized. I assume the amount of total assets as the indicator to measure the firm size. The measurement value is gathered from the current year report of public enterprises, 2019.

### 3.1.5 Measurement of Sector:

Public Enterprises in Nepal are categorized into six categories. I assigned the enterprises in the following ways.

**Table 2: Categorization of Sectors of Public Enterprises**

Sector	Number assigned
Industrial	1
Trading	2
Service	3
Social	4
Public Utility	5
Financial	6

### 3.1.5 Measurement of Return on Equity:

Performance is measured either through direct statistical analysis of time series or cross-sectional data of the enterprises: themselves or comparisons with the private sector enterprises which are alike. Performance is concerned with the efficiency, particularly the efficiency of at least three facets, i.e., technical efficiency, financial efficiency or cost minimization and overall efficiency of the enterprise. ROE is one of the significant financial variables which measures the performance of public enterprises.

ROE is determined by taking the net profit for each stated year over shareholder's equity. ROE reflects what return the company makes on the funds invested in the company by the shareholders. ROE tests the capacity of leadership to get the job done. It is said that a company that has a strong return on

equity is one that can produce cash internally. Return on Equity of the Enterprise for every year is collected from the annual performance reports of public enterprises published by the Ministry of Finance.

### **3.2 Data Gathering:**

The Data were collected with quantitative methods from the Ministry of Finance, National Planning Commission, Nepal Rastra Bank, Central Bureau of Statistics for ten years, starting from 2010 to 2019 A.D.

### **3.3 Population and Sample:**

When Collecting the quantitative data by the secondary data, the population is defined as all the operating public enterprises of Nepal (37 Public Enterprises). Samples of 26 enterprises are taken based on the data availability of the enterprises. The study's limitations will be further discussed in the sub-chapter of chapter 5 under the limitation of the study.

### **3.4 Data Analysis:**

Upon the gathering of the secondary data, descriptive analysis. The Panel regression model was used to analyze the effect of Liquidity, Assets Utilization, Firm Size, Sector of Public Enterprises on Return on Equity. The study looks at the panel of public enterprises of Nepal and is observed over a period.

The panel data for the cross-sectional regression model is given below:

$$\text{Model 1: } ROE_{it} = \alpha + \beta_1 LIQ_{it} + \beta_2 ASU_{it} + \beta_3 FS_{it} + \beta_4 SO + \epsilon_{it}$$

$$\text{Model 2: } ROE_{it} = \alpha + \beta_1 LIV_{it} + \epsilon_{it}$$

Where,

ROEit: The dependent variable Return on Equity on Liquidity, Assets Utilization, Firm Size, Sector, and Leverage.

$\beta 1LIQ_{it}$ : The independent variable liquidity of  $i^{th}$  of public enterprises unit and  $t^{th}$  time period.

$\beta 2ASU_{it}$ : The independent variable Assets utilization of  $i^{th}$  of public enterprises unit and  $t^{th}$  time period.

$\beta 3FS_{it}$ : The independent variable Firm size of  $i^{th}$  of public enterprises unit and  $t^{th}$  time period.

$\beta 4SO$ : The categorical classification of public enterprises of  $i^{th}$  of public enterprises.

$\epsilon_{it}$ : is the error term in the panel data regression.

In determining the most-appropriate panel regression model, Certain test should be conducted first. The most common test that need to be taken are the Breusch-Pagan Lagrange Multiplier (L.M.) test and F-test for the fixed effect model were executed first. Hausman test was determined if both results of the Pagan Test and F test were both fixed and random effects. The following table was utilized in determining the model for dependent variable.

**Table 3: Guide in Determining Panel Regression Model**

Fixed effect (F test or Wald test)	Random effect (Breusch-Pagan LM test)	Your model
$H_0$ is not rejected (No fixed effect)	$H_0$ is not rejected (No random effect)	Data are poolable. <b>Pooled OLS</b>
$H_0$ is rejected (fixed effect)	$H_0$ is not rejected (No random effect)	<b>Fixed effect model</b>
$H_0$ is not rejected (No fixed effect)	$H_0$ is rejected (random effect)	<b>Random effect model</b>
$H_0$ is rejected (fixed effect)	$H_0$ is rejected (random effect)	(1) Fixed and random effect model <sup>1</sup> or (2) <b>choose one of the two</b> depending on the result of Hausman test (recommended direction).

Source: (Park, 2010)

Model	Breush-Pagan LM Test	F-Test	Panel Model
Model 1	0.7404 (No Random effect)	0.71 ( No Fixed Effect)	<b>Pooled OLS</b>
Model 2	0.6071 (No Random effect)	<0.0001 (Fixed Effect)	<b>Fixed Effect</b>

Considering the two models presented each is subjected to the goodness-of-fit test (Breush-Pagan LM test, F-Test, or Hausman test) to determine the most appropriate model for the regression analysis. The first model was the Pooled OLS. Since there was no random effect and fixed effect found while conducting the F-Test and Breush-Pagan LM test. While the Second model was fitted to fixed-effect model.

## **Chapter 4. Findings, Analysis, and Discussions**

### **4.1 Analysis of Overall Performance of Public Enterprises of Nepal:**

#### **4.1.1 Operational Status of Public Enterprises:**

The fiscal year 2018/19 shows the positive financial performance of Public Enterprises. The Operating income of public enterprises increased from 390926 million in FY 2017/18 to 470262 million, which is around 20.29 %. The 20.29% increment has been seen in operating income, but the overall net profit has increased by 4.28 percent, only amounting to 48774 million. 26 public enterprises are running in profit.

The GoN has a total share investment of Rs. 271839 million in all Public Enterprises, where it received only Rs. 9470 million as a dividend in this F.Y. This dividend has been decreased by 4.28 percent compared to the last F.Y. The unfunded liabilities have increased from 38827 million to 48519 million in FY 2018/2019.

**Table 4: Operational Status of Public Enterprises in Nepal**

<b>Highlights on Operational status of Public Enterprises</b> <b>Rs.</b> <b>(Million)</b>				
S.No.	Particular	FY 2017/2018	FY 2018/2019	Change %
1	Paid up Capital	223066	285504	27.99
2	Total Investment of GoN	364792	464593	27.36
	Share Investment	200370	271840	35.67
	Loan Investment	164421	192753	17.23
3	Shareholders' Fund/Net Worth	504564	610594	21.01
4	Total Operating Income	390927	470262	20.29
5	Administrative Expenses	22246	29470	32.47
6	Overall Net Profit/Loss	43407	48774	12.36
	a. Net Profit of Profit Earning PEs	44102	51597	17
	b. Net Loss of Loss Making P.E.s	-694	-2823	306.58
7	Accumulated Profit/Loss	40076	51669	28.93
	a. Accumulated Profit	95947	92271	-3.83
	b. Accumulated Loss	-55871	-40602	-27.33
8	Dividend	9895	9470	-4.28
9	Unfunded Liabilities	38827	48520	24.96
10	Contingent Liabilities	53413	680142	1173.37
11	Market Capitalization (6 PEs)	224326	236974	5.64
12	No. of P.E.s complete their Audit Status till the correspondence F.Y.	24	23	
13	No. of Profit Earning P.E.s	27	26	
14	No. of Loss Making P.E.s	13	13	
15	No. of P.E.s closed or not in operation	2	5	
16	No. of P.E.s having accumulated profit	19	22	
17	No. of P.E.s having accumulated Loss	21	18	
18	No. of Employees	28522	30769	7.88
19	Remaining Mismatched Amount			
	a. Share Investment	-4321	64621	-249.54
	b. Loan Investment	20938	230185	9.93
20	No. of P.E.s in Existence	39	44	
21	No. of P.E.s in Operation	37	33	

Source: Ministry of finance, 2019

### 4.1.2 Contribution of Operating Income to Gross Domestic Product:

In Fiscal Year 2018/19, Gross Domestic product was 3458793 million, among which the contribution of Public Enterprises was 13.60 %. This is highest average among last 5 years period. If we see the previous 5 years data, In FY 2015/16 Public Enterprises contributed 10.67% which is least among last 5 years. The Trading sector's contribution is highest by 7.52% while Social Sector contributes the least i.e. 0.06%.

**Table 5: Contribution of Total Operating Income to GDP**

<b>Contribution of Total Operating Income to Gross Domestic Product (Percentage)</b>					
<b>Sector</b>	<b>Fiscal Year</b>				
	2014/15	2015/16	2016/17	2017/18	2018/19
Industrial	0.31	0.29	0.28	0.25	0.21
Trading	7.09	4.76	6.14	6.81	7.52
Service	0.6	0.65	0.56	0.68	0.75
Social	0.07	0.07	0.07	0.08	0.06
Public Utility	3.29	3.24	3.28	3.15	3.01
Financial	1.61	1.67	1.72	1.87	2.04
<b>Contribution of Total Operating Income to Gross Domestic Product</b>	12.96	10.67	12.05	12.84	13.6

Source: Central Bureau of Statistics, Nepal and Related Public Enterprises.



### 4.1.3 Contribution to Revenue:

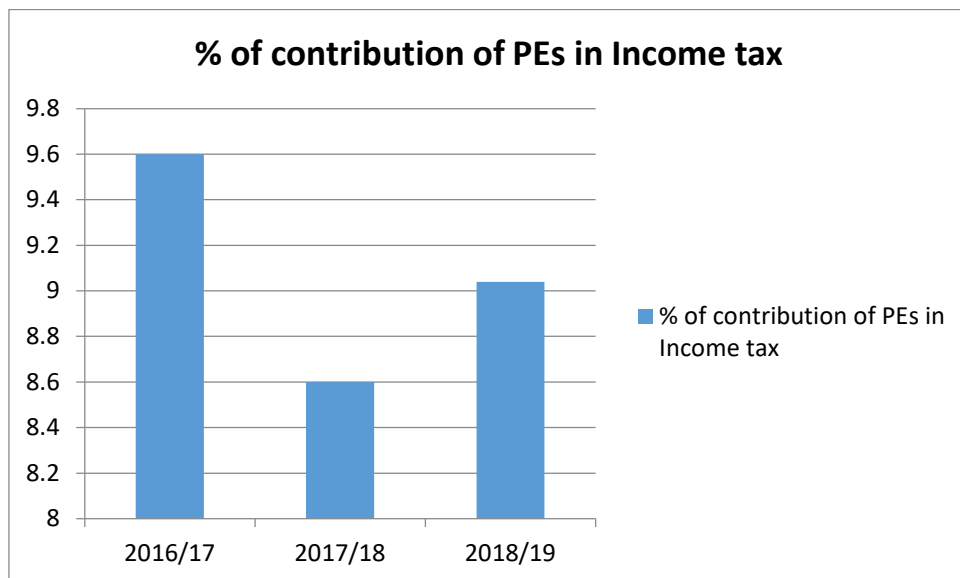
**Table 6: Sectoral Contribution of Revenue**

<b>Contribution</b>	<b>P.E.s</b>	<b>in</b>	<b>Income</b>	<b>Tax</b>
			<b>in(Rs. Million)</b>	
<b>Sector</b>	<b>Fiscal Year</b>			
	2016/17	2017/18	2018/19	
Industrial	0	43	17	
Trading	4163	1340	2988	
Service	672	715	1550	
Social	56	34	42	
Public Utility	5203	6703	6032	
Financial	4131	4911	6943	
<b>Contribution PEs in Income Tax (Percent)</b>	9.6	8.6	9.04	

Source: Ministry of Finance, 2019

The financial sector is contributing an Income Tax of Rs. 6943 million most among all the sectors while public utility sectors contribute Rs. 6032 million followed by Trading sector, Service Sectors, and Social sector and Industrial sectors. The contribution of Public Enterprises in Income tax is 9.04 percent in 2018/19 which was 8.6 percent the previous year.

**Figure 2: Percentage Contribution of Pes in Income Tax**



#### **4.1.4 Contribution on Employment:**

Twenty-seven thousand eight hundred sixty-two employees were working in Public Enterprises in fiscal year 2014/15. The number increased to 30769 by fiscal year 2018/19, which is 7.88%. The number of employees in the service sector is 13980, which is the highest contributor to employment, 45.44%, while the trading sector has the least 1442 employees working, 4.09%. The industrial sector employment increased by 2172 employees in fiscal year 2018/19, 94.70 % more than the previous fiscal year. Hetauda Cement Industry includes contracts and daily wagers in its employee list, so the increased number. In fiscal year 2018/19, the contribution of Public Enterprises was 0.43% of total Nepal employment, i.e., of 708 million (Nepal Labor force Survey 2017/18).

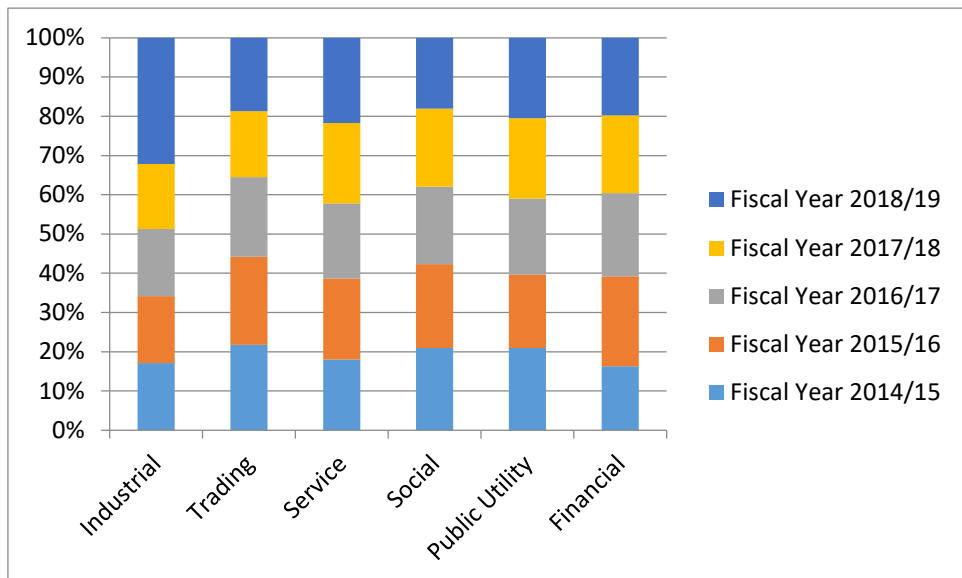
**Table 7: Status of Employment over last 5 years**

<b>Status of Employment Over the Last Five Years Period (Percentage)</b>					
<b>Sector</b>	<b>Fiscal Year</b>				
	2014/15	2015/16	2016/17	2017/18	2018/19
Industrial	2252	2241	2245	2172	4229
Trading	1678	1728	1568	1291	1442
Service	2426	2787	2576	2759	2926
Social	1463	1487	1373	1386	1259
Public Utility	14329	12729	13232	13983	13980
Financial	5714	8036	7411	6931	6933
<b>Total</b>	<b>27862</b>	<b>29008</b>	<b>28405</b>	<b>28522</b>	<b>30769</b>

Source: ministry of finance, 2019

The Public Enterprises in Nepal are one of the major source for employment in Nepal. The Public Utility Sectors is the top employer giving employment to 13980 employees. While Financial sectors gives employment to 6933 employees followed by Industrial Sectors, Service Sectors, Trading Sector and Social Sector with 4229 employee, 2922 employee, 1442 employee and 1259 employees respectively. The Total Contribution to Employment is increased to 30769 employees in fiscal year 2018/2019 in compared to 28522 employees in fiscal year 2017/18.

**Figure 3: Contribution of employment in last 5 years**



#### **4.1.5 Consolidated Balance Sheet:**

In FY 2018/19, the total paid-up capital of Public Enterprises has reached Rs. 285504 million, which is increased by 27.99 percent compared to the last fiscal year 2017/18. The Accumulated Profit has been increased by 28.93 percent and reached Rs. 249777 million. The increment of 17.53 % has been seen in both sets and liabilities sides and earned Rs 1630677 million.

**Table 8: Consolidated Balance Sheet of Public Enterprises**

Consolidated	Balance		Sheet
	Rs. (Million)		
Particulars	Mid july2018	Mid July 2019	Change %
Paid-up Capital	223066	285504	27.99
Share Premium	-	3263	
Advance Received on Share Investment	5491	6640	20.93
General Reserve	239871	266885	11.26
Accumulated Profit/Loss	40076	51669	28.93
Medium and Long-Term Loan	190114	249777	31.38
Short-Term Loan/Deposit	479764	559169	16.55
Current and Other Liabilities and Reserve	209088	207770	-0.63
Grand Total	1387470	1630677	17.53
Net Fixed Assets	363583	429593	18.16
Investment	203751	275686	35.31
Loan Investment	316558	371940	17.5
Cash and Bank Balance	194104	181646	-6.42
Current Assets	166361	228435	37.31
Other Assets	143113	143377	0.18
Total	1387470	1630677	17.53

**Source: Yellow book MoF, 2019.**

## 4.2 Hypothesis test and discussion:

As discussed in Chapter 2, 3 hypotheses are developed to understand the relationship between Return on Equity and Liquidity, Assets Utilization, Leverage and Size of Enterprises. To test the hypothesis, Panel data regression analysis was done.

A panel data regression analysis was done to measure the relationship between return on Equity and Liquidity, Assets utilization, and Firm size for the better understanding. The results of panel data regression analysis in model 1. Return on Equity (ROE) is a dependent variable. Results show that the variables of Liquidity (LIQ) and Firm Size Assets Utilization Ratio (ASU) and Sector of Public Enterprises.

### 4.2.1 Hypothesis 1: Liquidity has a negative effect on the financial performance of public enterprises in Nepal

To better understand this hypothesis I develop the regression model between Liquidity and financial performance i.e. ROE given below.

$$\text{Model 1: } ROE_{it} = \alpha + \beta_1 LIQ_{it} + \beta_2 ASU_{it} + \beta_3 FS_{it} + \beta_4 SO + \varepsilon_{it}$$

Here the ROE means return on equity which is dependent variable on Liquidity and  $\alpha$  is intercept and  $\beta_1$  is slope of liquidity  $i^{th}$  of public enterprises unit and  $t^{th}$  time period.

In the first model,  $\alpha$  is the intercept of the relationship. At the same time,  $\beta_1$  to  $\beta_4$  is the coefficient of parameter estimates of each corresponding variable, and  $\varepsilon$  is the error term, which shows the difference in observed data with actual data.

The result of the model 1 could be seen in table below. The liquidity does not show any significance to the Return on Equity. The result of the model 1 could be seen in the table presented below. The Return in Equity is not significant with any of the variables at a 95 % confidence level. The model fit

shown  $R^2=0.0362$ , which shows that an independent variable explains only 3.62 % of the variance.

The Liquidity ratio coefficient is 0.233093, indicating that when the Liquidity ratio increases by 1 percentage with the assumption of all variables remaining constant, the Return on Equity will increase by a 0.233093 percentage.

**Table 9: Breusch-Pagan Test**

Heteroscedasticity Test					
Equation	Test	Statistic	DF	Pr > ChiSq	Variables
ROE	White's Test	5.15	14	0.9836	Cross of all vars
	Breusch-Pagan	1.97	4	0.7404	1, ASU, LIQ, SO, FS

The Breusch-Pagan Lagrange Multiplier (L.M.) test and F-test for the fixed effect model were executed first

F Test for No Fixed Effects			
Num DF	Den DF	F Value	Pr > F
25	223	0.71	0.8475

After doing the Breusch-Pagan Lagrange Multiplier (L.M.) test and F-test and the value was 0.8475 that we  $H_0$  is not rejected. After doing the above test, Pooled OLS model was taken into consideration for the analysis of data.

**Table 10: Result of Panel Regression Analysis**

Fit Statistics			
SSE	4454698.677	DFE	243
MSE	18332.0933	Root MSE	135.3961
R-Square	0.0362		

Parameter Estimates						
Variable	DF	Estimate	Standard Error	t Value	Pr >  t	Label
Intercept	1	29.67999	19.6989	1.51	0.1332	Intercept
ASU	1	-2.55773	1.0748	-2.38	0.0181	ASU
LIQ	1	0.233093	0.6426	0.36	0.7171	LIQ
SO1	1	-0.94059	27.4693	-0.03	0.9727	SO = 1
SO2	1	-25.9867	28.8853	-0.90	0.3692	SO = 2
SO3	1	-37.7528	26.5467	-1.42	0.1563	SO = 3
SO4	1	-33.9907	37.1597	-0.91	0.3612	SO = 4
SO5	1	-40.5737	30.8121	-1.32	0.1891	SO = 5
SO6	0	0	.	.	.	SO = 6
FS	1	0.000074	0.000186	0.40	0.6921	FS

#### **4.2.2 Hypothesis 2: Assets utilization has a positive effect on the financial performance of public enterprises in Nepal**

To test the hypothesis 2, the same model used in the hypothesis 1 is used. The ROE is the dependent variable and ASU is the independent variable of  $i^{\text{th}}$  of public enterprises and  $t^{\text{th}}$  time period.

The Assest utilization ratio coefficient is -2.5573, indicating that when the assets utilization increases by one percentage point, assuming that other variables remain the same, then the Return on Equity (ROE) will decrease 2.5573 percent.



### **4.2.3 Hypothesis 3: There is no significant relationship between firm size and the financial performance of public enterprises in Nepal.**

To test the hypothesis 3, the same model used in the hypothesis 1 is used. The ROE is the dependent variable and Size is the independent variable of  $i^{th}$  of public enterprises and  $t^{th}$  time period.

The results shows no any significance with the firm size and the financial performance of the public enterprises.

Taking the Finance enterprise as the base for comparing the performance of all six public enterprises. Industrial Sector (SO1) earns -0.94059 percent less profit than the Finance Sector (SO6). Similarly, Trading Sector (SO2), Service Sector (SO3), Social Sector (SO4), and Public Utility Sector (SO5) earns -25.9867, -37.7528, -33.9907, and -40.5737 less Return on Equity respectively than Finance Sector (SO6).

### **4.2.4 Hypothesis 4: Leverage has a negative effect on the financial performance of public enterprises in Nepal**

The model 2 was used to test the hypothesis 4 which is given below:

**Model 2:  $ROE_{it} = \alpha + \beta_1 LIV_{it} + \epsilon_{it}$**

Here the ROE means return on equity which is dependent variable on Leverage and  $\alpha$  is intercept and  $\beta_1$  is slope of Leverage  $i^{th}$  of public enterprises unit and  $t^{th}$  time period.

In the second model,  $\alpha$  is the intercept of the relationship. At the same time,  $\beta_1$  is the coefficient of parameter estimates of independent variable, and  $\epsilon$  is the error term, which shows the difference in observed data with actual data.

The Breusch-Pagan Lagrange Multiplier (L.M.) test and F-test for the fixed effect model were executed first. Hausman test was determined if both results of the Pagan Test and F test were both fixed and random effects. After doing the above test, Fixed Effect model was taken into consideration for the analysis of data.

**Table 11: Result of Panel Regression Analysis**

The PANEL Procedure			
Fixed Two-Way Estimates			
Dependent Variable: ROE (ROE)			
Model Description			
Estimation Method		FixTwo	
Number of Cross Sections		9	
Time Series Length		10	

Fit Statistics			
SSE	46595.5154	DFE	71
MSE	656.2749	Root MSE	25.6179
R-Square	0.6071		

F Test for No Fixed Effects			
Num DF	Den DF	F Value	Pr > F
17	71	5.58	<.0001

Parameter Estimates						
Variable	DF	Estimate	Standard Error	t Value	Pr >  t	Label
Intercept	1	60.98916	11.6024	5.26	<.0001	Intercept
LIV	1	-0.95819	2.0407	-0.47	0.6401	LIV

The result of model 2 could be seen in the table presented below. The Return in Equity is not significant with any of the variables in a 95 % confidence level. The model fit shown  $R^2=0.6071$ , which shows that an independent variable explains 60.71 % of the variance. Since the P-value is 0.6401, The leverage does not establish any relationship with Return on Equity (ROE).

**Table 12 : Summary of Hypotheses Tests**

S. No.	Hypothesis	Remarks
1	Liquidity has a negative effect on the financial performance of public enterprises in Nepal.	<b>Not Significant</b>
2	Assets utilization has a positive effect on the financial performance of public enterprises in Nepal.	<b>Not Significant</b>
3	There is no significant relationship between firm size and the financial performance of public enterprises in Nepal.	<b>Not Significant</b>
4	Leverage has a negative effect on the financial performance of public enterprises in Nepal.	<b>Not Significant</b>

Based on the descriptive statistics, there is no any significance of Liquidity, Assets Utilization, Liquidity and Size of Public Enterprises on the financial performance of the Public Enterprises in Nepal. To test these variables test was carried out but unfortunately, it showed no significant relationship.

### **4.3 Main Study Interpretation and Possible Policy Implications:**

The Return of Equity of Public Enterprises is not significantly affected by Liquidity, asset utilization, Leverage, and Size of Enterprise. The study found no significant relationship at all. These findings, unfortunately, considering that existing studies show no direct link with Return on Equity.

The Public Enterprises in Nepal cannot develop the sound financial reporting and does not show financial coherence with general principles and theories. The existing reporting mechanisms and actual status of public enterprises' financial performance need rigorous scrutiny to validate their real financial account.

Considering the model fitness, the dependent variable (ROE) could be affected by many other variables, the Public enterprises of Nepal might need other forms of reforms. To understand and precisely determine different kinds of reform, further research need to carry on. The following considerations will be discussed on Chapter 5.

## **Chapter 5. Conclusions**

### **5.1 Conclusion**

There are no financial factors that determine the financial performance, Return on Equity in Nepal. Based on existing studies, return on equity is affected by ASU, LIQ, SO, and firms. However, based on the regression model, Nepal's Public enterprises' return of equity is not significantly affected by the independent variables. The  $R^2$  is at 0.0362. It also shows the ROE can be affected by other variables not included in the study. The reasons behind these results are explained briefly.

Liquidity ratios show the financial status of the company to pay its short term debt with the available cash. The literature shows a negative relationship between liquidity and leverage. However using panel data regression, it shows no relationship between liquidity and profitability.

Assets Utilization in public enterprises showed no relationship with the return on equity. It was discovered that the assets allocation was not optimally done to generate the earnings concludes that the dis-utilization of fixed assets. It also shows that sales are not supported by the existing assets of the enterprises.

The data used in this research examined the relationship between the leverage and return on equity of Nepalese public enterprises, finding no relationship that does not comply with theory assumptions widely accepted. It is contradictory to most of the literature that concludes the negative relationship between leverage and the return on equity. In my view, public enterprises in Nepal are not handling debt effectively to produce earnings. As there is high debt in most of the enterprises it cannot perform well but increases the cost too much. A huge portion of income goes on paying the interest of the debt. The extreme gap of the debt-equity ratio in the public enterprise might cause different results. The results showed no relationship between enterprise size and financial performance in this study. This is supported by the previous studies (Falope & Ajilore, 2009) which state that there is a non-significant relationship between firm size and firm performance.

Finally, this thesis finds that the leverage, assets utilization, leverage, and size are insignificant on the return of equity (ROE). This validates by the premise that other variables contribute more in the case of Nepal such as expenditures, non-operating expenses, pricing policy, high operation cost, high unfunded liability, and low level of fiscal discipline then it may be too frail to show the relationship.

## **5.2 Recommendations**

Because there are no signs of financial variables on ROE's financial performance, there's a possibility that other non-financial variables might affect the ROE. First, Non-financial factors, such as structural and managerial reform, should be considered to overcome public enterprises' financial incompetence. Following it, the ministry in charge of the Public enterprises needs to consider other variables to optimize Nepal's public enterprises' financial performance.

Secondly, As a government policy in Nepal, public enterprises need Re-thinking strategically towards liquidation and privatization. Public Enterprises with weak financial performance has increasingly created liability to the nation. The most reasonable way is to liquidate or privatize those public enterprises that continuously make a negative return on investment.

Thirdly, Institutional reform should be considered,

- a) Regulate Public Enterprises to publish its financial report on a specific period. Furthermore, Public Enterprises should strongly follow the financial principles of international accounting principles' practices with compliance to Nepal Financial Reporting Standards (NFRS).
- b) Regulate Autonomy and Responsibility of public enterprise board for coordination and promoting competitiveness. And they should be given adequate legal basis and autonomy promoting professionalism in Public Enterprises in Nepal.

- c) Public Enterprise should clearly define vision and Goals. Ministries in charge of each Public Enterprises should revise the existing policy of public enterprises and enhance the managerial reform to ensure the quality of services delivery and significant return on government investment. The enterprises should be economically feasible and strategically important enterprises to the country.
- d) Reform the management and operation of Public Enterprises by appointing properly qualified competent professionals to increase production and productivity
- e) The autonomy of the Public Enterprises must be clearly outlined and defined to create a competitive economic climate and efficient regulatory environment.

### **5.3 Limitations of the Study**

The study tried to reach a conclusion only referring to the secondary data available in the various reports and ministry publications. Since the data gathering is done via the Ministry of Finance Reports, during the Pandemic, since the Public Enterprise is not regularly updating the website, the data analysis is limited to only available data and cross-validation of data with the ministry of finance couldn't be conducted. The study did not adjust for inflationary factors affecting the financial statement was made.

To compensate for the missing data, future research could be carried with mixed-method analysis. The missing element from quantitative data, such as the financial report's unavailability, could be replaced by qualitative data, such as in-depth interviews with key informants managing the Public Enterprises, such as CEOs of Public Enterprises, Government Officials from Ministries engaged with Public Enterprises. Based on the qualitative data, the study will better understand Nepal's real scenario and construct a clear and accurate policy to respond to it.

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# 네팔 공기업의 재무 성과 분석

네팔 헌법은 사회주의 중심의 경제체제를 지향한다. 제 15 차 정기계획 또한 건전하고 경쟁력 있는 공기업을 통한 자립경제 비전을 갖고 있었다. 공기업은 경제와 국민 생활에 영향을 미치는 계획적이고 통제된 경제를 위한 경제적 도구로 간주된다. 그러나 공기업은 효과적인 성과를 거두지 못하고 정부 예산에 상당한 리스크를 초래하고 있다.

네팔 공기업은 일반적으로 재무성과를 이유로 비판을 받아왔다. 공기업의 재무성과는 학계, 대중, 언론에 관심의 초점이 되어 왔다. 막대한 자본 투자에도 불구하고 네팔의 공기업들은 자본 소비에 비하여 바람직한 예산 수익을 창출할 수 없었다. 이 연구는 네팔에서 공기업의 재무 성과를 결정하는 요인을 탐구하고자 했다. 공기업의 재무성과를 측정하기 위하여 성과 측정의 수익성 지표를 사용하였다.

본 연구는 유동성, 레버리지, 자산 활용도, 기업 규모 등 네팔 공공기업의 재무 성과에 영향을 미치는 요인들을 조사한다. 이 연구는 표본으로 네팔의 26 개 공기업을 대상으로 한다. 이 연구의 종속변수는 자본수익률(ROE)이며 독립변수는 유동비율(C.R.)로써 측정한 유동성, 총자산회전비율(TATR)로 측정한 자산활용률, 부채자본비율(D.E)로 측정한 레버리지 및 보유하고 있는 총자산으로 측정한 기업 규모이다. 이 연구는 양적 연구 기법을 사용하였으며 2010 년부터 2019 년까지의 재무제표의 연간 데이터를 사용했다. 패널 회귀 모형은 재무 데이터를 분석하는 데 사용되었다. Breush-Pagan LM Test 와 F-Test 를 수행하여 가장 적합한 검정 방법을 결정하였다. 현존하는 이론들은

중요한 관계성을 상징하고 있다. 그러나 데이터 분석 결과 네팔 공기업에 있어 별다른 관계성이 존재하지 않는 것으로 나타났다.

**주제어:** 기업 성과, 유동성, 자산 활용도, 레버리지, 기업 규모, ROE.

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