ECONOMIC STATUS OF INDUSTRIAL PUBLIC ENTERPRISES IN NEPAL

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DECLARATION

I, Aagya Dahal, would like to declare that this thesis—entitled *Economic Status of Industrial Public Enterprises in Nepal,* submitted to the Department of Economics, Ratna Rajya Laxmi Campus—is my own work. As regards plagiarism, I shall be fully responsible for the subject matter in this thesis. I have duly acknowledged the previous researchers wherever necessary, and the study does not contain any infringement of patent and copyright.

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Date: 10-03-2023

RECOMMENDATION

The thesis, entitled *Economic Status of Industrial Public Enterprises in Nepal,* has been prepared by Aagya Dahal under my supervision. I, hereby, recommend this thesis for examination to the thesis committee as the partial fulfillment of the requirement for the degree of Master of Arts in Economics.

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APPROVAL LETTER

This study—*Economic Status of Industrial Public Enterprises in Nepal,* prepared and submitted by Aagya Dahal to the Department of Economics, Ratna Rajya Laxmi Campus, a Faculty of Humanities and Social Science, Tribhuvan University—has been found satisfactory in quality and accepted by the thesis committee as the partial fulfillment of the requirements for the degree of Master of Arts in Economics.

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ABSTRACT

This study is based on three objectives —one general objective of evaluating the overall status of the industrial public enterprises in Nepal and two specific objectives: (a) to examine the contributions made by the industrial public enterprises to the national economy, and (b) to measure the financial performance of industrial public enterprises. Concerning the methodology, this study has used a descriptive research design to investigate the economic status of five industrial public enterprises over a ten-year period using secondary data. A convenience sampling method was used to select the sample from 44 public enterprises. Descriptive statistics such as percentages and means were used to fulfill the first objective, while financial ratio analysis was used for the second objective. The five enterprises studied are Dairy Development Corporation, Herbs Production and Processing Company Ltd., Hetauda Cement Industry Ltd., Nepal Ausadhi Ltd., and Udaypur Cement Industries Ltd. In regards to the conclusion of the general objective, the number of industrial public enterprises appears to grow during the study period, some of which are jointly owned by the government and private sector. However, regarding the first specific objective, the contribution of these enterprises to GDP and employment seems to decrease over the years. It turns out that there is a fluctuation in the contributions to income tax and VAT which amount to less than 1 percent of the total. Regarding the second objective, most enterprises seem to have net losses except for HPPCL, which has better profitability ratios. Likewise, it appears that DDC has better efficiency ratios. Other enterprises seem to have unsatisfactory financial performance. As for the challenges, pricing dilemmas, management issues, financial indiscipline, poor competition strategy, low investment in technology, and inefficient resource utilization seems to attribute to the poor performance of the enterprises. Thus, this study has highlighted the growth, composition, contributions, and performance of industrial public enterprises by addressing the sectoral and time gap.

Keywords: industrial, public enterprises, GDP, employment, income tax, VAT, profitability, efficiency

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LIST OF ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
DDC	Dairy Development Corporation
FATOR	Fixed Assets Turnover Ratio
GDP	Gross Domestic Product
GON	Government of Nepal
HCIL	Hetauda Cement Industry Ltd.
HPPCL	Herbs Production and Processing Company Ltd.
ITR	Inventory Turnover Ratio
Ltd.	Limited
N/A	Not Available
NAL	Nepal Ausadhi Ltd.
n.d.	No Date
NPM	Net Profit Margin
OECD	Organization for Economic Co-operation and Development
PE	Public Enterprise
ROA	Return on Assets
ROE	Return on Equity
SOE	State-Owned Enterprise
TATOR	Total Assets Turnover Ratio
UCIL	Udaypur Cement Industries Ltd.
VAT	Value Added Tax

CHAPTER 1

INTRODUCTION

This chapter comprises seven sections. The first section is the background of the study which gives information about public enterprises as an introduction to the study. The second section comprises the problem statement. The third section includes the research questions based on which the objectives of the fourth section are based. The fifth section includes the importance of this study. The sixth section comprises the limitations faced by the researcher while conducting the entire study. Lastly, the organization of the study is included in the seventh section informing the readers about what is included in each of the chapters.

1.1 Background of the Study

A developing nation like Nepal is often characterized by low levels of income, and employment along with poor industrialization and infrastructure development. Public enterprises, also known as public undertakings and State-Owned Enterprises (SOEs) are the institutions owned by the government to minimize such gaps and promote welfare in the economy. According to Singh (2008), enterprises that are regulated and guided by the branch or body of the government or directly by the government working for the public interest rather than profit motive are public enterprises. These enterprises are under government control with the ownership either entirely owned by the government or jointly owned with a certain portion of the fund provided by the private sector.

In comparison to private enterprises, public enterprises (PEs) have some distinct features. According to Kennedy (2012), the features of public enterprises that differentiate them are government ownership and control, investments financed by the government, accountability to the general public, and guided by welfare motives. One of the major demarcations between a private and a public enterprise is the service motive. In a country like Nepal, public enterprises cater to the needs of the general public by tapping into the areas of public utility, service, industry, and infrastructure development.

Public enterprises play an integral role in the development of economies lagging behind infrastructure constraints, financial problems, poor industrialization, etc. In developing economies, public enterprises aid in the growth of an economy by redirecting the investments in industrial and infrastructure development projects that are often hindered by scant investments and long gestation periods (Datta, 2019). In most developing countries, the government creates public enterprises to primarily encourage industrialization with aim of import-substitution along with the production and promotion of domestic industrial goods, and key industries that could be used as raw materials by other industries (Asian Development Bank, 2020). The largest infrastructure projects, including those for telecommunications, energy, and railroads, are frequently PEs in many nations. For instance, the top 13 oil producers, which account for 75 percent of the world's oil output, are public enterprises (Kim & Ali, 2017).

Other remarkable contributions of public enterprises include the production of basic commodities such as water, health care, and education. Similarly, governments supply basic services on equitable grounds and offer employment opportunities with the assistance of these enterprises (Asian Development Bank, 2020). Since these enterprises operate in the areas of public utility, infrastructure development, and industries, they provide additional employment opportunities to the working manpower of the country. Public enterprises, with all these contributions, are helping in the overall economic growth of a nation. Operating in different sectors of the economy, they contribute certain shares to the Gross Domestic Product (GDP) of the country. For instance, according to data published by OECD in 2010, public enterprises of China, Vietnam, India, and Thailand have contributed around 30 percent, 38 percent, and 25 percent respectively to the GDP of the country. (Kim & Ali, 2017).

In the context of Nepal, public enterprises have been operating in multifarious sectors for a long time. These enterprises were established with the core objective of promoting social welfare in the country. The first public enterprise of Nepal, Biratnagar Jute Mill was established in the year 1936 A.D. Initiated during the first five-year plan, public enterprises mushroomed and reached 62 during the seventh five-year plan (Ministry of Finance, 2019). Some of the prominent public enterprises operating and

contributing towards the fulfillment of its objectives are Nepal Telecom, Nepal Electricity Authority, Dairy Development Corporation, Agriculture Development Bank Limited, Nepal Water Supply Limited, Gorkhapatra Sansthan, etc. These enterprises specialize and operate in different sectors of the economy. According to the Ministry of Finance (2020), PEs have been established in Nepal primarily to fulfill the objectives as follows.

i. Provision of essential goods and services at a reasonable price.
ii. Easy and convenient access to goods and services.
iii. Provide equitable employment opportunities.
iv. Development of physical infrastructures like communication, transportation, etc.
v. Encourage a self-reliant economy by focusing on import substitution.
vi. Promote social justice by providing equal rights and opportunities in society.

Public enterprises, in Nepal, have had an impact on the economic as well as social indicators of development. From providing a share in the GDP of the country and contributing towards the government revenue to employing manpower and promoting societal welfare, public enterprises have walked in the path of their laid down objectives. For instance, Nepal Telecom paid 9.82 billion in taxes to the government in the fiscal year 2021/22, being the second highest largest tax-paying company in Nepal (Investopaper, 2022).

As of 2020/21, 44 public enterprises exist and operate in Nepal. These enterprises are categorized under 6 prominent sectors, divided by their areas of operation. They are the industrial sector, trading sector, service sector, social sector, public utility sector, and financial sector. Out of the existing 44 public enterprises, 10 belong to the industrial sector, 5 belong to the public utility sector, 4 belong to the trading sector, 9 belong to the financial sector, 5 belong to the social sector, and 11 belong to the service sector (Ministry of Finance, 2022). The categorization of public enterprises respective to their areas of operation is mentioned in Appendix A.

One of the largest sectors in which public enterprises operate is the industrial sector. In many countries of the world, the government operates SOEs in key industries like cement, metals, pharmaceuticals, electronics, etc. which play a crucial role in accelerating industrialization in the country despite increasing privatization (IFC, 2018). The first public enterprise, Biratnagar Jute Mill, belongs to a manufacturing state-owned enterprise. In developing economies like Nepal, where industrial development is hindered by scant investment and long gestation periods, government-owned manufacturing industrial enterprises can initiate the process of industrialization.

A large number of public enterprises in this sector were established between the years 1964 to 1987 with the main objective of providing necessary goods at a reasonable price. These enterprises are mainly focused on the production of goods like milk, cement, medicine, herbs, etc. which are also the key raw materials for other industries. (Wagle et al., 2013).

Out of the current 44 public enterprises, 10 of the enterprises belong to the manufacturing sector. They are Dairy Development Corporation (DDC), Herbs Production and Processing Company Ltd. (HPPCL), Hetauda Cement Industry Ltd. (HCIL), Nepal Ausadhi Ltd. (NAL), Udaypur Cement Industries Ltd.(UCIL), Janakpur Cigarette Factory Ltd., Nepal Orind Magnesite Pvt. Ltd., Butwal Spinning Mill Ltd., Nepal Metal Company Ltd., and Dhaubadi Iron Company Ltd. Out of these, Janakpur Cigarette Factory Ltd., Nepal Orind Magnesite Pvt. Ltd., and Butwal Spinning Mill Ltd. are not in operation. Similarly, Nepal Metal Company Ltd. has not yet come into operation (Ministry of Finance, 2022). Industrial PEs have been contributing towards the GDP of the nation, government revenue, and employment. However, their contribution is very low due to poor performance and the huge losses the enterprises are bearing.

Public enterprises are sometimes prone to poor performance due to multifarious reasons like excess government intervention, weak management, poor utilization of resources, and so on. In comparison to the other sectors of public enterprises, the manufacturing sector falls short in terms of contribution to the national economy. Since the private sector cannot invest huge amounts in industrial development, government-

owned enterprises should have prospered and catered to the need of the consumers. However, the country still relies on huge imported goods owing to the poor performance of manufacturing public enterprises and the failure of the government to establish industries to promote self-sufficiency.

1.2 Statement Problem

Though PEs are the vehicles accelerating economic growth, certain challenges often hinder their performance and achievement of objectives. Low productivity and efficiency, political influence, debt, and losses due to poor financial health and management practices, poor regulations, low accountability and transparency, corruption, monopoly, and anti-competitive behavior, etc often hinder the SOEs in achieving their goals (IEG, n.d.). The scenario is the same in Nepal where the hindrances faced have become a setback in the achievement of the goals. These problems have often led to the fall of public enterprises once established with the hopes of achieving the objectives. Problems like poor management practices, lack of managerial autonomy and initiation, incompetent and inexperienced staff, huge losses, obsolete technologies and low investments in modern ones, inefficient use of resources, etc. have led to unsatisfactory performance, privatization, and shutdown of PEs in Nepal (Ghimire, 2004).

Industrial Public enterprises were mainly established in Nepal for accelerating industrialization and providing the market with key industrial products at a reasonable price. However, this has not been possible due to the huge losses the industries have borne. Being one of the largest sectors of public enterprises in Nepal, their contribution to the national economy is very little. A report by Ministry of Finance (2022) shows that the contribution of the public industrial sector to the national GDP, Government revenue, and employment is one of the lowest among the 6 sectors. Likewise, the financial performance is also abysmal. This has led large industrial public enterprises to undergo either privatization or liquidation. Dhakal (2014) states that this has caused a great cost to a nation in terms of the loss of important key industries, their products, and jobs, along with piling imports and decreasing exports. This provides the context for evaluating the status of industrial public enterprises in the country.

1.3 Research Questions

While trying to study the status of industrial public enterprises in Nepal, this study has attempted to answer the following questions.

1. What is the contribution of industrial public enterprises to the national economy in terms of GDP, Government revenue, and employment?
2. How is the financial performance of industrial public enterprises?

1.4 Research Objectives

The general objective of this study is to evaluate the overall status of public enterprises in the industrial sector in Nepal to identify their standings, and challenges and provide recommendations. The specific objectives of the study are as follows:

1. To examine the contributions made by the industrial public enterprises to the national economy.
2. To measure the financial performance of industrial public enterprises.

1.5 Significance of the Study

In a developing nation like Nepal, industrialization is a huge challenge owing to the low investment capabilities, long gestation period, etc. Public enterprises can fulfill this gap as the government invests huge sums to establish key industries which can further accelerate the industrialization process. In this sense, a study conducted to understand the status of such industries is always vital from various viewpoints.

This study has addressed the sectoral and time gap in research by providing a clear picture of the contribution made by industrial public enterprises to the GDP, government revenue, and employment. Likewise, it also presents the financial performance of the industries of this sector to show the financial health and performance over the years. This will facilitate a better understanding of the industrial public enterprises which will help the policymakers to make better policies for the upliftment of the sector. Likewise, this study will also be helpful to the researchers who would like to carry on research in this field of study. Similarly, it will also provide insights to all the readers who are inquisitive and want to know more about industrial public enterprises.

1.6 Limitations of the Study

This study is subject to certain limitations. They are listed as follows:

1. The findings of this study cannot be generalized to all the public enterprises in Nepal as it is only related to the industrial sector. Every sector has its unique characteristics and their performance differs from one another.
2. The study covers the data only within the timeframe of 10 years.
3. The study is based on secondary data which itself is subject to inconsistencies. Different reporting standards and reporting mistakes present a challenge in obtaining reliable data.
4. The data of one of the public enterprises selected for the study i.e. Nepal Ausadhi Ltd. is not available for all the fiscal years while measuring the inventory turnover ratio, and return on equity.
5. Although varieties of ratios can be measured under profitability and efficiency ratios, only six ratios are used.

1.7 Organization of the Study

This study has been divided into five chapters. The first chapter is the introductory chapter which covers the background of the study, statement of the problem, research questions, objectives of the study, significance, and limitations of the study. The second chapter is the literature review which covers the review of previous works, books, and articles related to the study. It comprises reviews on historical developments, conceptual and empirical reviews, and research gaps. The third chapter explains the methodology adopted to carry out the research. It includes the tools and techniques like research design, sample, source of data collection, data analysis tools, etc employed to carry on the research. The fourth chapter covers the data presentation and analysis using different tools and techniques along with a discussion of the results. Finally, the fifth chapter comprises the findings and conclusion of the study along with the recommendation and scope for further studies.

Thus, this chapter contains all the background information necessary to move the study ahead. It gives an understanding of the study's purpose and focuses by including

background information on PEs, the problem statement, research questions, general and particular objectives, the significance of the study, any limitations encountered, and the organization of the study. The literature review in Chapter 2 includes earlier studies on PEs and will serve as the chapter's justification.

CHAPTER 2

REVIEW OF LITERATURE

This chapter comprises the review of books, journals, articles, prior theses, etc. related to public enterprises by staying within the limitations of the objectives. It consists of concepts, significance, and challenges of PEs through reviewing other people's perspectives in addition to historical and empirical reviews. Finally, there is a research gap that explains why this research is being conducted to close the gap.

2.1 Concept of Public Enterprises

Narain (2005) defined a public enterprise as an enterprise that is owned and managed by the government and has a share of 51 percent or more. The definition has emphasized two dimensions, one being public ownership which implies that the majority of the share is held by the government and the other being a business enterprise as the government expects a certain return on the fund invested and prices are set for goods and services. These enterprises are owned and regulated by the government for a social reason rather than a profit motive as it is thought that certain products or services like utilities, telecommunications, etc. must have state monopoly to protect and serve the general public (Britannica, 2009).

Agrawal (2014) stated the characteristics of public enterprises which differentiate them from private companies. These enterprises are financed by the government as they are owned and controlled wholly or partially by the government. Likewise, even though the management of public enterprises is under government control, the government sometimes nominates a certain body to manage it. Similarly, public enterprises also enjoy financial independence. Even though the initial investment of public enterprises is done by the government, they eventually become financially independent in their needs and expenses. These enterprises price their product and services by considering profitability. One of the major demarcations between the private and public sectors is their service motive. The main aim of public enterprises is to promote social welfare, unlike the private sector which is guided by the profit motive. The other feature of public enterprise

is their area of operation. PEs operates in diverse sectors of the economy not limiting their service to a particular sector.

Tulsian and Pandey (2009) stated that public enterprises carry both economic and social objectives for the betterment of society. They prioritize the establishment of basic and strategic and key industries that can increase more number of industries, promote balanced regional development, curb the monopoly enjoyed by the private sector, and provide necessary goods at a reasonable price. These objectives held by them distinguish from the private sector enterprises that are mostly guided by the profit motive.

2.2 Importance of Public Enterprises

Highlighting the reasons for the establishment of public enterprises, Clive et al. (1984) stated that in many countries public enterprises are important in the traditional key industries, and public utilities like electricity, gas, and water are provided to the public via PEs. The government also owns natural resources industries like coal, copper, petroleum, and other metal industries in the majority of developing nations. Along with this, SOEs account for more than 25 percent of manufacturing industries in these nations where private sector investment is quite low. Large-scale industries like steel, textile, petroleum, and other key materials are the manufacturing public enterprises that are nationalized. Furthermore, based on importance to a certain nation, the enterprises operating in construction, agriculture, service, trade, and other sectors are also nationalized.

Bhatia (2020) also highlighted the rationale for the establishment of public enterprises. The major roles of PEs are economic growth, distributive justice, and counteracting market failure and they are explained as follows:

1. **Economic growth**

   Public enterprises lead to economic growth in a nation by accelerating the pace of capital accumulation as these enterprises can be used as a channel for allocating investment. PEs also make it possible for all-inclusive economic growth by placing a high emphasis on capital goods, infrastructure, and important industries. Similarly, by promoting balanced growth, and aiding infrastructure development previously limited

by lack of capital and long gestation period, public enterprises contribute towards the overall growth of an economy.

2. **Distributive justice**

   Many critics believe that private enterprises are the reasons behind economic inequalities and high levels of unemployment in the nation. This problem can be solved with the help of public enterprises as they operate in different sectors of the economy creating employment opportunities. Likewise, many PEs pursue location policy that focuses on the backward sectors and regions, ultimately weakening the regional disparities and inequalities promoted by the private sector.

3. **Counteracts market failure**

   Many times a market faces several rigidities like problems of asymmetrical information to both buyers and sellers, use of productive resources for the production of harmful goods, and so on. Only public enterprises can overcome such problems.

Cauvery et al. (2007) justified the growth the public enterprises by providing the following rationales.

1. In mixed economies where private and public sectors co-exist, public enterprises operate in the areas where private sectors are undesirable to meet social needs and promote equitable distribution of products.
2. Public enterprises promote economic welfare in the nation unlike private sectors guided by profit motives.
3. Guided by welfare motive, public enterprises produce goods for social needs.
4. Public enterprises are also channels of effective resource mobilization as they mobilize investments and accelerate the process of capital formation.
5. Public enterprises also help in income redistribution. The profits earned by them go towards the welfare cause and not to the private pocket. Likewise, they can practice dual pricing policies like charging a low price to the poor income group. Similarly, disparities in income can be resolved by PEs by increasing employment and salaries of workers.
6. Balanced regional development is also promoted by PEs by focusing on the removal of economic and regional imbalances.

7. A country can earn foreign exchange by exporting goods and services to other nations. However, in a developing country, low capital to start such industries pose a challenge. This can be solved by public sector enterprises as the government invests in industries and the products can be used for export.
8. Public enterprises help in infrastructure development by investing in projects requiring high cost and long gestation periods like telecommunication, railways, public utilities, etc.

2.3 Challenges Faced by Public Enterprises

According to Agarwal (2014a), public enterprises are prone to certain limitations that could challenge their operations. Some of them are specified below.

1. Most public enterprises lack managerial autonomy. The management and the workers have to work under government control which strips the freedom of the management and their initiative power.
2. Though public enterprises work for social welfare, their pricing policy is always met with a dilemma as to include a certain portion of profit or not. Such pricing policy could affect the performance of public enterprises.
3. Since a large number of public enterprises have acquired a monopoly in the market, they are less concerned about the needs and desires of the general people and hence focus less on research and development.

Singh and Gupta (2020) also stated certain challenges faced by public enterprises and they are as follows.

1. The government has to finance the activities as well as the expenses of the public enterprises. As such, the financial burden increases if the expense of public enterprises increases.
2. Decision-making in public enterprises takes a long time. Also, their implementation takes a long time.
3. Public enterprises are often seen as inefficient in their performance. This could be because of the lack of innovation and initiation taken by the enterprise due to the monopoly position enjoyed by them.

4. At certain times customers are bound to purchase the low-quality products produced by public enterprises that have set a monopoly in the market. This exploits both the customers as well the enterprise in the long run.
5. Even after huge investments by the government, many public enterprises do not provide a satisfactory return. Some are also burdened by losses each year due to their pricing policies, stringent controls imposed by the government, etc.

2.4 Manufacturing/ Industrial Public Enterprises

The share of public enterprises in the manufacturing industries is higher in a socialist developing country. Manufacturing industries like sugar, alcoholic beverages, cement, pharmaceuticals, fertilizer, etc. are under public ownership and control in developing economies. Steel industries are under public ownership and control because they are considered integral to economic development and also serve as a key raw material to other industries. Likewise, industries like fertilizers, cement, petroleum refining, etc. are under public ownership as these industries require huge capital investment which can be a challenge for the private sector in developing nations. The lack of private entrepreneurs in a nation can also be attributed to the growth of industrial public enterprises. (Balassa, 1987).

The factors leading to the rise of industrial public enterprises are political ideology, the takeover of ailing private industries, the inability of the private sector to invest huge amounts in the industrial sector, encouraging competition in the market, and so on. Even though political ideology has not been an important factor in the development of industrial PEs, countries like France, Austria, India, Pakistan, Ghana, etc. have had a history of the establishment of industrial public enterprises influenced by this factor (Ayub & Hegstad, 1986).

Industrial public enterprises help in import substitution and export promotion thereby promoting self-sufficiency. Likewise, the sick industries can be taken under government control to revive them as the failure of such industries leads to the wastage of natural resources. Similarly, by establishing public enterprises in the industrial sector, the regional disparities in industrial growth can also be minimized. Also, a nation's economic

growth can accelerate by establishing key and basic industries. Such industries can accelerate the growth of other industries in the economy. Similarly, by establishing several industrial public enterprises, the government can create a favorable environment for the promotion and establishment of further industries in the country (Singh & Gupta, 2022).

Sharma (2022) stated that industrial public enterprises have contributed to industrialization in India by promoting export, the establishment of small and auxiliary industries, and the modernization of industries. More than 600 small and auxiliary industries in India are under government ownership. Likewise, the contribution towards export has increased from 12.3 percent in 1970/71 to more than 24 percent in 2021.

2.5 Historical Development of Public Enterprises

The emergence and growth of public enterprises began with the increasing concept of the welfare state after the Second World War. Along with this, the initiative of the government to develop the economy also led to the growth of public enterprises all around the world (Juneja, n.d.). Each country has its history of public enterprises and some of them are highlighted below.

United States of America (USA)

The United States of America saw the wave of public enterprises in the 19th century which then started to grow and expand. At this time, the federal government owned a considerable portion of the state's chartered banks' equity. Another remarkable achievement regarding PEs was the establishment of the Panama Rail Road Company in 1904. Under the governance of Franklin D. Roosevelt, public administration and businesses saw their greatest expansion, and the Tennessee Valley Authority emerged as the most widely imitated example of a public corporation (Juneja, n.d.). In the USA, till the 1940s, most of the PEs were believed to have been established as a result of World war and the financial depression. Though these enterprises were established by the government to assist the nation weakened by wars and depression, their contributions had a long-lasting impact which paved the way for the establishment of many other public

enterprises in the country. PEs, in the USA, has catered to a large number of services including the provision of public utilities (Seidman, 1983).

The public enterprises owned by the government in the USA range in terms of size and purpose. Some of the large, well-reputed, and known organizations like the U.S. Postal Service and Federal Deposit Insurance are owned by the government. Furthermore, some of the small-sized, low-profile enterprises like the Federal Prison Industries, and Federal Financing Bank in the Department of Treasury also fall under government control (Kosar, 2011).

Europe

In Europe, public enterprises were established to aid the war preparations due to the increasing military conflicts between the powerful nations in the 19th century. For strengthening the military positions, a large number of infrastructures like railways, communication, other modes of transportation, and so on were nationalized. Countries like Germany, Switzerland, and Italy saw the government intervention in railways as a consequence of military tension. Likewise, the telephone and telegraph were also nationalized as information was a crucial war strategy. Furthermore, powerful European nations also witnessed an increasing nationalization of crucial industries like chemical industries, energy, mining, etc. for aiding in the war. Along with the establishment of PEs before and during the war, a large number of PEs were established after the 2nd World War as per the nationalization program of the government to revive the economies impaired by war (Obinger et al., 2016).

The emergence of public enterprises in the United Kingdom was seen during the 20th century. In Great Britain, the post offices, utilities, and Port of London along with public transport belonged to the public sector in the early 20th century. This led to an increase in the role of the state. However, a nationalization program encompassing coal mining, iron and steel, gas industry, railways, and long-distance road transportation was implemented under the Labour administration from 1964 to 1950. Furthermore, many public enterprises were privatized under Margaret Thatcher's governance (Britannica, 2009).

South Korea

Public enterprises in Korea have evolved through various stages. In the first period (1945-60), the government took over several formerly Japanese-owned enterprises. Even though many of the PEs were sold, some were under government control like railways and communication. The monopoly sales of salt, ginseng, and tobacco brought in revenue for the government. In the second phase (1961-1979), the military government under Park Chung Hee saw PEs as vehicles for implementing its plan of state-led development. During this period, the Park administration created several new PEs, particularly in the chemical, banking, and infrastructure-related industries. In addition to regaining control of the commercial banks that had been privatized in the 1950s, the government also set up many specialized banks. Korea's SOE strategy during this time, which marked a significant departure from the 1950s, was characterized by its emphasis on economic development and centralized management. Along with a lot of development in the growth of PEs, this period marked a strong government intervention in development. Similarly, Korea saw the phase of deregulation, reform, and liberalization of public enterprises from 1980-97 which prioritized reducing government intervention (Lim, 2003).

China

In China, before 1978, public enterprises were treated as production units that worked as per the plans of the central government being a socialist country. As these enterprises performed their operations as per the plans of the central government, they did not set up the price of the goods by themselves and did not cater to consumer demands. The profits earned by these enterprises were taken by the state and the losses were borne by the state. This led to an inefficient performance of such public enterprises and the government acknowledged that reform was a necessity to benefit the state. This reform phase began in October 1978, when the local administration of the Sichuan Province selected six PEs to participate in an experiment to strengthen their autonomy, which included allowing them to keep a portion of their profits and providing employees with higher remuneration if they met their annual output targets, incentives. Due to this, PEs

were permitted to produce outside of the state's prescribed plans. The state started recognizing public enterprises as independent entities. Phase 2 (1984-1992) of the reform was the Contract Responsibility System (CSR) wherein the government, through employment contracts, granted managers access to run SOEs. In return, they gave the government a set amount of profits while keeping the surplus. The third phase (1992-2002) emphasized establishing a modern enterprise system or corporatization. In stage four (2003-2012), emphasis was given to reforming large and important public enterprises to solve the problem of undefined property rights. As a solution, a decision that the central government should act as an owner of important PEs which are considered the lifeline of the economy, and the local government should act as an owner of smaller and less important public enterprises was followed and State-owned Assets Supervision and Administration Commission (SASAC) was established in 2003 to act as shareholders of important public enterprises on behalf of the central government. After 2012, various other reforms were initiated. One such reform was extensive mergers. As a result, at the end of 2018, China had 96 central SOEs, down from 189 in 2002 (Lin et al., 2020).

India

India had to deal with various challenges like poverty, low levels of GDP, unemployment, illiteracy, etc. which weakened the economy, after the attainment of independence in 1947. The emergence and growth of public enterprises in India were a result of economic, political, industrial, and social problems hindering the development of the nation. The government of India launched a five-year plan in 1951 that emphasized the roles of the both public and private sectors in encouraging economic growth, poverty alleviation, and social justice. As a consequence, nationalized industries, and public utilities like drinking water, electricity, telecommunication, transportation, various manufacturing, and service sectors came under government control. Along with the central government, the state governments of different states of India established and controlled a large number of public enterprises after the nation got independence (Kim & Panchanatham, 2019).

The second five-year plan of India (1956-60) prioritized the development of public enterprises to support Nehru's national import substitution industrialization goal. He firmly believed that the establishment of heavy industries was crucial for the development of India (Ghose, 1993). Public enterprises grew remarkably from just five enterprises in 1951 to 365 in March 2021(Department of Public Enterprises, 2021).

2.6 Public Enterprises in Nepal

During the 1950s, Nepal adopted a development strategy that focused on industrialization and import substitution. This paved a way for the establishment of public enterprises in the country. The number of PEs expanded in the country from the 1960s to the early eighties. The number reached 63 by the end of the mid-70s (Raut, 2012).

According to the Ministry of Finance (2018), public enterprises have been established in Nepal to fulfill the following objectives.

1. To provide essential goods that are both reasonable and accessible.
2. To create employment opportunities.
3. For developing a self-reliant economy that need not depend on others.
4. To promote social welfare.

In Nepal, PEs were established in the 1930s with the first public enterprise Biratnagar Jute Mills established in the year 1936 which was brought into operation during the first five-year plan. Other public enterprises established during this period were National Trading Ltd., The Timber Corporation of Nepal and National Construction Company Ltd., etc. The establishment of public enterprises accelerated during the period of the fourth five-year plan. This resulted in the formation of 62 PEs by the end of the seventh five-year plan (Ministry of Finance, 2020).

As of 2020/21, 44 public enterprises exist and operate in Nepal. These enterprises are divided into 6 prominent sectors based on their areas of operation. They are the industrial sector, trading sector, service sector, social sector, public utility sector, and financial sector. Out of the existing 44 public enterprises, 10 belong to the industrial

sector, 5 belong to the public utility sector, 4 belong to the trading sector, 9 belong to the financial sector, 5 belong to the social sector, and 11 belong to the service sector. The industrial public enterprises are Dairy Development Corporation (DDC), Herbs Production and Processing Company Ltd., Hetauda Cement Industry, Nepal Ausadhi Ltd., Udaypur Cement Industry Ltd., Janakpur Cigarette Factory Ltd., Nepal Orind Magnesite Pvt. Ltd., Butwal Spinning Mill Ltd., Nepal Metal Company Ltd., and Dhaubadi Iron Company Ltd. Out of these, Janakpur Cigarette Factory Ltd., Nepal Orind Magnesite Pvt. Ltd., and Butwal Spinning Mill Ltd. are not in operation. Similarly, Nepal Metal Company Ltd. is yet to come into operation (Ministry of Finance, 2022).

2.7 Empirical Reviews

This section is related to the review of previous literature relevant to public enterprises in Nepal or outside it.

2.7.1 International Context

Sweeney (1990) conducted a study that emphasized the contribution of public enterprises to the national economy of Ireland in terms of GDP, employment, productivity, and earnings, along with the measurement of the profitability of public enterprises. In most of the analysis, the study period was taken from 1980 to 1987. The findings showed that the contribution of non-commercial public enterprises to the Irish GNP was over 10 percent which was an important part of the GNP. Likewise, it contributed to 18 percent of gross fixed capital formation and employed over 68000 people in 1987. Similarly, employment in commercial public enterprises decreased drastically by 18 percent in the study period. The profitability analysis demonstrated the loss in net profit in the first four years of the study with telecom and post being excluded from the study. Even after including them, the figures still showed an aggregate loss. Even though the financial performance improved gradually in the study period, the aggregate performance was still poor.

Ahuja and Majumdar (1998) examined the performance of 68 Indian manufacturing public enterprises. The study covered the data from the period 1987 to 1991. Data analysis tools such as data envelopment analysis were used to determine the

relative performance and regression analysis was used to determine variations in performance patterns. The findings showed that the performance of manufacturing firms in public enterprises was poor. The firms were inefficient in utilizing the resources. Likewise, firm-specific characteristics including the age of the firm, its size, environmental factors, etc. had an impact on the performance of public enterprises.

Matar and Eneizan (2018) examined the factors that had an impact on the financial performance of manufacturing industries in Jordon. Secondary data spanning from 2005 to 2015 was incorporated into the study. ROA served as the dependent variable of the study along with liquidity, firm size, leverage, revenue, and profitability as the independent variables. The findings demonstrated that there was a direct relationship between a manufacturing firm's performance (ROA) and liquidity, revenue, and profitability. Likewise, there was a negative relationship between ROA and firm size and leverage. However, the result of regression analysis showed that the manufacturing firm's performance was affected by all the factors.

Hossain (2019) examined the role of Bangladesh Small and Cottage Industries Corporation (BSCIC), a state-owned enterprise responsible for managing and developing industrial estates, and micro and small-scale industries, in the industrialization process in Bangladesh. The research focused on the impact of BSCIC on employment, efficiency, production, sales, and contribution to the national economy in terms of GDP, employment, export, manufacturing production, etc. The efficiency of the cluster industries was measured with output-labor, ROI, and capital-labor ratios. The study disclosed that BSCIC was responsible for 12.4 percent of all SME manufacturing firms, 21 percent of employment in SME firms, and 18.7 percent of total manufacturing output which pointed to a comparatively stronger performance of BSCIC clusters. In 2016/17, out of the total export, 9.5 percent was contributed by BSCIC which decreased from 13.6 percent in 2010. Overall, BSCIC had been playing an integral role in the national economy as well as promoting cluster-based industrialization in Bangladesh.

Zhang (2019) attempted to determine the approximate impact of public enterprises on China's GDP and employment in 2017. Since the official Chinese statistics

report did not differentiate the GDP by ownership, the study employed different methods to estimate the contribution made by PEs to the GDP. One such method was the residual approach, which involved calculating the contribution made by PEs by deducting the non-PEs' share of GDP from the total GDP. Similarly, both direct and residual approaches were used to estimate employment figures. The study's results indicated that public enterprises contributed between 23 to 28 percent of China's GDP and between 5 to 16 percent of employment in 2017.

Qi and Kotz (2020) researched the impact of public enterprises on the economic growth of China. The researcher considered multifarious factors of SOEs which could lead to higher growth rates like massive investments, technological progress, and higher wage rate for workers. The study was based on the empirical model which covered panel data from 29 regions and 20 years. The analysis reported that public enterprises in China have promoted the long-run growth of the economy. Additionally, the results demonstrated that public enterprises frequently canceled the detrimental effects of local economic downturns proving to be an integral part of the Chinese economy.

Saini (2020) conducted a study in the Indian state of Haryana to evaluate the performance of public enterprises (PEs). The study aimed to measure the financial performance of the PEs and investigate the challenges they faced. Data for the study was collected from both primary and secondary sources covering the period from 2011 to 2020. A sample of six public enterprises was selected for the study. Descriptive statistical tools such as average, standard deviation, and financial ratios such as current ratio and quick ratio were used to analyze the data. The findings revealed that the current ratio of the industry was not sufficient to meet future obligations. Likewise, the majority of the firms believed that managerial effectiveness was negatively affected by a lack of accountability. Similarly, four out of the six PEs had problems with overstaffing, two were content with the current pricing policy, and four acknowledged the underutilization of resources.

Le et al. (2021) compared the performance of public enterprises and private firms in selected countries of Asia based on some performance indicators. The performance

indicators were quality, product, and service innovation, sources of financing, the performance of labor, and compliance with government rules and regulations. In the study, the countries selected were China, India, Indonesia, Malaysia, and Vietnam. For the analysis, data was taken from World Bank Enterprise Survey for the period 2012-2015. The comparative analysis of the study revealed that public enterprises were more innovative than private firms. Likewise, it was found that private enterprises often offered informal gifts while getting their work done from government agencies which indicate the prevalence of corruption. Furthermore, training and technical knowledge lacked in employees working in public enterprises. Compared to these enterprises, a handful of private enterprises had provided technical know-how and training to the employees in the selected Asian countries.

2.7.2 Nepalese Context

Rana (1994) studied the industrial public enterprises in Nepal along with the measurement of their performance. The study was based on secondary data and covered the period of 1981-82 to 1990-91. Out of the 22 manufacturing enterprises available in the study period, 7 of them were chosen as the sample. To measure the performance of the industries, financial ratios like Net Profit Ratio (NPR), Return on Investment (ROI), Return on Assets (ROA), Total Assets Turnover Ratio (TATOR), and Fixed Asset Turnover Ratio (FATOR) were employed. The findings revealed only the production trend of Birgunj Sugar Factory (BSF), Hetauda Cement Factory (HETC), and Lumbini Sugar Factory (LSF) were favorable. Similarly, in the trend of sales quantity, only HETC and LSF were positive while others were erratic. In terms of capacity utilization, sugar industries performed exceptionally well in comparison to other industries. Likewise in terms of fixed assets turnover, the trends of LSF, Hetauda Textile Limited (HTL), and Balaju Kapadha Udhyog (BKU) were favorable whereas, Himal Cement Factory (HCF) experienced a deteriorating trend. The findings demonstrated that the return on capital and return on sales for sugar industries were increasing. However, it was decreasing for HTL and HCF. Only the trend of LSF was positive in terms of ROI. The other industries had a decreasing trend while HETC and BSF showed a fluctuating trend. Likewise, LSF, HTL, and HETC achieved satisfactory NPR. In terms of labor and employee

productivity, the trends of BSF, LFS, and BKU were favorable. Thus, in the study period, the performance of some industries was satisfactory while some experienced inconsistency and deterioration. In comparison to the other industries, sugar industries performed well in the study period.

K.C. (2003) investigated the general performance of public enterprises in Nepal and identify the obstacles weakening their performance. To collect the data, both primary and secondary sources were used. The data was then analyzed with the help of descriptive statistics like ratio analysis, mean, and percentage analysis. The findings of the study showed that the gross profit of PEs was not favorable throughout the study period. Also, the manufacturing sector consistently faced negative returns in all five periods. Furthermore, poor capacity utilization in industries like textiles, cigarettes, and cement was also highlighted by the findings. In terms of employment, the public utilities sector had the highest number of employees followed by finance and manufacturing. Concerning the challenges, excessive political interference, lack of autonomy of the management, and lack of professional management were found to cause the PEs to perform poorly.

Shrestha (2010) examined the contribution made by public enterprises to government revenue in Nepal. The study was based on both primary and secondary data and covered the period from 2061/62 to 2065/66. The findings revealed that the average income tax collected from PEs in the study period amounted to Rs. 612.28 million. Likewise, the average income tax from public enterprises as a percentage of GDP in the study period was .095 percent. Likewise, the average income tax contributed by PEs to government revenue was 95990.16 million which amounted to 0.76 percent of total government revenue. Similarly, the average income tax from public enterprises as a percentage of total direct tax was 2.92 percent and indirect tax was 1.27 percent. Also, the average share of income tax from PEs as a percentage of total income tax for the study period was 3.66 percent and corporate tax was 1.23 percent. Regardless of different analyses, we get a clear picture that the share of taxes from public enterprises to government revenue in the study period was very low.

Panthi (2019) researched to find the overall trends and performance of public enterprises in Nepal. Along with this the study also attempted to find out the reasons behind the poor performance of public enterprises. Both the primary and secondary sources of data had been tapped for collecting the data. The findings of the research revealed that public enterprises were created in Nepal since the initiation of the first five-year plan. By the end of the 14th plan, 37 public enterprises existed. The highest number of public enterprises i.e. 63 enterprises were established during the seventh plan. The net capital investment in PEs had increased by 3.6 percent from 2004/5 to 2017/18. The net profit and loss earned by the PEs were fluctuating during the study period. In 2017/18, the government revenue collected from the PEs was 1.86 percent and the contribution to GDP was 11.8 percent. The contribution to the government revenue, however, saw a decreasing trend whereas, the contribution to GDP had a fluctuating trend. The number of employees employed in public enterprises decreased from 31599 to 28405 in the study period (2004/5 to 2017/18).

The researcher was also of the opinion that lack of proper rules and regulations, goal dilemma, poor reward system, lack of innovation, traditional administration, unprofessionalism, high administrative expenses, etc., along with other management challenges inherent in public enterprises pose a challenge to better performance.

Shrestha and Pokharel (2021) researched to measure the financial performance of a few selected PEs in Nepal. The study period was based on 11 years and profitability ratios like Net Profit Ratio (NPR), Return on Equity (ROE), Return on Capital Employed (ROCE), and Operating Expense Ratio (OER) were employed for the fulfillment of the objectives. From the industrial sector, Dairy Development Corporation (DDC) was considered as a sample. Comparing its result with the other sectors, the mean NPR, and ROCE of DDC is negative. DDC had the worst ROCE among the selected enterprises. However, the ROE of DDC was positive. Likewise, DDC also had the second-highest average OER. The financial performance of DDC was not satisfactory in comparison to the other selected public enterprises.

2.8 Research Gap

Most of the previous studies related to public enterprises were conducted to measure the overall performance of public enterprises. The majority of them focused on the financial aspect of all sectors of the PEs. A study was conducted focusing just on the social sector of public enterprises. However, very limited studies were made targeting the industrial sector of public enterprises. Even though a study had been conducted, it was a long time ago which presented a huge gap in this field of study. Thus, to fulfill these sectoral and time gaps, economic contributions made by industrial public enterprises and the performance of industrial public enterprises in Nepal have been selected in the study.

In a conclusion, this chapter includes a review of all relevant journals, articles, books, etc. that discuss public enterprises, their performance, and their contribution to the economy. There are also historical reviews that encompass historical development and empirical reviews that comprise analyses of both foreign and Nepali articles. Finally, a research gap addressing the gap that this study aims to fill has been included. Chapter 3 goes on to describe the technique used in the research to fill the gap highlighted in this chapter.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter comprises the methodology employed to fulfill the objectives of the study. It consists of the research design, sources of data collection, the study period, population and sample size, procedure of sampling, an introduction to the sampled enterprises, and tools and techniques for data presentation and analysis.

3.1 Research Design

A research design serves as a plan for carrying out a research study. It outlines the procedures for collecting, measuring, and analyzing data, providing a roadway to guide the entire research process (Kothari, 2004). This study employed a descriptive research design, which is appropriate for examining the financial health and economic contributions made by industrial public enterprises. This approach facilitates a detailed description of the current economic status of the industrial public enterprises in Nepal through comprehensive collection and analysis of data.

3.2 Sources of Data

The study was based on a secondary source of data. Since the study is related to industrial public enterprises, the information was obtained from the economic survey, reports from the ministry of finance, and the financial statements of the selected industries. Likewise, ideas from various books, journals, articles, previous thesis, web articles, etc. were also incorporated to complete the study.

3.3 Study Period

The study period was based on the contributions and the performance of industrial public enterprises over 10 years. It encompassed decade-long data from 2011/12 to 2020/21.

3.4 Population and Sample Size

44 public enterprises represented the population of the study at that time. Out of these, 10 fell under industrial PEs. For studying the performance i.e. for the fulfillment of

the second objective of the study, 5 industrial public enterprises were selected as the sample.

3.5 Sampling Procedure

The 5 samples were chosen in the study as per the convenience sampling process. These samples were chosen based on the industrial public enterprises which were in operation and actively performing during the study period.

3.6 Sampled Enterprises

By adopting the above sampling process, the five industrial public enterprises were chosen. The selected enterprises are Dairy Development Corporation (DDC), Herbs Production and Processing Company Ltd., Hetauda Cement Industry, Nepal Ausadhi Ltd., and Udaypur Cement Industry Ltd.

Dairy Development Corporation: Daily Development Corporation is an industrial public enterprise established in 1969 under Corporation Act 1964. It is a wholly government-owned enterprise that was established to enhance the economic well-being of rural farming communities in Nepal. It has since grown into a national movement, collecting more than 60 million liters of milk annually from more than 200 thousand milk producers via 1200 milk cooperatives dispersed across 45 districts (DDC, n.d.).

Herbs Production and Processing Company Ltd. (HPPCL): In 1981, HPPCL was created with the assistance of the Nepalese government as a public enterprise. For the pharmaceutical, food, beauty, and wellness industries both domestically and internationally, HPPCL is the first Nepali enterprise to harvest the nation's medicinal and aromatic plants (MAPs) and produce medical extracts and essential oils. To cultivate MAPs, the corporation is the owner of roughly 500 hectares of land in Tarahara, Belbari, Tamagadhi, Mahendranagar, and Tikapur. HPPCL prioritizes sustainable development, improvement of the environment, generating employment opportunities, and development of backward communities by aiding in their income generation (HPPCL, n.d.).

Hetauda Cement Industry Ltd.: Hetauda Cement Industry Ltd. was established by the Government of Nepal (GON) in 1975 as a state-owned industry. Commercial production, however, was only started after 1986. It has been supplying the product to numerous towns across the nation, including Kathmandu, Pokhara, Bhairahawa, Dhangadhi, Nepalgunj, and Biratnagar, producing around 12,000 to 16,000 bags of cement every day (Khabarhub, 2022).

Nepal Ausadhi Ltd. (NAL): Nepal Ausadhi Ltd. was established in 1986 by the government of Nepal as a state-owned company under the Company Act 1964 with the help of the British Government in terms of technical expertise and equipment. It was an extension of the Formulation Unit of the Royal Drug Research Laboratory which was a part of the Department of Medicinal Plant/Ministry of Forest. It is now located at Babarmahal. Nepal Ausadhi Ltd. produces and sells varieties of medicines in the form of tablets, liquids, injectables, nasal drops, etc (NAL, n.d.).

Udaypur Cement Industry Ltd.: Udaypur Cement Industry Ltd. was established on 14th June 1987 at Jaljale in Udaypur district. Established as a government-owned industry, it was constructed by a consortium of Kawasaki Heavy Industries Ltd. and Tomen Corporation. It has been selling cement under the brand name "Gaida Cement". The initial production capacity of UCIL was 800 tonnes per day. The industry has a laboratory that ensures that the cement is produced as per the quality requirements (UCIL, n.d.).

3.7 Tools and Techniques for Data Presentation and Analysis

After the data was collected from the relevant sources, the data were analyzed using statistical techniques. Data analysis is a crucial part of this study as it paves the way for data interpretation. To draw the inferences, the data were presented in tables and graphs like bar diagrams and trend lines. For the fulfillment of the first objective of the study i.e. to examine the contribution of industrial PEs to the national economy, descriptive statistics were employed. The trend along with percentage analysis was done. Similarly, the second objective i.e. measuring the financial performance was done via

financial ratio analysis. Similarly, the average of the ratios in the given period was done for easy interpretation. For analyzing the data, MS Excel was used.

Ratio analysis presents the situation of liquidity, solvency, and profitability of the industries under study. The ratios that were employed in the study are efficiency ratios like Inventory Turnover Ratio (ITR), Fixed Assets Turnover Ratio (FATOR), Total Assets Turnover Ratio (TATOR), and profitability ratios like Net Profit Margin (NPM), Return on Equity (ROE), and Return on Assets (ROA). Joshi et al.(2012) have provided the ratios along with their formulas as follows.

$$\text{Inventory Turnover Ratio} = \frac{\text{Sales}}{\text{Average Inventory}}$$

$$\text{Fixed Assets Turnover Ratio} = \frac{\text{Sales}}{\text{Net Fixed Assets}}$$

$$\text{Total Assets Turnover Ratio} = \frac{\text{Sales}}{\text{Total Assets}}$$

$$\text{Net Profit Margin} = \frac{\text{Net Income}}{\text{Sales}}$$

$$\text{Return on Assets (ROA)} = \frac{\text{Net Income}}{\text{Total Assets}}$$

$$\text{Return on Equity (ROE)} = \frac{\text{Net Income}}{\text{Common equity}}$$

As a result, the methodology, that is, the methods and steps used to wrap up the research has been provided in this chapter. It includes the research design, the data collection sources, the time frame for the study, the sample, and the methods and tools used for data presentation, analysis, and interpretation. Chapter 4 will show, analyze, and discuss the data of the sampled public enterprises based on these techniques.

CHAPTER 4

RESULTS AND DISCUSSION OF DATA

This section is divided into three parts. The first part comprises the data analysis of the number of public enterprises in the industrial sector, their ownership structure i.e. the contribution by both the government and private sector in the overall share of the enterprise, and capital structure in the period. The second part highlights the contribution made by industrial public enterprises to the national economy in terms of Gross Domestic Product, employment, income tax, and Value Added Tax (VAT). Likewise, the third part presents the trend of the financial performance of the sample enterprises with the help of profitability and efficiency ratios.

4.1 Growth and Composition of Industrial Public Enterprises

Industrial public enterprises are established by the government for the fulfillment of certain objectives. So, accordingly, their number may fluctuate from year to year. Industrial public enterprises, in history, have seen ups and downs in the number owing to the different establishments, privatization, and shutdown. Likewise, these enterprises may contain the investment of both the government and private sector. Even though a majority of the investment is done by the government, the private sector may also contribute to the capital of these enterprises. So this part of the data analysis shows the trend of the size, ownership, investment composition, and capital composition in industrial public enterprises in the study period of 10 years.

4.1.1 Size of Industrial Public Enterprises

In the past 10 years, some changes have occurred in the size of the overall public enterprises along with the size of industrial public enterprises. The government establishes public enterprises as well as dissolves or privatizes them according to the requirement. Thus, there is a fluctuation in the number of public enterprises and industrial public enterprises in the study period. This is depicted in the table below.

Table 4. 1

Size of Industrial Public Enterprises

Year	Number of Public Enterprises	Number of Industrial PEs	Total percentage of Industrial PEs
2011/12	37	7	18.92
2012/13	37	7	18.92
2013/14	37	7	18.92
2014/15	37	7	18.92
2015/16	41	7	17.07
2016/17	40	7	17.5
2017/18	39	7	17.95
2018/19	44	10	22.73
2019/20	44	10	22.73
2020/21	44	10	22.73

Note. Data were taken from the Annual Review of Public Enterprises 2013 to 2022.

Table 4.1 represents the number of enterprises that fall under public enterprises, industrial public enterprises, and the percentage of industrial public enterprises in the study period. From 2011/12 to 2014/15, the total number of public enterprises was 37. There had been certain fluctuations in the subsequent three years with the number reaching 41, 40 and 39 respectively. Likewise, from 2018/19 to 2020/21, the total number of public enterprises reached 44 which is the highest number in the study period. Similarly, from 2011/12 to 2017/18, the total number of industrial public enterprises was 7 and reached 10 in the subsequent three years with the incorporation of Butwal Spinning Mills Ltd., Nepal Metal Company Ltd., and Dhaubadi Falam Company Ltd.

Out of the total public enterprises, the industrial sector comprised 18.92 percent in the years 2011/12 to 2014/15. Likewise, in the following three years, the percentage occupied was 17.07 percent, 17.5 percent, and 17.95 respectively. The percentage has been highest in the years from 2018/19 to 2020/21 comprising 22.73 percent of the total public enterprises. The lowest was during 2015/16.

4.1.2 Ownership Structure in the Industrial Public Enterprises

The division of ownership between the government and private sector in the public enterprises of the industrial sector is depicted in table 4.2 and figure 4.1 below.

Table 4. 2

Ownership Structure in the Industrial Public Enterprises

Manufacturing Industries	Government Ownership	Private/PE Ownership
Dairy Development Corporation	100	0
Herbs Production and Processing Company Ltd	87.58	12.42
Hetauda Cement Industry Ltd	100	0
Janakpur Cigarette Factory Ltd	100	0
Nepal Aushadhi Ltd	100	0
Udayapur Cement Industries Ltd	100	0
Nepal Orind Magnesite Pvt. Ltd	83.33	16.67
Butwal Spinning Mills Ltd	89.75	10.25
Nepal Metal Company Ltd	68.91	31.09
Dhaubadi Falam Company Ltd	100	0.00
Total	97.27	2.73

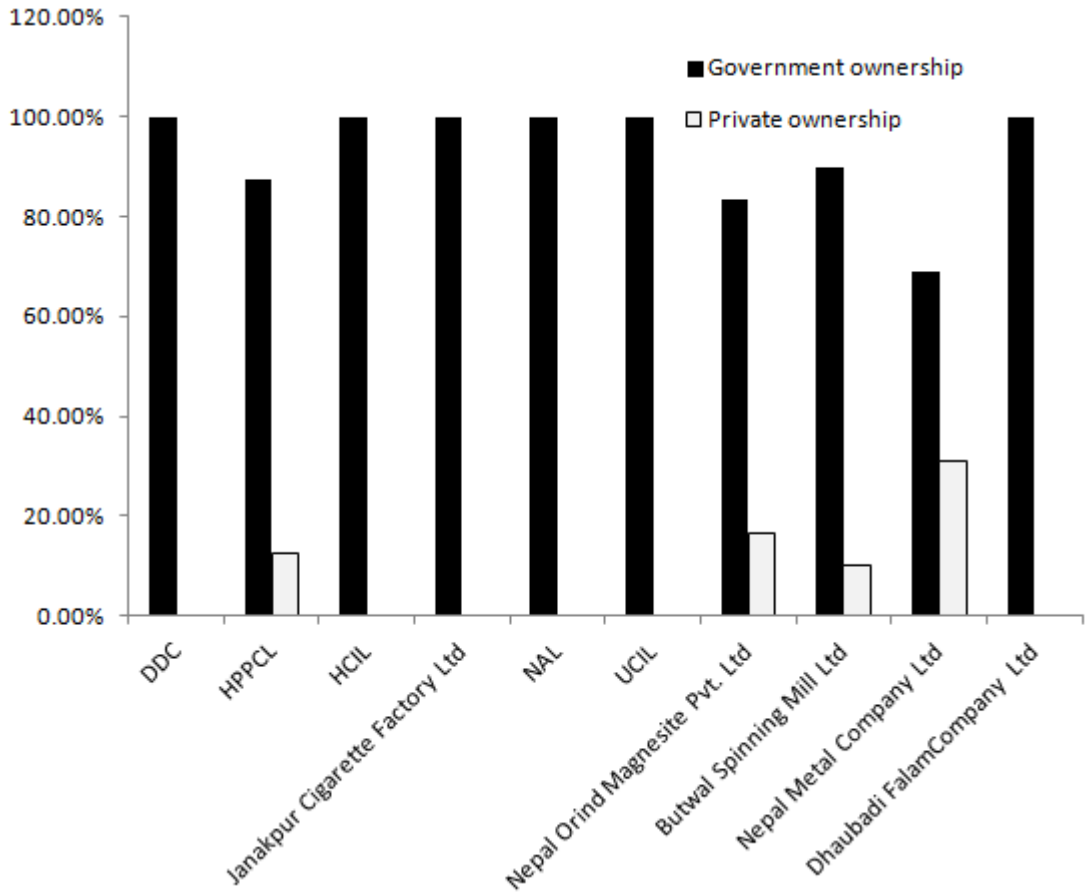
Note. Data were taken from the Annual Review of Public Enterprises 2022. The ownership was measured in percentage.

Table 4.2 represents the division of ownership between the government and the private sector. The government owned 100 percent i.e. total share of 6 out of 10 public enterprises operating in the industrial sector. They were Dairy Development Corporation, Hetauda Cement Industry Ltd., Janakpur Cigarette Factory Ltd., Nepal Ausadhi Ltd., Udaypur Cement Industries Ltd., and Dhaubadi Falam Company Ltd. In HPPCL, the government had 87.58 percent of ownership with PE/private sector owning 12.42 percent. Likewise, in Nepal Orind Magnesite Pvt. Ltd., the division of ownership between the government and PE/private sectors was 83.33 percent and 16.67 percent respectively. In

Butwal Spinning Mills Ltd., the government ownership was 89.75 percent and PE/private ownership was 10.25 percent. Similarly, in Nepal Metal Company Ltd., the government owned 68.91 percent, and 31.09 percent was owned by the PE/private sector. For better clarity of the division of the shares, the following table is represented in the figure below.

Figure 4. 1

Ownership Structure in the Industrial Public Enterprises



Note. Figure 4.1 was drawn from Table 4.2.

Figure 4.1 represents the bar diagram showing the percentage share of ownership between the government and private sector. It can be seen that the government owned a 100 percent share of six industrial public enterprises out of the ten enterprises. Out of the enterprises in which the ownership was divided between the government, PEs, and the private sector, Nepal Metal Company Ltd. had more private ownership in comparison to

the other enterprises followed by Nepal Orind Magnesite Pvt.Ltd, HPPCL, and finally Butwal Spinning Mill Ltd. Likewise, in these four enterprises, government ownership exceeded private ownership by the majority holding to the essence of public enterprises.

4.1.3 Investment and Paid-up Capital of Industrial Public Enterprises

Table 4.2 and Figure 4.1 present a clear picture of the composition of the ownership of PEs. To further clarify, table 4.3 demonstrates the amount invested by the GON and PE/private sector which makes up the paid-up capital of the enterprises.

Table 4. 3

Investment and Total Paid-up Capital

Manufacturing Industries	Investment by Government	Investment by PEs or Others	Total Paid-up Capital
Dairy Development Corporation	366.4	0	366.4
Herbs Production and Processing Company Ltd	24.1	3.4	27.5
Hetauda Cement Industry Ltd	900.7	0	900.7
Janakpur Cigarette Factory Ltd	40.8	0	40.8
Nepal Aushadhi Ltd	75.5	0	75.5
Udayapur Cement Industries Ltd	3648.1	0	3648.1
Nepal Orind Magnesite Pvt. Ltd	375	75	450
Butwal Spinning Mills Ltd	334.9	38.2	373.1
Nepal Metal Company Ltd	122.9	55.4	178.3
Dhaubadi Falam Company Ltd	250	0	250
Total	6138.4	172	6310.4

Note. Data were taken from the Annual Review of Public Enterprises 2022. Investment and paid-up capital were measured in Million rupees.

Table 4.3 gives insights into the investment made by the government, public enterprises, and private sector in the ten industrial public enterprises along with their total

paid-up capital as of 2020/21. The total investment made by the government was Rs. 6138.4 million and the PE/private sector was Rs. 172 million which leads to a total of Rs 6310.4 million of total paid-up capital in the ten industrial public enterprises.

Out of the ten industrial public enterprises, the highest investment made by the government was Rs. 3648.1 million in Udaypur Cement Industries Ltd., and the lowest was Rs. 24.1 million in HPPCL. The investments in DDC (Rs.366.4 million), Hetauda Cement Industry Ltd. (Rs.900.7 million), Janakpur Cigarette Factory Ltd. (Rs.40.8 million), Nepal Ausadhi Ltd. (Rs.75.5 million), Dhaubadi Falam Company Ltd (Rs.250 million), and Udaypur Cement Industries Ltd (Rs.3648.1 million). were fully financed by the government. Likewise, in industries where the government had partial investment, the amount invested was Rs. 24.1 million in HPPCL, Rs. 375 million in Nepal Orind Magnesite Pvt. Ltd, Rs. 334.9 million in Butwal Spinning Mills Ltd., and Rs. 122.9 million in Nepal Metal Company Ltd.

Likewise, in the four industries, public enterprises and the private sector contributed towards the investment along with the government. Out of which the highest was Rs. 75 million in Nepal Orind Magnesite Pvt. Ltd and the lowest was Rs. 3.4 million in HPPCL. Similarly, the investment in Butwal Spinning Mills Ltd. was Rs 38.2 million, and Rs. 55.4 million in Nepal Metal Company Ltd.

The total paid-up capital is the cumulative sum of investment made by the government and PE/ private sector. In industries where the investment was solely borne by the government, the total paid-up capital was the amount of investment made by the government in the industries as mentioned in the above sections. Likewise, in the remaining four industrial public enterprises, the total paid-up capital after adding the investments of government and PE/private sector were Rs.27.5 in HPPCL, Rs. 450 million in Nepal Orind Magnesite Pvt. Ltd., Rs. 373.1 million in Butwal Spinning Mills Ltd. and Rs. 178.3 million in Nepal Metal Company Ltd. Out of these, the highest paid-up capital was in Udaypur Cement Industries Ltd. and lowest in HPCCL.

4.2 Contribution Made by the Industrial PEs to National Economy

Public enterprises operate in multifarious sectors of the economy. As a part of the economy, they give certain returns in the form of GDP, revenue to the Government, dividends, and employment opportunities. Likewise, operating in the secondary sector of the economy, industrial PEs have a certain contribution to the national economy in terms of GDP, income tax, VAT, and employment which are explained below with the help of tables and charts.

4.2.1 Contribution of Operating Income to the GDP

The contribution made by the total public enterprises operating in the industrial sector to the total GDP is represented in table 4.4 and figure 4.2.

Table 4. 4

Contribution of Operating Income of Industrial PEs to GDP

Year	Operating Income	Total GDP	Percentage Share
2011/12	4874.9	1536	0.32
2012/13	5743.9	1693	0.34
2013/14	6149.2	1942	0.32
2014/15	6628	2125	0.31
2015/16	6434.6	2247	0.29
2016/17	7556	2643	0.28
2017/18	7557.4	3007	0.25
2018/19	7424	3458	0.21
2019/20	6536	3914.7	0.17
2020/21	6345.3	4277.302	0.15
Mean	6524.93	2684.3002	0.264

Note. Data were taken from the Annual Review of Public Enterprises 2013 to 2022. Operating income was studied in million rupees and GDP in billion rupees. The percentage share represented the percentage share of GDP contributed by industrial PEs out of the total GDP.

Table 4.4 represents the operating income contributed to the GDP of the nation, the total GDP, and the percentage of operating income contributed to the GDP from the year 2011/12 to 2020/21 along with their averages.

Column 2 shows the operating income contributed by the industrial PEs to the total GDP. The operating income of industrial PEs was Rs. 4874.9 million in 2011/12 which rose continuously up to 2017/18 and reached Rs. 7557.4 million which is the highest contribution made by the industrial PEs in the study period. However, in 2015/16, it decreased slightly to Rs.6464.6 million from 6628 million and thereafter increased to Rs. 7556 million in 2016/17. It decreased continuously from 2018/19 to 2020/21, where, the operating income in 2018/19 was Rs. 7424 million and Rs. 6345.3 million in 2020/21. The lowest contribution by these enterprises to the GDP was in 2011.

Column 3 shows the total GDP of the nation in different study periods. In 2011/12, the total GDP of the nation was Rs. 1536 billion which has risen continuously till 2020/21. The GDP increased subsequently from Rs. 1536 billion in 2011/12 to Rs. 1693 billion in 2012/13, Rs. 1942 billion in 2013/14, Rs. 2125 billion in 2014/15, Rs. 2247 billion in 2015/16, Rs. 2643 billion in 2016/17, Rs. 3007 billion in 2017/18, Rs. 3458 billion in 2018/19, Rs. 3914.7 billion in 2019/20 and finally Rs. 4277.302 billion in 2020/21.

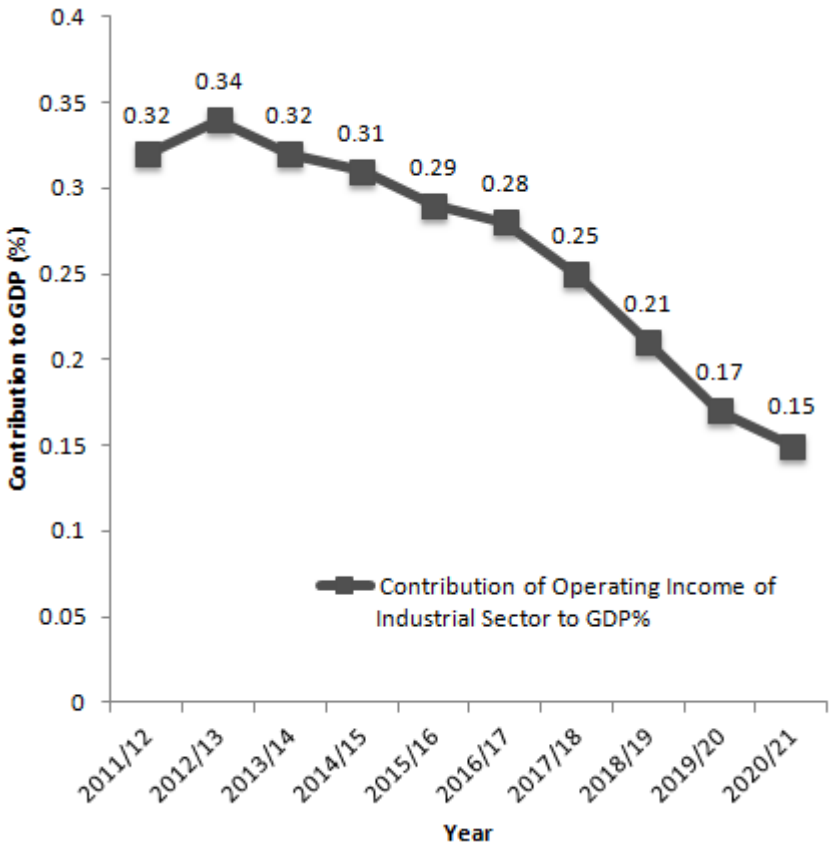
Column 4 represents the percentage of total GDP contributed by industrial public enterprises. In all of the years of study, the contribution has been less than 1 percent. From 2011/12 to 2014/15, the contribution to the GDP has been around 0.30 percent. Likewise, from 2015/16 to 2018/19, the contribution to GDP was around 0.20 percent to 0.30 percent. Similarly, the years 2019/20 and 2020/21 experienced less than 0.20 percent contribution to the GDP. From 2015/16 to 2020/21, there was a steady decrease in the contribution of industrial PEs to GDP with the percentage decreasing from 0.29 percent in 2015/16 to 0.15 in 2020/21. The highest contribution in the study period was in 2012/13 with 0.34 percent and the lowest was in 2020/21 with 0.15 percent.

The mean operating income, total GDP, and percentage contribution to the GDP represent the average of the respective figures in the ten years. The average operating

income contributed by the industrial PEs in 10 years is Rs. 6524.93 million. Likewise, the average total GDP of the nation in 10 years is Rs. 2684.3002 billion and the average contribution of the industrial PEs to the GDP in the ten years is 0.264 percent. The trend of this analysis has been presented in the figure below.

Figure 4. 2

The Trend of Contribution Made by Industrial PEs to the GDP



Note. Figure 4.2 was drawn from Table 4.4.

Figure 4.2 depicts the trend of the contributions made by the industrial PEs to the national GDP in the study period of 10 years. The vertical axis represents the percentage contribution made by industrial PEs to GDP and the horizontal axis represents the study year. The percentage of contribution has increased slightly from 2011/12 to 2012/13. The contribution to the GDP was the highest in 2012/13. However, there is a decreasing trend

in the rest of the years as shown by the decreasing graph from left to right. This clarifies that the contribution made by industrial public enterprises to the GDP of the nation has decreased slightly every year from 2013/14 to 2020/21.

4.2.2 Status of Employment in Industrial Public Enterprises

The employees employed in industrial public enterprises along with their proportion of the total employees employed in the public enterprises in the study period is elucidated in table 4.5 and figure 4.3.

Table 4. 5

Employment in Industrial Public Enterprises

Year	Employees in Industrial PEs	No. of Employees in PEs	Percentage of Employees in Industrial PEs
2011/12	3475	31755	10.94
2012/13	2609	30692	8.5
2013/14	2578	29579	8.72
2014/15	2252	27862	8.08
2015/16	2241	26635	8.41
2016/17	2245	28405	7.9
2017/18	2172	28522	7.62
2018/19	2153	28738	7.49
2019/20	1959	28364	6.91
2020/21	1943	28002	6.94
Mean	2363	28855	8.151

Note. Data were taken from the Annual Review of Public Enterprises 2013 to 2022.

Table 4.5 portrays the status of employment in the public enterprises of the industrial sector. To clarify the scenario, data related to the employees employed in industrial PEs, employees in overall PEs, and the employees of industrial PEs as a percentage of total employees of PEs is displayed above.

The number of employees in industrial PEs has declined in the period of ten years from 2011/12 to 2020/21. In 2011/12, 3475 employees were employed in the industrial PEs. The number of employees decreased subsequently in the following years. Around 2000 to 3000 employees were employed in the industrial PEs within the periods 2012/13 to 2018/19 with the highest number in 2012/13 being 2609 and the lowest in 2018/19 being 2153. The number of employees fell below 2000 in the following two years. The industrial PEs registered the highest number of employees in 2011/12 which decreased drastically to the lowest number of 1943 employees in 2020/21 which resulted in a decrease in the number of employees by around 44 percent.

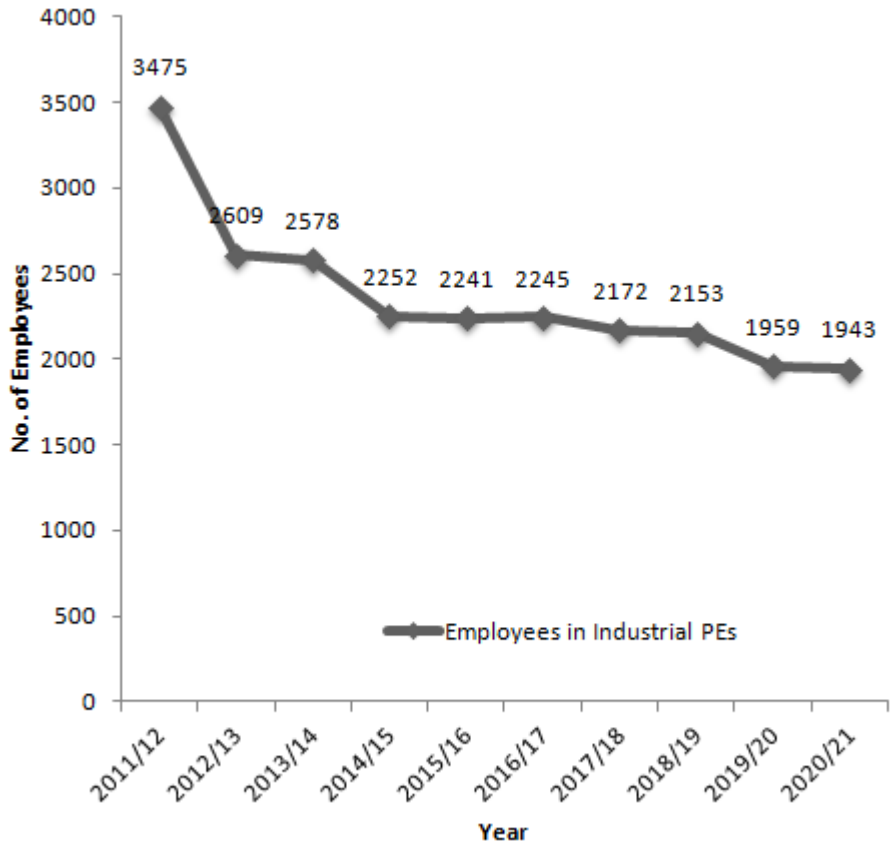
In the overall PEs, the total number of employees in 2011/12 was 31,755. The number of employees decreased and reached 26,635 by the year 2015/16. From 2016/17 to 2020/21, the number of employees slightly increased and the number fluctuated around 28,000. 28,002 employees were employed in the entire public enterprises in 2020/21 which is an 11.8 percent decline from 2011/12. In the study period, the highest number of employees employed in PEs was in 2011/12 and the lowest was in 2015/16.

The percentage of employees in the industrial PEs out of the entire PEs within the study period has been limited to 6 to 11 percent. In 2011/12, 10.94 percent of the employees of PEs were employed in the industrial sector. After fluctuating around 8 to 9 percent from 2012/13 to 2015/16, the percentage of employees employed in industrial PEs declined below 8 percent in the following years. In 2020/21, 6.94 percent of employees were employed in the industrial sector of the PEs which shows a decline of 4 percent since 2011/12. The lowest percentage recorded was in 2019/20 with 6.91 percent whereas, the highest percentage was in 2011/12.

In the study period of ten years, an average of 2363 employees were employed in the industrial sector of public enterprises. Likewise, the average number of employees employed in all the existing PEs in ten years was 28,855. The average percentage of employees of public enterprises employed in the industrial sector in ten years was 8.151 percent. The analysis of the table indicates a downward trend of employment in the industrial PEs. This is further clarified with the help of the trend chart in figure 4.3.

Figure 4. 3

The Trend of Employment in Industrial PEs



Note. Figure 4.3 was drawn from Table 4.5.

Figure 4.3 represents the number of people employed in the industrial PEs from 2011/12 to 2020/21. The vertical axis represents the no. of employees and the horizontal axis represents the years of study. There is a decline in the number of employees as illustrated by the declining graph. There is a sharp fall from the year 2011/12 to 2012/13 in the number of employees. From 2014/15 to 2018/19, the graph is quite constant with slight fluctuations in the number. Since then, there is a further decrease in the number of employees till 2020/21. This decreasing trend indicates that industrial PEs have not been able to retain and employ a large number of individuals.

4.2.3 Contribution Made by the Industrial PEs to Government Revenue

Public enterprises usually contribute a portion of their income to the government in form of various government revenues like income tax, VAT, excise duty, etc. For this study, the contribution made by the industrial PEs towards income tax and VAT to the government of Nepal is analyzed and discussed. The income tax provided by the industrial PEs for 5 years to the Government is analyzed in Table 4.6 and Figure 4.4.

Table 4. 6

Contribution of Industrial PEs towards Income Tax

Year	Industrial PEs' Income Tax	Total Income Tax	Percentage Share of Income Tax
2011/12	26	52.33	0.05
2012/13	33.7	74.53	0.05
2013/14	20.9	77.92	0.03
2014/15	196.2	88.46	0.22
2015/16	67.9	117.14	0.06
2016/17	38.7	148.24	0.03
2017/18	42.9	159.9	0.03
2018/19	17.2	192.84	0.01
2019/20	180.2	217.5	0.08
2020/21	21.6	225.94	0.01
Mean	64.53	135.48	0.06

Note. Data related to the income tax contributed by public enterprises were taken from the Annual Review of Public Enterprises 2013 to 2022 and data related to total income tax was taken from the Annual report 2019/20 to 2020/21, Inland Revenue Department. Income tax contributed by PEs was studied in million rupees and the total income tax was studied in billion rupees. The percentage share of income tax represented the percentage share of income tax contributed by the industrial PEs out of the total income tax collected by the government.

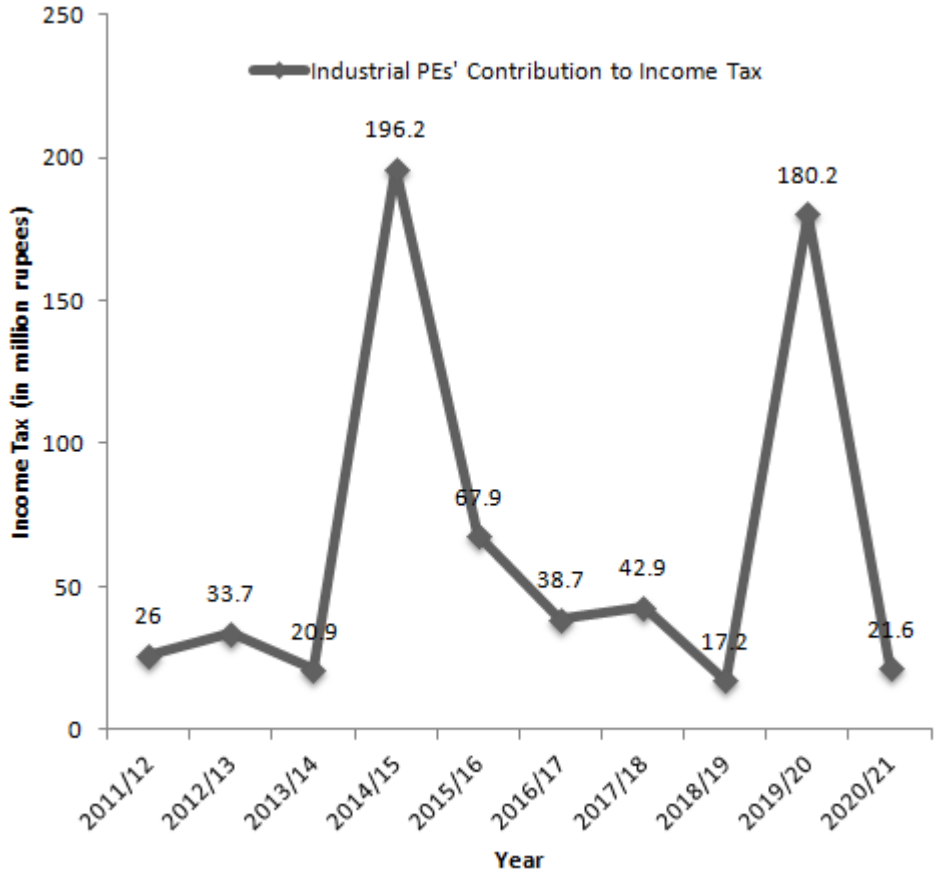
In 2011/12, the industrial public enterprises contributed a sum of Rs. 26 million to the government as income tax. This amount increased to Rs. 33.7 million in 2012/13. Industrial public enterprises experienced a fluctuation in their income tax contribution on year to year basis. 2018/19 recorded the lowest contribution made by the industrial PEs to income tax as they provided Rs.17.2 million which is a substantial decrease from the previous years. On the contrary, Rs. 196.2 million was provided as income tax in 2014/15 which is the highest amount in the study period. In 2019/20, industrial PEs contributed the second largest amount of Rs. 180.2 million. This amount decreased sharply to Rs. 21.6 million in 2020/21. The average income tax provided by the industrial PEs to the government revenue in ten years was Rs. 64.53 million.

The total income tax for the year 2011/12 was Rs. 52.33 billion which grew continuously every year up to 2020/21 reaching Rs.225.94 billion. The total income tax crossed 100 billion after 2014/15 when it reached Rs.117.14 billion in 2015/16. Likewise, it crossed 200 billion after 2018/19 when it reached Rs. 217.5 billion in 2019/20. The average income tax collected by the government in five years was Rs. 135.48 billion.

The income tax collected from industrial PEs as a percentage of the total income tax revenue collected by the government in five years was less than 1 percent persistently throughout the study period. In 2011/12, it was 0.05 percent which remained the same for 2012/13 as well. 2013/14, 2016/17, and 2017/18 had the same percentage of 0.03. Along with 2018/19, 2020/21 saw the smallest percentage of 0.01 whereas the highest was in 2015/15 with a percentage of 0.22. The average percentage of income tax contributed by the industrial public enterprises out of the total income tax in the five years was 0.06 percent which is very less. The trend of income tax contribution by the industrial PEs in the ten years is clarified further with the help of figure 4.4.

Figure 4. 4

The Trend of Income Tax Contributed by Industrial PEs



Note. Figure 4.4 was drawn from Table 4.6.

Figure 4.4 depicts the income tax contribution made by industrial PEs to the government in different periods from 2011/12 to 2020/21 via a trend line. The horizontal axis indicates the year of study and the vertical axis indicates the income tax provided by the industrial PEs. The income tax has increased slightly from the year 2011/12 to 2012/13. After a fall in 2013/14, it reached the highest point in 2014/15 as shown by the trend line that has sloped upwards to the highest point. After that the profit contributed by industrial PEs has fallen to its lowest point in 2018/19. In 2019/20, the income tax paid by industrial PEs increased sharply again. However, 2020/21 again saw a fall in income

tax provided by the industrial PEs. This represents a fluctuating trend of the income tax contributed by the industrial PEs to the government of Nepal.

The amount of Value Added Tax (VAT) provided by the industrial PEs to the government of Nepal is explained with the help of Table 4.7 and Figure 4.5.

Table 4. 7

Contribution of Industrial PEs towards VAT

Year	Industrial PEs' VAT Contribution	Total VAT	Percentage Share of VAT
2011/12	269.1	72.18	0.37
2012/13	320.6	83.5	0.38
2013/14	307.7	100.97	0.3
2014/15	229.3	118.49	0.19
2015/16	250	127.75	0.2
2016/17	204	166.46	0.12
2017/18	351.3	206.86	0.17
2018/19	405.5	241.9	0.17
2019/20	298.6	227.54	0.13
2020/21	321.1	287.06	0.11
Mean	295.72	163.271	0.22

Note. Data related to the VAT contributed by public enterprises were taken from the Annual Review of Public Enterprises 2013 to 2022 and data related to total VAT was taken from the Annual Report 2019/20 to 2020/21, Inland Revenue Department. VAT contributed by PEs was studied in million rupees and the total VAT was studied in billion rupees. Percentage share of VAT represented the percentage share of VAT contributed by industrial PEs out of the total VAT collected by the government.

The industrial PEs' contribution to VAT was Rs. 269.1 million in 2011/12 which has increased thereafter. It was Rs. 320.6 million in 2012/13 and decreased slightly to Rs. 307.7 million in 2013/14. Like this, the contribution to VAT has increased and decreased

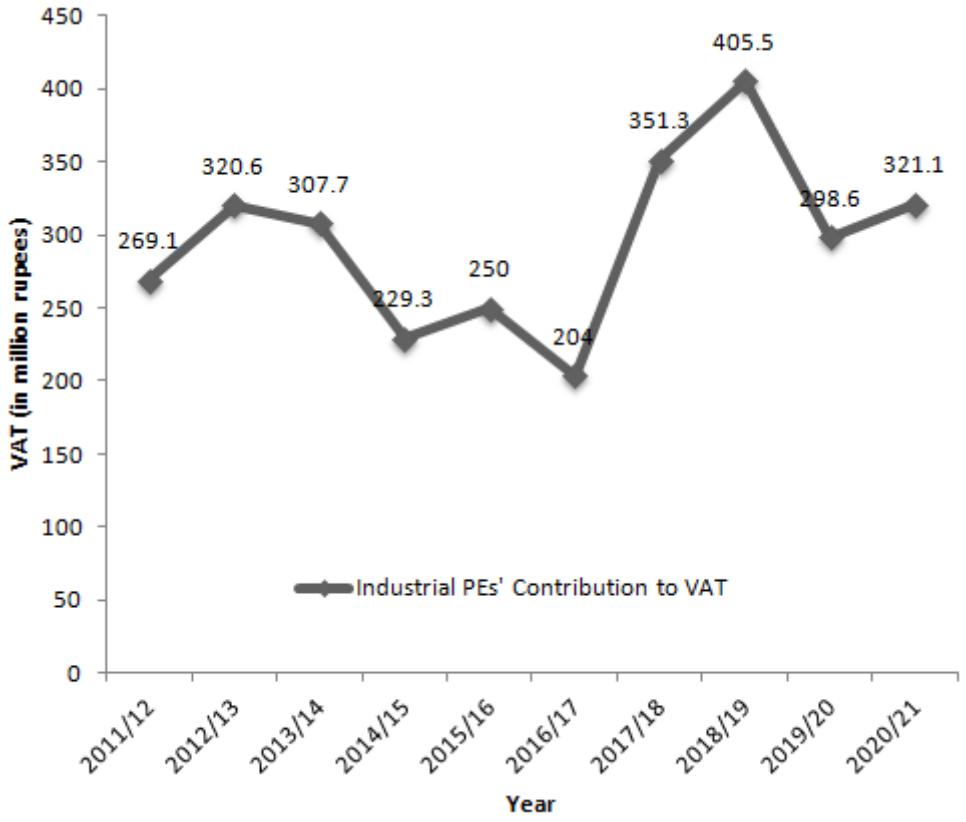
throughout the period with no stability. Rs. 405.5 million in 2018/19 was the highest contribution made to VAT by the industrial public enterprises in the study period. It decreased to Rs. 298.6 million in 2019/20 and increased slightly by Rs. 321.1 million in 2020/21. The lowest contribution to VAT was made in 2016/17 with the VAT amounting to Rs. 204 million. In ten years, the average VAT provided by the industrial PEs to the government of Nepal was Rs. 295.72 million.

The total VAT collected by the government of Nepal in 2011/12 was Rs. 72.18 billion. The amount of VAT increased every year in the ten years and finally reached Rs. 287.06 billion in 2020/21. In ten years, the average VAT collected by the GON was Rs. 163.271 billion.

Out of the total VAT collected by the GON, the percentage of VAT contributed by industrial PEs in the study period is less than 1 percent. In 2011/12, the percentage of VAT provided by industrial PEs out of the total VAT was 0.37 percent. It revolved around 0.3 percent till 2013/14. The percentage remained at 0.17 from 2017/18 to 2018/19. The highest percentage recorded was 0.38 in 2012/13 and the lowest was 0.11 in 2020/21. In ten years, the percentage of VAT contributed by the industrial PEs out of the total VAT collected by the government was 0.37 percent. The trend is further clarified in figure 4.5.

Figure 4. 5

The Trend of VAT Contributed by Industrial PEs



Note. Figure 4.5 was drawn from Table 4.7.

Figure 4.5 illustrates the amount of VAT contributed by industrial PEs to the government in different periods from 2011/12 to 2020/21 via the trend line. The horizontal axis indicates the year of study and the vertical axis indicates the VAT provided by the industrial PEs. The amount of VAT provided by the industrial PEs has increased slightly from the year 2011/12 to 2012/13 only to decrease in 2013/14, and 2014/15. Again, it saw a fluctuation with the increment and decrement in 2015/16 and 2016/17 respectively reaching the lowest point in 2016/17. After this, it increased steadily in 2017/18 and reached its highest point in 2018/19. After that, the amount of VAT contributed decreased in the year 2019/20 and again increased slightly in 2020/21. There is a fluctuation in the trend of the VAT amount provided by industrial PEs during the study period.

4.3 Financial Performance of Industrial Public Enterprises

One of the ways of diagnosing the performance of public enterprises is by investigating their financial performance. The profit and loss situation along with the measurement of profitability and turnover financial ratios of the industrial PEs provides insight into their profitability and efficiency. Profitability along with ratio analysis of the selected five industrial PEs in ten years is shown with the help of tables and charts.

4.3.1 Net Profit/Loss of Industrial Public Enterprises

The net profit/loss faced by the selected five industrial public enterprises in the study period is analyzed with the help of Table 4.8 and the figures below.

Table 4. 8

Net Profit/Loss of Industrial Public Enterprises

Year/ Industry	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
DDC	-164.9	73	-155.8	52.3	157.4	-213.9	48.5	20.1	-158.1	-167.1
HPPCL	-39.3	-12.1	-19.5	-43.1	550.3	7.1	36.2	19.2	12.2	19.1
HCIL	-72.2	-8.9	-34	-138.5	43	154.9	163.6	-10.5	-176.4	-170.4
NAL	-132.4	-227.7	-151.3	-154.5	-155	-138.7	-109.2	-88.2	-76.5	-137.4
UCIL	-355.3	-313.6	-276.5	-179	-192.5	37.7	102.4	-196.3	-333.6	-306

Note. Data were taken from the Annual Review of Public Enterprises 2013 to 2022. Net Profit/Loss was studied in millions of rupees.

Table 4.8 shows that all the industrial public enterprises have experienced losses in the majority of the study periods. Dairy Development Corporation (DDC) experienced a loss of Rs.164.9 million in 2011/12, Rs.155.8 million in 2013/14, Rs.213.9 million in 2016/17, Rs. 158.1 million in 2019/20, and Rs.167.1 million in 2020/21. Likewise, DDC had profits of Rs. 73 million in 2012/13, Rs.52.3 million in 2014/15, Rs. 157.4 million in 2015/16, Rs.48.5 million in 2017/18, and Rs.20.1 million in 2018/19. In 10 periods, 5

experienced profit while the other 5 experienced loss. The highest profit recorded was in 2015/16 (Rs. 157.4 million) and the most loss borne was in 2016/17 (Rs. 213.9 million).

Herbs Production and Processing Company Ltd. had to bear loss till 2014/15 and the industry achieved profit thereafter till 2020/21. In 2011/12, the net loss was Rs. 39.3 million which continued till 2014/15 when the industry had to bear the most loss (Rs. 43.1 million). The highest net profit recorded was in 2015/16 when the net profit was Rs. 550.3 million. In 2020/21, the net profit earned by HPPCL was Rs. 19.1 million.

In ten years, Hetauda Cement Industry Ltd. earned a profit in only three years. For the rest of the seven years, the industry had to face loss. Net profit was earned from 2015/16 to 2017/18 where the maximum net profit achieved was Rs. 163.6 million in 2017/18. In 2011/12, the net loss was Rs. 72.2 million, and Rs. 170.4 million in 2020/21. HCIL had to face the most loss in 2019/20 when the net loss was Rs. 176.4 million.

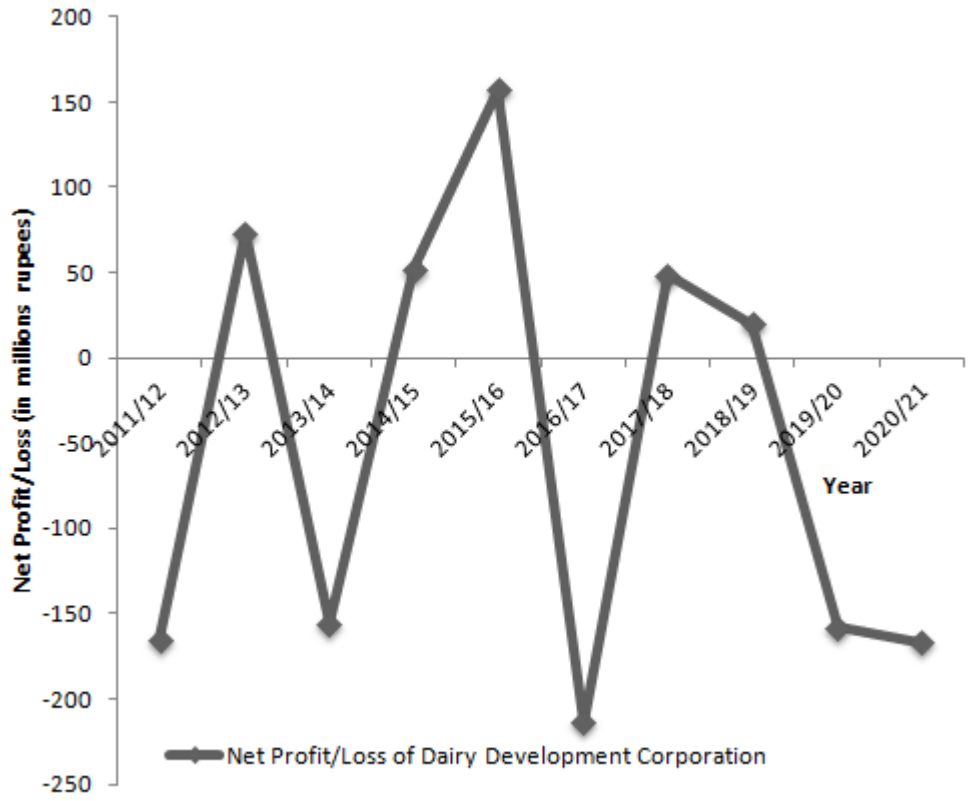
Nepal Ausadhi Ltd. persistently faced losses in the ten years. The net loss in 2011/12 was Rs. 132.4 million whereas Rs. 137.4 million in 2020/21. NAL faced the worst loss of Rs. 227.7 million in 2012/13. Likewise, the least amount of net loss faced by NAL was Rs. 76.5 million in 2019/20.

The net loss of Hetauda Cement Industries Ltd. in 2011/12 was Rs. 355.3 million. It was the most amount of loss HCIL had to bear. It continuously experienced loss till 2015/16. In 2015/16 and 2016/17, HCIL earned net profits of Rs. 37.7 million and Rs. 102.4 million respectively. The latter was the highest recorded net profit in the study period. However, the industry had to face losses in the following three years. In 2020/21, the net loss was Rs. 306 million.

The trend of profit and loss experienced by the industrial public enterprises in ten years is represented below with the help of charts.

Figure 4. 6

The Trend of Net Profit/Loss in Dairy Development Corporation



Note. Figure 4.6 was drawn from Table 4.8.

Figure 4.6 represents the net profit/loss of Dairy Development Corporation from 2011/12 to 2020/21. The vertical axis represents the net profit/loss and the horizontal axis represents the years of study. The net profit/ loss of DDC has been fluctuating during the period of study as represented by the graph above. DDC has experienced net profit in the year 2012/13, 2014/15, 2015/16, 2017/18, and 2018/19. The other years have experienced loss shown in the graph. The highest profit was earned in 2015/16 as shown by the highest point on the graph and the worst loss borne by DDC was in 2016/17 as represented by the lowest point in the graph.

Figure 4. 7

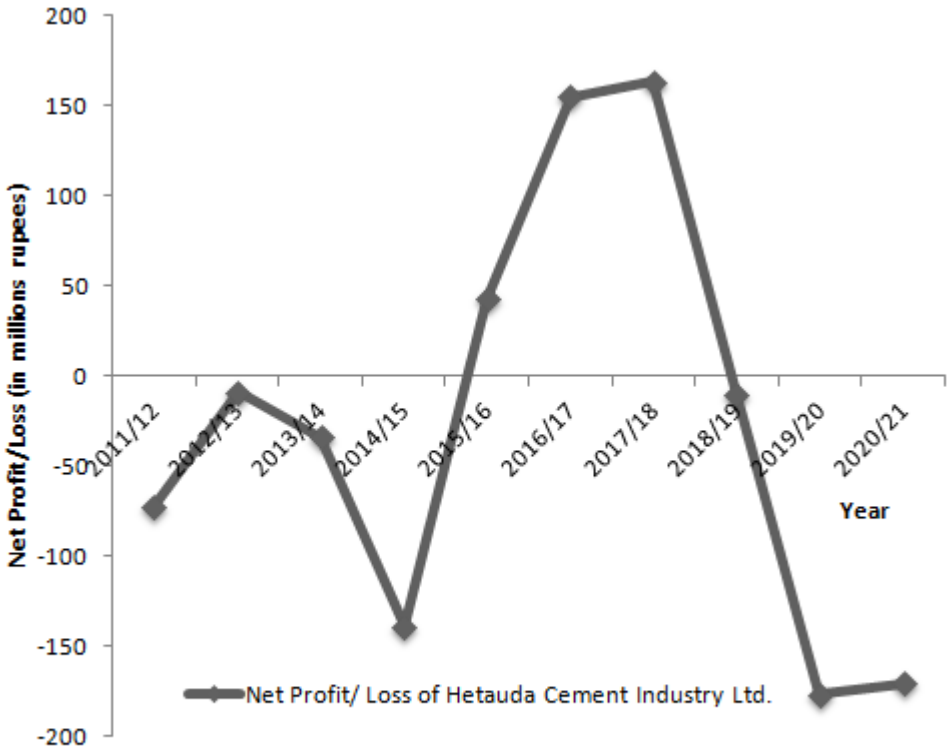
The Trend of Net Profit/Loss in Herbs Production and Processing Company Ltd.

Note. Figure 4.7 was drawn from Table 4.8.

Figure 4.7 represents the net profit/loss of Herbs Production and Processing Company Ltd. from 2011/12 to 2020/21. The vertical axis represents the net profit/loss and the horizontal axis represents the years of study. The net profit/ loss of HPPCL has been fluctuating during the period of study as represented by the graph above. In the initial four years i.e. from 2011/12 to 2014/15, HPPCL experienced loss as represented by the graph falling below 0. HPPCL had to face extreme loss during 2014/15 as represented by the lowest point. Since 2015/16, HPPCL experienced profit till 2020/21. HPPCL gained the most profit in 2015/16 as represented by the highest point in the graph.

Figure 4. 8

The Trend of Net Profit/Loss in Hetauda Cement Industry Ltd.

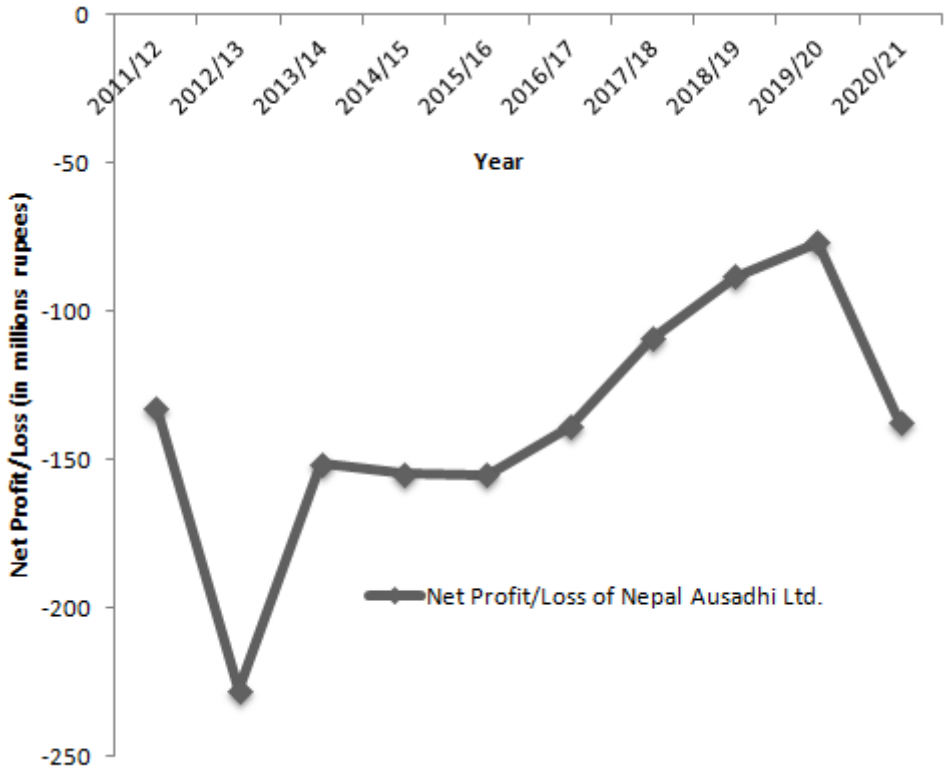


Note. Figure 4.8 was drawn from Table 4.8.

Figure 4.8 illustrates the net profit/loss of Hetauda Cement Industry Ltd. from 2011/12 to 2020/21. The vertical axis represents the net profit/loss and the horizontal axis represents the years of study. The graph above shows how the net profit/loss of HCIL has fluctuated during the study, with experiences of both net profit and net loss. HCIL experienced loss consecutively for four years from 2011/12 to 2014/15. It began making a profit in 2015/16 and continued to do so through 2017/18, with 2017/18 recording the biggest profit, as indicated by the highest point on the trend line. During 2018/19 through 2020/21, HCIL once more had to make a loss. The lowest point of the trend line indicates the amount of loss it had to endure in 2019/20.

Figure 4. 9

The Trend of Net Profit/Loss in Nepal Ausadhi Ltd.

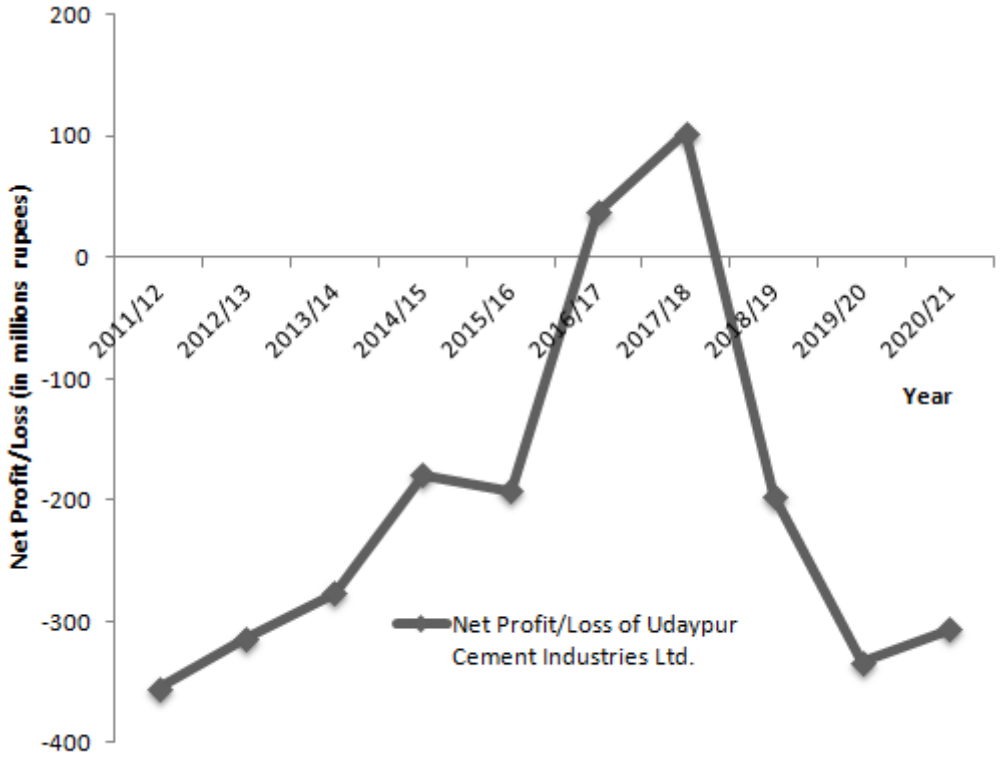


Note. Figure 4.9 was drawn from Table 4.8.

Figure 4.9 presents the net profit/loss of Nepal Ausadhi Ltd. from 2011/12 to 2020/21. The vertical axis represents the net profit/loss and the horizontal axis represents the years of study. The industry continued to incur losses throughout the study period, as seen by the trend line of net profit and loss for NAL. The quantity of loss, however, has varied from one time period to the next. NAL had to endure a huge loss in 2012/13 as represented by the lowest point on the trend line. Similarly, the loss in 2019/20 was a little low compared to the preceding periods.

Figure 4. 10

The Trend of Net Profit/Loss in Udaypur Cement Industries Ltd.



Note. Figure 4.10 was drawn from Table 4.8.

Figure 4.10 shows the net profit/loss of Udaypur Cement Industries Ltd. from 2011/12 to 2020/21. The vertical axis represents the net profit/loss and the horizontal axis represents the years of study. As seen in the graph above, UCIL's net profit and loss have fluctuated throughout the study, with experiences of both net profit and loss. Except for two periods, UCIL had to endure loss. UCIL had its greatest loss in 2011/12 as represented by the lowest point of the trend line. The trend line sloped upwards in the progressing years eventually reaching a profit in the years 2016/17 and 2017/18. In contrast, UCIL suffered losses in the years that followed. The highest profit earned was in 2017/18 as indicated by the highest point in the trend line.

4.3.2 Measurement of Efficiency of Industrial Public Enterprises

The efficiency of public enterprises can be measured with the help of efficiency or turnover ratios. These ratios measure the ability of the industry to utilize its assets to generate income. For this study, three efficiency ratios, namely, inventory turnover ratio, fixed assets turnover ratio, and total assets turnover ratio has been employed. These are explained with the help of the table below.

Table 4. 9

Inventory Turnover Ratio of Industrial Public Enterprises

Year	DDC	HPPCL	HCIL	NAL	UCIL
2011/12	14.1	0.88	2.08	0.3	2.97
2012/13	19.48	1.36	2.36	0.3	7.42
2013/14	29.88	1.98	2.09	N/A	0.89
2014/15	5.35	2.72	2.03	N/A	0.93
2015/16	13.46	1.05	2.02	N/A	1.13
2016/17	30.59	0.98	4.17	N/A	4.11
2017/18	6.67	1.42	3.68	N/A	0.6
2018/19	8.21	1	1.84	N/A	2.04
2019/20	4.31	0.82	1.36	N/A	5.74
2020/21	3.87	0.87	1.7	2.28	0.82
Mean	13.592	1.308	2.333	0.96	2.665

Note. Data were taken from the Annual Review of Public Enterprises 2013 to 2022. The inventory turnover ratios were measured in times.

Table 4.9 presents the inventory turnover ratios of ten years of the five industrial public enterprises. A higher inventory turnover ratio indicates higher efficiency in the utilization of inventory. The Inventory Turnover Ratio (ITR) of Dairy Development Corporation was 14.1 times in 2011/12 which indicated that DDC sold its entire inventory 14.1 times in the respective year. There are certain fluctuations in this ratio from one period to another. The highest ITR was 30.59 times which was achieved in 2016/17. Likewise, the lowest ITR was 3.87 times which was achieved in 2020/21. It is

quite less compared to the ITR of 2011/12. Compared to the initial years, the ITR dropped in the latter years. The average ITR of DDC in ten years was 13.592.

In 2011/12, the inventory turnover ratio of Herbs Production and Processing Company Ltd. was 0.88 times. However, the number increased in the following years. The highest ITR was 2.72 times in 2014/15. In the last two years, the ITR of HPPCL decreased. In 2020/21, the ITR was 0.87 times. The lowest ITR was 0.82 times which was achieved in 2019/20. In the span of the study, the average ITR of HPPCL was 1.308 times.

The inventory turnover ratio of Hetauda Cement Industry Ltd. was 2.08 in 2011/12. Till 2015/16, the ITR of HCIL has revolved around 2 times. The highest ITR was achieved in 2016/17 with a ratio of 4.17 times. After this, the ITR started to drop. The lowest ITR was 1.36 times which was achieved in 2019/20. In 2020/21, the ITR of HCIL was 1.7 times which is less compared to the initial ratio of 2011/12. On average, the ITR of HCIL was 2.333 times in ten years.

In 2011/12, the inventory turnover ratio of Nepal Ausadhi Limited was 0.3 times which was the same in 2012/13. This is also the highest ratio achieved by NAL in the study period. From 2013/14 to 2019/20, no measurement is available due to the non-availability of the data. In 2020/21, the ITR was 2.28 which is the lowest in the study period. The average ITR of NAL in the study period was 0.96 times which is very low as compared to the other industrial public enterprises.

The inventory turnover ratio of Udaypur Cement Industries Ltd. was 2.97 times in 2011/12. There is a fluctuation in the ratio from one year to another year. The highest ITR of UCIL was 7.42 which was achieved in 2012/13. Likewise, the lowest ITR was 0.6 times which was achieved in 2017/18. In 2020/21, the ITR of UCIL was 0.82 times which is significantly low as compared to that of 2011/12 and also 2019/20 (5.74 times). On average, the inventory turnover ratio of UCIL in ten years was 2.665 times.

Another indicator of efficiency is the Fixed Assets Turnover Ratio (FATOR) which is illustrated in table 4.10.

Table 4. 10

Fixed Assets Turnover Ratio of Industrial Public Enterprises

Year	DDC	HPPCL	HCIL	NAL	UCIL
2011/12	10.17	3.69	4.36	0.09	0.21
2012/13	10.16	4.4	5.47	0.06	0.33
2013/14	11.12	6.82	5.48	0.05	0.38
2014/15	12.69	5.78	3.85	0.04	0.39
2015/16	12.61	6.07	3.45	0.07	0.47
2016/17	11.23	3.27	6.6	0.06	0.72
2017/18	8.16	2.09	5.44	0.17	1
2018/19	8.12	1.53	5.1	0.71	0.91
2019/20	1.43	1.31	3.38	0.78	0.61
2020/21	1.4	1.55	4.24	1.1	0.15
Mean	8.71	3.65	4.74	0.31	0.52

Note. Data were calculated from appendices B and C. The fixed assets turnover ratios were measured in times.

Table 4.10 shows the fixed assets turnover ratios of ten years of the five industrial public enterprises. A higher fixed assets turnover ratio indicates higher efficiency in the utilization of fixed assets to generate sales. In 2011/12, the FATOR of Dairy Development Corporation was 10.17 times which indicates that the sales of the corporation are 10.17 times its fixed assets. In 2014/15, DDC had the highest FATOR of 12.69 times signalizing higher efficiency in the utilization of fixed assets. In 2020/21, the FATOR was 1.4 times which was also the lowest ratio recorded in the study period. The average fixed assets turnover ratio of DDC in ten years was 8.71 times.

The fixed assets turnover ratio of Herbs Production and Processing Company Ltd. was 3.96 times in 2011/12 whereas 1.55 times in 2020/21. The highest ratio was recorded in 2013/14 when the ratio was 6.82 times and the lowest was 1.31 times in 2019/20. Though fluctuating, on average, the fixed assets turnover ratio of HPPCL was 3.65 times in the study period.

In the case of Hetauda Cement Industry Ltd., the fixed assets turnover ratio for 2011/12 was 4.36 times. Throughout the period, the ratio has been limited to 3 to 7 times. HCIL had the highest and lowest FATOR in 2016/17 and 2019/20 with the ratio being 6.6. times and 3.38 times respectively. In 2020.21, the FATOR of HCIL was 4.24 times. The average FATOR of HCIL in ten years was 4.74 times.

The fixed assets turnover ratio of Nepal Ausadhi Limited was below 1 the entire period except for 2020/21 in which the ratio was 1.1 times. In 2011/12, it was 0.09 times. The lowest ratio was in 2014/15 in which NAL had the FATOR of 0.04 times. On average, the FATOR of NAL in ten years was 0.31 times which is very less.

Like NAL, the fixed assets turnover ratio of Udaypur Cement Industries Ltd. was also less than 1 in all periods except for 2017/18 in which the ratio was 1 time. In 2011/12, the FATOR was 0.21 times and the lowest was in 2020/21 with the FATOR of 0.15 times. The average FATOR of UCIL in ten years was 0.52 times which is also very less.

Table 4. 11

Total Assets Turnover Ratio of Industrial Public Enterprises

Year	DDC	HPPCL	HCIL	NAL	UCIL
2011/12	2.93	0.73	0.55	0.02	0.14
2012/13	3.11	0.81	0.64	0.02	0.23
2013/14	3.21	1	0.61	0.01	0.24
2014/15	2.46	0.78	0.71	0.01	0.25
2015/16	2.83	0.21	0.61	0.07	0.3
2016/17	2.69	0.19	0.88	0.01	0.43
2017/18	2.07	0.21	0.66	0.04	0.52
2018/19	2.18	0.2	0.71	0.11	0.45
2019/20	0.9	0.18	0.51	0.12	0.3
2020/21	0.86	0.22	0.78	0.19	0.12
Mean	2.33	0.45	0.67	0.06	0.3

Note. Data were calculated from appendices B and C. The total assets turnover ratios were measured in times.

Table 4.11 depicts the total assets turnover ratios of ten years of the five industrial public enterprises. A higher total assets turnover ratio indicates higher efficiency in the utilization of total assets to generate sales. In 2011/12, the TATOR of Dairy Development Corporation was 2.93 times which indicates that the sales of the corporation are 2.93 times its total assets. The TATOR of DDC, in the study period, was limited to around 0.5 to 3.5 times. DDC's total assets turnover ratio was the highest in 2013/14 with the ratio being 3.21 times and the lowest being 0.86 in 2020/21. The average TATOR of DDC of ten years was 2.33 times.

The total assets turnover ratio of Herbs Production and Processing Company Ltd. was below 1 except for 2013/14 in which the TATOR was 1 time. The lowest TATOR measured was in 2016/17 with the ratio being 0.19 times. In 2020/21, the TATOR of HPPCL was 0.22 times. On average, the TATOR of HPPCL was 0.45 times in ten years which is indicative of low utilization of total assets to generate sales.

. Hetauda Cement Industry Ltd. had a total assets turnover ratio below 1 persistently throughout the study period. Out of which, the highest was 0.88 times in 2016/17, and the lowest was 0.51 times in 2019/20. The average TATOR of HCIL in ten years was 0.67 times which is very low.

Like HCIL, Nepal Ausadhi Limited's total assets turnover ratio also was below 1 continuously throughout the study period. The highest was 0.19 times in 2020/21 and the lowest was 0.01 which was experienced thrice in 2013/14, 2014/15, and 2016/17. The average TATOR of NAL in ten years was 0.06 which shows an extremely poor utilization of the total assets to generate sales.

Udaypur Cement Industries Ltd. also experienced a below 1 total assets turnover ratio throughout the study period. UCIL had the highest and lowest TATOR in 2017/18 and 2020/21 with the ratio being 0.52 times and 0.12 times respectively. The average total assets turnover ratio of UCIL in ten years was 0.3 times which is very low.

4.3.3 Measurement of Profitability of Industrial Public Enterprises

The overall profitability of the selected industrial public enterprises is shown with the help of profitability ratios like net profit margin, return on assets and return on equity. These are measured and displayed with the help of the table below.

Table 4. 12

Net profit Margin of Industrial Public Enterprises

Year	DDC	HPPCL	HCIL	NAL	UCIL
2011/12	-5.08	-51.17	-7.49	-6620	-60.24
2012/13	2.01	-14.79	-0.78	-17515.4	-35.18
2013/14	-3.91	-16.43	-3.07	-15130	-29.51
2014/15	1.2	-41.44	-10.93	-19312.5	-20.31
2015/16	3.67	511.91	4	-11071.4	-19.88
2016/17	-5.2	6.97	8.06	-9246.67	2.68
2017/18	1.22	30.12	10.21	-1761.29	5.56
2018/19	0.49	15.65	-0.68	-360	-11.86
2019/20	-4.11	9.06	-18.47	-307.23	-30.59
2020/21	-4.46	9.66	-14.14	-279.84	-26.66
Mean	-1.42	45.95	-3.33	-8160.43	-22.6

Note. Data were calculated from appendix C and Table 4.8. The net profit margin was measured in percentage.

Table 4.12 illustrates the net profit margin of the five industrial public enterprises from 2011/12 to 2020/21. Net profit margin measures how much net profit is generated as a percentage of sales revenue which is an indicator of profitability. In Dairy Development Corporation, the net profit margin is positive in five periods and negative in five periods as it had to incur a loss. The highest NPM was 3.67 percent in 2015/16. In 2011/12, DDC had to bear the most loss as represented by a negative NPM of 5.08 percent. On average, the NPM of DDC in ten years is -1.42 percent which is an indicator of loss.

The net profit margin of Herbs Production and Processing Company Ltd. was negative from 2011/12 to 2014/15. Thereafter, it experienced a positive NPM. In 2011/12, HPPCL had to bear the extreme loss as represented by a negative NPM. The highest NPM was 511.91 percent in the fiscal year 2015/16. On average, the net profit margin of HPPCL in the study period was 45.95 percent which represents a higher and favorable net profit margin indicating a situation of profitability.

Hetauda Cement Industry experienced a positive net profit margin in only three periods i.e. from 2015/16 to 2017/18. The other periods indicated a negative NPM due to the loss HCIL had to endure in the respective periods. HCIL had to bear the most in 2019/20 as shown by the negative NPM. The highest NPM was 10.21 percent in 2017/18. The average net profit margin of HCIL in the study period was a negative NPM of 3.33 percent which indicated a loss.

Nepal Ausadhi Limited persistently experienced a negative net profit margin throughout the study period which indicates that the industry had to face losses in every period. In comparison to the other industries, NAL endured huge losses as shown by the highest numbers of negative NPM. The average net profit margin of NAL in the study period was a negative NPM of 8160.43 percent due to the huge amount of loss it had to bear every consecutive year.

The net profit margin of Udaypur Cement Industries Ltd. was negative in every fiscal year except for 2016/17 and 2017/18. In 2017/18, UCIL had an NPM of 5.56 percent which is the highest in the study period. In 2011/12, UCIL had to bear the most loss as represented by the negative net profit margin of 60.24 percent. On average, the net profit margin of UCIL in the study period was -22.6 percent which represents a situation of loss.

To further analyze the profitability of the industrial public enterprises, measurement, and analysis of return on equity is presented in Table 4.13.

Table 4. 13

Return on Equity of Industrial Public Enterprises

Year	DDC	HPPCL	HCIL	NAL	UCIL
2011/12	-69.43	-142.95	-8.02	-0.015	-39.19
2012/13	28.32	-43.98	-0.99	-0.015	-64.62
2013/14	-72.33	-156	-3.77	N/A	0.66
2014/15	20.37	-154.5	-15.37	N/A	-238.01
2015/16	40.51	1999.84	4.78	N/A	-2.44
2016/17	-118.58	25.85	17	N/A	-5.6
2017/18	26.24	131.47	18.16	N/A	1.93
2018/19	7.61	69.86	-3.02	N/A	-5.38
2019/20	-39.16	3.6	-0.2	N/A	20.81
2020/21	-73.36	4.17	-18.92	0.08	-7.27
Mean	-24.98	173.74	-1.035	0.0167	-33.91

Note. Data were taken from the Annual Review of Public Enterprises 2013 to 2022. The return on equity was measured in percentage.

Table 4.13 illustrates the return on equity of the five industrial public enterprises from 2011/12 to 2020/21. ROE indicates how well a firm/ industry utilizes the resources invested by the shareholders to generate profit. A higher ROE is always favorable and indicative of a profitable situation for the owners. The ROE of Dairy Development Corporation is mixed with both favorable and unfavorable results in the study period. In 2011/12, the ROE of DDC is negative at 69.43 percent. It indicates that the government, who is the sole investor of the fund, had to experience a loss of 69.43 percent on their investment. Along with this, DDC experienced negative ROE in 2013/14 of 72.33 percent, in 2016/17 with a negative 118.58 percent, in 2019/20, and in 2020/21 with a negative ROE of 39.16 percent and 73.36 percent respectively. Likewise, DDC had positive ROE of 28.32 percent in 2012/13, 20.37 percent in 2014/15, 40.51 percent in 2015/16, 26.24 percent in 2017/18, and 7.61 percent in 2018/19. Out of these, the lowest ROE was recorded in 2016/17 and the highest in 2015/16. In ten years, the average ROE

of DDC was negative 24.98 percent indicating a loss of the fund invested by the government.

The return on equity of Herbs Production and Processing Company Ltd. was negative from 2011/12 to 2014/15 which indicates a situation of loss with the ratio being negative 142.95 percent in 2011/12 and 154.5 percent in 2014/15. From 2015/16 to 2020/21, HPPCL had a favorable ROE. The highest ROE was achieved in 2015/16 with it being 1999.84 percent as the company had earned a humongous profit in that fiscal year. In 2020/21, the ROE was 4.17 percent. In the study period, the lowest ROE was in 2013/14 with 156 percent. On average, the ROE of HPPCL is favorable and the ten-year average was 173.74 percent.

Hetauda Cement Industry Ltd. had a negative ROE in all periods except from 2015/16 to 2017/18. In 2011/12, the ROE was negative at 8.02 percent. There was a fluctuation in the percentage from year to year. The lowest ROE was negative at 18.92 percent in 2020/21. However, in 2017/18, HCIL had the highest ROE of 18.16 percent in the study period. The ten-year average return on equity of HCIL was a negative 1.035 percent which represents an unfavorable situation indicative of loss.

The data on the ROE of Nepal Ausadhi Limited was only available for three periods. Out of them, 2011/12, and 2012/13 had the same negative ROE of 0.015 percent. However, the ROE of 2020/21 was positive at 0.08 percent. The average ROE of NAL was 0.0167 which is positive yet very low.

The return on equity of Udaypur Cement Industries Ltd. was negative for most of the fiscal years except for 2013/14 with an ROE of 0.66 percent, 2017/18 at 1.93 percent, and 2019/20 at 20.81 percent. The ROE of 2019/20 was the highest percentage achieved in the study period. The lowest was in 2014/15 when UCIL registered a negative ROE of 238.01 percent. Though fluctuating, the ten-year average ROE of UCIL was a negative 33.91 percent which indicates a situation of loss.

Another profitability ratio employed in the study is Return on Assets (ROA), which is presented in Table 4.14.

Table 4. 14

Return on Assets of Industrial Public Enterprises

Year	DDC	HPPCL	HCIL	NAL	UCIL
2011/12	-14.92	-37.52	-4.14	-143.86	-8.61
2012/13	6.25	-12.02	-0.5	-267.91	-8.17
2013/14	-12.55	-16.4	-1.88	-185.98	-7.22
2014/15	2.94	-32.21	-7.78	-186.14	-5.02
2015/16	10.41	108.04	2.46	-763.47	-5.92
2016/17	-14	1.31	7.1	-105.88	1.14
2017/18	2.52	6.22	6.74	-73.14	2.87
2018/19	1.08	3.16	-0.48	-40.81	-5.29
2019/20	-3.7	1.64	-9.49	-35.85	-9.15
2020/21	-3.82	2.12	-11	-52.07	-3.3
Mean	-2.58	2.43	-1.9	-185.51	-4.87

Note. Data were calculated from appendix B and Table 4.8. The return on assets was measured in percentage.

Figure 4.14 depicts the return on assets of the five industrial public enterprises from 2011/12 to 2020/21. ROA indicates how well a firm/ industry utilizes the total assets of the firm to generate profit. A higher ROE is always favorable and indicative of higher efficiency in asset management to generate a net profit. Dairy Development Corporation had five negative and five positive ROA in the study period. The favorable ROAs were in the fiscal years 2012/13, 2014/15, 2015/16, 2017/18, and 2018/19 with the ROA being 6.25 percent, 2.94 percent, 10.41 percent, 2.52 percent, and 1.08 percent respectively. Likewise, DDC experienced a negative ROA in 2011/12 of 14.92 percent, 2013/14 of 12.55 percent, in 2016/17 with a negative 14 percent, in 2019/20, and 2020/21 with a negative ROE of 3.7 percent and 3.82 percent respectively. The ten-year average ROA of DDC was negative 2.58 percent indicating an unfavorable situation of profitability.

The ROA of Herbs Production and Processing Company Ltd. was negative from 2011/12 to 2014/15. Since then, HPPCL's ROA was positive till 2020/21. In 2011/12, the ROA of HPPCL was negative 37.5 percent which is also the lowest ROA of the company in the study period. The highest was measured in 2015/16 when the ROA was 108.04 percent. In 2020/21, the ROA was 2.12 percent. On average, HPPCL recorded a ROA of 2.43 percent which is a representation of assets efficiency to generate profit in the company.

Hetauda Cement Industry Ltd. had a negative ROA in all fiscal years except from 2015/16 to 2017/18. HCIL saw a fluctuation in the percentage of ROA from year to year. In 2011/12, the ROA was negative at 4.14 percent. The lowest ROA was a negative 9.49 percent in 2019/20. However, in 2016/17, HCIL had the highest ROA of 7.1 percent in the study period. The ten-year average return on equity of HCIL was negative 1.9 percent which represents a situation of loss and inefficient assets management to generate profit.

In the case of Nepal Ausadhi Ltd., the return on assets was negative persistently throughout the study period. The lowest ROA was a negative 763.47 percent in the fiscal year 2015/16. In 2011/12, the ROA was negative 143.86 percent, and negative 52.07 percent in 2020/21. The ten-year average ROA of Nepal Ausadhi Ltd. was negative 185.51 percent which points out the dire situation of inefficient assets management in NAL to generate profit.

The return on assets of Udaypur Cement Industries Ltd. was negative in every fiscal year except for 2016/17 and 2017/18. In 2017/18, UCIL had a ROA of 2.87 percent which is the highest in the study period. The lowest and most unfavorable ROA was experienced in 2019/20 with a negative ROA of 9.15 percent. On average, the ROA of UCIL in the study period was negative 4.87 percent which represents a situation of loss and inefficiency.

4.4 Challenges Faced by Industrial Public Enterprises

Since public enterprises share similar characteristics, most of them share similar challenges or limitations that affect their performance. There are certain problems that a large number of public enterprises in Nepal have to endure. As such, industrial public enterprises are also prone to these problems. Along with the reports of public enterprises conducted in different years, the Ministry of Finance (2018) has elucidated certain challenges that are responsible for the poor performance of public enterprises which also apply to industrial public enterprises. They are as follows.

1. The basic objective of public enterprises is to enhance social welfare. However, since they operate in a market driven by competition and profit earning, industrial PEs are often faced with dilemmas regarding their pricing, and objectives. As a result, these enterprises continue to deliver goods and services even by enduring a large amount of loss.
2. There is a scarcity of competent human resources who could perform the activities with the utmost efficiency in industrial PEs. Lack of skilled employees, traditional organizational structure, transparent and accountable management, poor corporate governance, etc. are often found in industrial public enterprises.
3. Industrial public enterprises lack long-term plans and strategies to tap the market share. Likewise, they do not have adequate plans for enhancing their competitiveness in the market. Lacking such competitive spirit in the market results in a lack of innovation and improvements which lags the performance.
4. Industrial public enterprises lack financial discipline as not all follow the general rules of auditing, financial reporting, etc. For instance, DDC, Herbs Production and Processing Company Ltd., Nepal Ausadhi Ltd., Nepal Orind Magnesite Pvt. Ltd. Heatuda Cement Industry Ltd., etc, had not cleared their audit status in the fiscal year 2020/21.
5. Industrial PEs lacks an investment in new and modern technology, research, and development which weakens their performance in a competitive, research and development-oriented market (Ministry of Finance, 2019).

6. Most of the industrial public enterprises operate at loss. This has resulted in financial risk. Since these enterprises have to depend on the government for their financing and expenses, it burdens the government. (Ministry of Finance, 2020).

Along with these challenges, the financial performance of industrial public enterprises also hints at the problems hindering the growth of industrial public enterprises. The efficiency ratios have indicated that most industrial public enterprises lack efficient utilization of their resources including assets. It could very well mean that these enterprises are not operating at full plant capacity. Likewise, the profitability ratios of industrial PEs have shown the dire situation in which these enterprises are operating.

Thus, the data analysis shows that even though the number of industrial public enterprises has grown, the contribution to the national economy, however, is very low. It presents a grim picture of the contributions made by the industrial PEs to the national economy with the percentage contributions to GDP, income tax, and VAT appearing less than 1%. Likewise, challenges like pricing dilemmas, inefficient management, financial indiscipline, inefficiency in resource utilization, and so on could have hampered the performance of industrial PEs which is reflected in the analysis of profitability and efficiency ratios.

Hence, chapter 4 has included the presentation, analysis, and discussion of the results of data related to their composition, the contribution made by the public enterprises to the national economy, and the financial performance measuring profitability and efficiency. The data presentation and analysis have been in this chapter with the help of tables and figures. Also, the challenges that have impaired the performance of industrial PEs have been listed. Based on these results, chapter 5 provides closure to this study by providing the summary and conclusion.

CHAPTER 5

FINDINGS, CONCLUSION, AND RECOMMENDATIONS

This study's general objective was to evaluate the overall condition of industrial PEs, and its specific objectives were to look at their economic contributions to the nation as a whole and measure their financial performance. Abiding with this, the findings, conclusions, and suggestions in this section are based on the general and specific objectives listed in Chapter 1, the methodology used in Chapter 3, and the data analysis in Chapter 4.

5.1 Findings

The findings related to both the general and specific objectives of the study are listed below.

1. Out of the 44 public enterprises, 10 of the enterprises belonged to the industrial sector as of 2020/21. From 2011/12 to 2017/18, only 7 public enterprises were in the industrial sector. Since 2018/19, 3 more were added.
2. The government fully owned and controlled six of the ten industrial PEs that were in operation. The remaining four were jointly owned by public enterprises, the private sector, and the government. Fully owned industrial PEs were DDC, HCIL, Janakpur Cigarette Factory Ltd., NAL, UCIL, and Dhaubadi Falam Company Ltd. The jointly owned enterprises were HPPCL, Nepal Orind Magnesite Pvt. Ltd., Butwal Spinning Mill Ltd., and Nepal Metal Company Ltd.
3. As of 2020/21, GON invested a total of Rs. 6138.4 million in industrial PEs, while PEs and the private sector invested 172 million rupees, totaling Rs. 6310.4 million in paid-up capital. GON made investments totaling Rs. 3648.1 in UCIL and Rs. 24.1 million in HPPCL, with the former and latter receiving the biggest and lowest amounts of investment, respectively. The largest private investment was made in Nepal Orind Magnesite Pvt. Ltd. for a sum of Rs. 75 million.
4. The percentage of GDP contributed by the industrial PEs out of the total GDP was less than 1 percent throughout the study period with an average of 0.264 percent.

The average operating income contributed to the GDP was Rs. 6524.93 million out of which the highest amount contributed was Rs. 7557.4 million in 2017/18 and the lowest was Rs. 4874.9 million in 2011/12. Throughout the year, the percentage of GDP contributed by industrial PEs out of the total GDP decreased as shown in Figure 4.2.

5. The number of employees employed in industrial PEs decreased by around 44 percent from 2011/12 to 2020/21 with 3475 and 1943 employees employed respectively. The average number of an employee employed in the study period was 2363. Out of the total employees working in public enterprises, on average, 8.151 percent belonged to the industrial sector. This percentage was highest in 2011/12 with the industrial sector representing 10.94 percent of employees and lowest in 2019/20 with 6.91 percent.
6. Following a fluctuating trend, the average income tax contributed by industrial PEs in the study period to GON was Rs. 64.53 million with the highest and lowest contributions in 2014/15 (196.2 million) and 2018/19 (17.2 million) respectively. The percentage of income tax contributed by the industrial PEs out of the total income tax was less than 1 percent for the entire period with an average of 0.06 percent.
7. The average amount of VAT provided by industrial PEs to the government was Rs. 295.72 million with the highest and lowest amount of Rs. 405.5 million in 2018/19 and Rs. 204 million in 2016/17. The percentage of VAT contributed by industrial PEs out of the total VAT collected by GON was less than 1 percent in the entire period with an average of 0.22. Even though the amount of VAT contributed fluctuated throughout, its contribution was higher than income tax.
8. In the case of net profit/loss, DDC experienced fluctuations in net profit and loss with the corporation experiencing profit in five periods and loss in five periods. HPPCL experienced loss till 2014/15 and enjoyed gain continuously till 2020/21. Except from 2015/16 to 2017/18, HCIL endured net loss consistently. NAL had the burden of loss throughout the study period. Likewise, UCIL experienced net loss except for the fiscal year 2016/17 and 2017/18. Thus, these enterprises had to bear the loss for most of the periods.

9. The trend of all the efficiency ratios fluctuated in the study period. The average inventory turnover ratio of DDC i.e. 13.592 times was higher than the ratios of other enterprises which indicated that DDC was more efficient in inventory management. The average ITR of HPPCL, HCIL, NAL, and UCIL were 1.308, 2.333, 0.96, and 2.665 times respectively. The ITR of NAL was extremely low indicating weak inventory management efficiency.
10. The average FATOR of DDC i.e. 8.71 was higher than the ratios of other enterprises which indicated that DDC was more efficient in utilizing fixed assets to generate sales. The lowest FATOR was of NAL i.e. 0.31 times followed by UCIL (0.52 times), HPPCL (3.65 times), and HCIL (4.74 times).
11. The average TATOR of DDC i.e. 2.33 times was higher than the ratios of other enterprises and the TATOR of NAL i.e. 0.06 times was the lowest. The average TATOR of HPPCL, HCIL, and UCIL was 0.45 times, 0.67 times, and 0.3 times respectively. DDC demonstrated satisfactory performance in efficiently utilizing total assets to generate sales.
12. In the case of net profit margin, only HPPCL had a positive average NPM of 45.95 percent. NAL had the worst performance as the average NPM was negative at 8160.43 percent. The average NPM of DDC, HCIL, and UCIL was negative at 1.42 percent, 3.33 percent, and 22.6 percent indicating a situation of loss.
13. Only HPPCL and NAL had a favorable average ROE of 173.74 percent, and 0.0167 percent respectively with other enterprises experiencing an unfavorable result. The average ROE of DDC, HCIL, and UCIL was negative at 24.98, 1.035, and 33.91 percent respectively.
14. Only HPPCL had a positive average ROA of 2.43 percent in the study period. NAL had the worst ROA which was negative at 185.51 percent. The average ROA of DDC, HCIL, and UCIL was negative at 2.58, 1.9, and 4.87 respectively.
15. The problems like pricing dilemmas, management problems like incompetent labor, traditional organizational structure, lack of long-term plans and competition strategies, poor financial discipline, low investment in modern technology, a burden to the government, and inefficient utilization of assets and plants posed a challenge to the operations and performance of industrial PEs.

5.2 Conclusion

The research on the economic status of industrial public enterprises is conducted with a few objectives in mind. The general objective is to evaluate the overall status of industrial PEs, their composition, growth over the years, and also the challenges that have limited their performance. The specific objectives are to look at their economic contributions to the nation in terms of GDP, employment, and government revenue and measure their financial performance in terms of profitability and efficiency.

As regards the conclusion of the general objective on the growth, composition, and standings of the industrial public enterprises, it seems that the number of industrial public enterprises has grown in the recent few years making up around 22 percent of the total public enterprises. Likewise, out of the ten industrial public enterprises, it appears that GON has full ownership in six of them which goes to show that the private sector also contributes a certain portion in these industrial enterprises even though the government holds a majority of the share. In regards to the investment, it turns out that the government has contributed different amounts in different industries with the highest investment in UCIL.

Concerning the first specific objective relating to the contributions made by industrial PEs to the national economy, it turns out that the trend of contribution towards the GDP, employment, income, and VAT is highly unsatisfactory. In regards to GDP, the year-by-year contribution appears to decrease continuously. Likewise, the percentage of GDP contributed by the industrial PEs out of the total GDP appears to be less than 1 percent in all periods which goes to show how less the contribution towards GDP is. Concerning employment, the number of employees in industrial enterprises seems to decrease by around 44 percent in the ten years even though the number of industrial PEs has increased. Regarding the income tax and VAT contributed by industrial PEs, it indicates that the trend has fluctuated throughout with the percentage contribution out of the total appearing to be less than 1 percent. However, industrial PEs seem to provide more VAT to the government than income tax every year. The poor performance of these enterprises may be a potential factor behind a low contribution to the national economy.

In regards to the second specific objective relating to the financial performance of industrial public enterprises, the five industrial PEs seem to have a share of both net profit and loss. It is observed that HPPCL has been enjoying profit over the last 6 years whereas NAL has not had the opportunity to gain profit in a single period. Pricing dilemmas, inefficient management of resources, etc. could be the reason behind the net loss that the industrial PEs have to endure.

Concerning the efficiency ratio of the five public enterprises, DDC seems to have a satisfactory inventory turnover ratio, fixed assets turnover ratio, and total assets turnover ratio whereas NAL seems to have the most disappointing efficiency ratios. This goes to show that DDC may be more efficient in inventory management, and utilization of its fixed and total assets to generate sales whereas NAL could be inefficient. However, the profitability ratios appear to show that HPPCL has a positive average net profit margin, return on assets, and return on equity whereas all the other enterprises have negative profitability ratios which indicate that these enterprises are burdened by loss. Along with HPPCL, NAL's average ROE also appears to be positive. Even though DDC seems to be efficient in utilizing the resources, the average net loss and negative profitability ratios could suggest that problems like pricing dilemmas, competition, etc. could very well be burdening the corporation with loss. Overall, the financial performance of a majority of the industrial PEs appears to be very weak which may present a burden on the government and could be a factor behind the low contribution to the national economy.

Regarding the difficulties faced by industrial public enterprises, pricing dilemmas, management problems, poor strategies, subpar competitive spirit, lack of financial discipline, low levels of investment in new technology, research, and development, along with inefficient utilization of assets including plants seems to hinder and impair the performance of industrial public enterprises.

Concerning the comparison of this study with the related previous studies, this study has drawn inferences that the financial performance of the industrial PEs is not satisfactory. Previous studies have also found that industrial PEs tend to perform poorly

with multiple challenges limiting their performance. This study also presents the pitiful situation regarding the contributions made by the industrial PEs to the national economy which has been missed by a majority of previous studies. Furthermore, unlike the previous studies, this study has presented the financial health of five active industrial public enterprises. Thus, this study's conclusion is to a certain extent consistent with the previous study and also different.

5.3 Recommendations

Based on the above findings and conclusion, the following recommendations have been made:

1. The government should identify the factors that are causing the industrial PEs to perform poorly and develop appropriate strategies to mitigate them.
2. The government can develop appropriate measures to increase the industrial PEs' income, and productivity to increase their contributions to the national economy.
3. The government should consider privatization or public-private partnership if the financial performance of industrial PEs deteriorates and show no sign of improvement. By encouraging privatization, and public-private partnership, industrial PEs can undergo restructuring and eventually improve efficiency and create new jobs.
4. Industrial PEs must ensure that their resources including plants, and inventories are optimally utilized to achieve higher efficiency in performance.
5. The industrial public enterprises and the government must encourage training and development of the employees for increasing productivity and efficiency, investment in research and development, financial discipline, and competitive market strategies to strengthen performance.

5.4 Scope for Further Research

Out of the six sectors of PEs in Nepal, this study has solely focused on public enterprises operating in the industrial sector. Furthermore, the study is based on secondary data only spanning a decade. Considering these, in the future, the researcher could provide a more detailed understanding of the industrial public enterprises by

fulfilling the gaps that have been overlooked in this study. Some possible areas for future research are as follows.

1. The performance of industrial PEs in Nepal is very poor owing to certain challenges. The government could research to identify these factors along with the ways to rectify these so that PEs take an integral position in the national economy.
2. The researcher could conduct a study covering a long period to analyze how the performance and trends of industrial PEs have changed over time.
3. In the future, the researcher could employ primary data or use both primary and secondary data to conduct thorough research on industrial public enterprises. This could also identify the factors or challenges that were missed by the secondary data.
4. Since public enterprises operate in different sectors of the economy, the researcher could study how the PEs of other sectors contribute to the national economy, along with their performance. The results can also be compared with that of industrial PEs to understand the relative performance.
5. In the future, the researchers could identify the strength and weaknesses of individual industrial public enterprises like DDC, HPPCL, and so on by conducting in-depth case studies.
6. The researcher could also conduct a comparative study on the status of industrial PEs in Nepal and other international nations, which could be developing nations, developed nations, or even countries in the SAARC region.

Hence, the final chapter comprises the major findings derived from the analysis of data, the conclusion of the entire study, the recommendations provided for the improvement of industrial PEs, and finally areas for future research suggested to the future researchers who could take on the gaps neglected by this study and enhance further understanding of industrial PEs.

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APPENDICES

APPENDIX A: SECTORAL DIVISION OF EXISTING PUBLIC ENTERPRISES

Table A 1

Sector-Wise Division of Public Enterprises

Industrial Sector
Dairy Development Corporation
Herbs Production and Processing Company Ltd.
Hetauda Cement Industry Ltd.
Janakpur Cigarette Factory Ltd.
Nepal Metal Company Ltd.
Nepal Ausadhi Ltd.
Udaypur Cement Industries Ltd.
Nepal Orind Magnesite Pvt. Ltd.
Butwal Spinning Mills Ltd.
Dhaubadi Iron Company Ltd.
Trading Sector
Agriculture Inputs Company Ltd.
Nepal Ban Nigam Ltd.
Nepal Food Corporation
Nepal Oil Corporation Ltd.
Service Sector
Industrial District Management Ltd.
Nepal Transit and Warehouse Company Ltd.
Nepal Airlines Corporation
National Productivity and Economic Development Centre Ltd.
Civil Aviation Authority of Nepal
Sajha Yatayat Ltd.

Nepal Railway Company Ltd.
Bishal Bazar Company Ltd.
Nepal Purbadhar Nirman Company Ltd.
Social Sector
Cultural Corporation
Gorkhapatra Corporation
Janak Education Material Centre Ltd.
Nepal Television
Rastriya Aawas Company Ltd.
Public Utility Sector
Nepal Water Supply Corporation
Nepal Electricity Authority
Nepal Doorsanchar Company Ltd.
Vidhyut Utpadan Company Ltd.
Rastriya Prasaran Grid Company Ltd.
Financial Sector
Agricultural Development Bank Ltd.
Rastriya Beema Corporation
Rastriya Beema Company Ltd.
Rastriya Banijya Bank Ltd.
Deposit and Credit Guarantee Fund
Nepal Stock Exchange Ltd.
Citizen Investment Trust
Jalbidhyut Lagani Tatha Bikas Company Ltd.
Nepal Bank Ltd.

Note. Sectoral divisions of public enterprises were retrieved from the Annual Review of Public Enterprises 2022.

APPENDIX B: ASSETS OF INDUSTRIAL PUBLIC ENTERPRISES

Table B 1

Fixed Assets of Industrial Public Enterprises

Year	DDC	HPPCL	HCIL	NAL	UCIL
2011/12	318.8	20.8	221.2	21.8	2866.3
2012/13	357.9	18.6	207.5	20.7	2661.9
2013/14	358.5	17.4	202	19.7	2455.2
2014/15	344.6	18	329.4	19.2	2245.5
2015/16	339.6	17.7	311.2	19	2060.1
2016/17	366.3	31.1	291.2	24.5	1966.3
2017/18	488.2	57.5	294.8	35.5	1849.1
2018/19	501.9	80.1	303.1	34.4	1812.9
2019/20	2682.7	102.4	283	31.8	1798.8
2020/21	2667.2	127.7	284.2	44.8	7702.3

Note. Data were taken from the Annual Review of Public Enterprises 2013 to 2022. The fixed assets were measured in millions of rupees.

Table B 2

Total Assets of Industrial Public Enterprises

Year	DDC	HPPCL	HCIL	NAL	UCIL
2011/12	1105	104.742	1742.5	92.034	4125.9
2012/13	1168.7	100.7	1772.7	84.99	3836.2
2013/14	1241.4	118.926	1804.2	81.351	3831.7
2014/15	1777.3	133.8	1780.1	83	3568.1
2015/16	1511.8	509.35	1748.5	20.302	3251.2
2016/17	1528.2	540.9	2182.2	131	3305
2017/18	1925.1	581.9	2427.2	149.3	3572.8
2018/19	1865.7	607.2	2192.7	216.1	3711.8
2019/20	4275.6	742.8	1858.1	213.4	3647.3
2020/21	4371.3	902.3	1549.3	263.9	9272.6

Note. Data were taken from the Annual Review of Public Enterprises 2013 to 2022. The total assets were measured in millions of rupees.

APPENDIX C: SALES INCOME OF INDUSTRIAL PUBLIC ENTERPRISES

Table C 1

Sales Revenue of Industrial Public Enterprises

Year	DDC	HPPCL	HCIL	NAL	UCIL
2011/12	3242.9	76.8	963.4	2	589.8
2012/13	3634.8	81.8	1134.6	1.3	891.4
2013/14	3986.4	118.7	1106.2	1	936.9
2014/15	4374	104	1267.7	0.8	881.5
2015/16	4283.6	107.5	1073.9	1.4	968.2
2016/17	4114.4	101.8	1922.8	1.5	1408.1
2017/18	3983.9	120.2	1603	6.2	1841.4
2018/19	4074.8	122.7	1547.2	24.5	1655.2
2019/20	3844.2	134.6	955.2	24.9	1090.6
2020/21	3744.9	197.8	1204.9	49.1	1147.8

Note. Data were taken from the Annual Review of Public Enterprises 2013 to 2022. The sales revenue was measured in millions of rupees.