

PUBLIC DEBT AND ECONOMIC GROWTH IN NEPAL

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LETTER OF RECOMMENDATION

This thesis entitled *Public debt and economic growth in Nepal* has been prepared by **Mrs. Parmila Thapaliya** under my guidance and supervision. I hereby recommend this thesis for examination by the thesis Committee as partial fulfillment of the requirements for the **Degree of Master of Arts in Economics**.

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APPROVAL LETTER

We clarify that this thesis entitled *Public debt and economic growth in Nepal* submitted by **Mrs. Parmila Thapaliya** to the Central Department of Economics, Faculty of Humanities and Social Sciences, Tribhuvan University, in partial fulfillment of the requirements for the degree of **Master of Arts in Economics** have found satisfactory in scope and quality. Therefore, we accept this thesis as a part of the Degree.

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TABLE OF CONTENTS

LETTER OF RECOMMENDATION	ii
APPROVAL LETTER	iii
ACKNOWLEDGEMENT	iv
TABLE OF CONTENTS	v
LIST OF TABLES	vii
LIST OF FIGURES	viii
ABBREVIATIONS	ix
CHAPTER-1: INTRODUCTION	1-4
1.1 Background	1
1.2 Statement of the Problems	2
1.3 Objectives of the study	3
1.4 Significances of the study	3
1.5 Limitation of the study	4
1.6 Organization of the study	4
CHAPTER-2: PUBLIC DEBT IN NEPAL	7-13
2.1 Net outstanding public debt in Nepal	6
2.2 Structure of Net Internal debt in Nepal	7
2.3 Pattern of External Debt in Nepal	8
2.4 Export-Import Gap	9
2.5 Growth trend of Government borrowing	10
2.6 Growth trend of government borrowing as a percentage of GDP	11
2.7 Resource Gap in Nepalese Economy	13
CHAPTER-3: REVIEW OF LITERATURE	14-27
3.1 Background	14
3.2 Theoretical Review	14
3.3 International Context	16
3.4 Nepalese Context	19

3.4.1	To maintain the Balance between Expenditure and Revenue	23
3.4.2	Public debt and mobilization of resources	24
3.4.3	To Fight against Depression	25
3.4.4	Public Borrowing and Deficit Financing	25
3.4.5	To Control the Cyclical Fluctuation	26
3.4.6	Public Borrowing and Economic Development	26
3.4.7	To Finance Public Enterprises	27
3.5	Resource Gap	27
 CHAPTER- 4: RESEARCH METHODOLOGY		28-32
4.1	Models and variables	28
4.2	Sources of Data	29
4.3	Time Series Properties of variables.	29
4.3.1	Stationary Test	30
4.4	Unit Root Test	31
4.5	Estimation of Auto-Regressive Distribution Lag (ARDL) model to cointegration	32
 CHAPTER-5: RESULTS AND DISCUSSION		33-37
5.1	Time series properties of the variables	33
5.2	Estimated Long Run Coefficients using the ARDL Approach	33
5.3	Stability Test	36
 CHAPTER- 6: SUMMARY OF MAJOR FINDING, CONCLUSION AND RECOMMENDATION		38-43
6.1	Summary of Major Findings	38
6.2	Conclusion	40
6.3	Recommendation	43
 REFERENCES		45-47
 APPENDICES		48-53

LIST OF TABLES

Table 4.1	Variable Details.	29
Table 4.2	Unit root test results of the variables	31
Table 4.3	Long Run Coefficient	33
Table 4.4	Error Correction Model for the Selected ARDL Model	34

LIST OF FIGURES

Figure 2.1:	Net outstanding public debt in Nepal	7
Figure 2.2:	Trend of External Debt in terms of Disbursement by Major Sources	9
Figure 2.3:	Trend of Export- Import gap	10
Figure 2.4:	Growth trend of government borrowing as a percentage of GDP	11
Figure 2.5:	Resource gap in Nepalese economy	13
Figure 2.6:	Plot of Cumulative Sum of Recursive Residuals	46
Figure2.7:	Plot of Cumulative Sum of Squares of Recursive Residuals	47

ABBREVIATIONS

ADB	=	Asian Development Bank
BOP	=	Balance of Payment
CBS	=	Central Bureau of Statistics
EDO	=	External Outstanding Debt
EDS	=	External Debt Servicing
FCGO	=	Financial Comptroller General Office
FDI	=	Foreign Direct Investment
FY	=	Fiscal Year
GDP	=	Gross National Product
HRD	=	Human Resource Development
IDA	=	International Development Association
IDS	=	Internal Debt Servicing
IFAD	=	International Fund for Agricultural Development
IMF	=	International Monetary Fund
IP	=	Imports Payment
LDCs	=	Least Developed Countries
MGS	=	Imports of Goods and Services
MoF/GoN	=	Ministry of Finance/Government of Nepal
NPC	=	National Planning Commission
NRB	=	Nepal Rastra Bank

OMOC	=	Open Market Operation Committee
PCI	=	Per Capita Income
RE	=	Regular Expenditure
TD	=	Total Debt
TDS	=	Total Debt Servicing
TFD	=	Total Foreign Debt
TR	=	Total Revenue
UDCs	=	Underdeveloped Countries
UNDP	=	United Nations Development Program
WB	=	World Bank
WHO	=	World Health Organization

CHAPTER-1

INTRODUCTION

1.1 Background

Public debt refers to loans raised by the governments from internal and external sources. This work as an important source of funds for the development activities. This has become a crucial means of financing for development activities in underdeveloped countries. Public debt as a percentage of GDP is usually used as an indicator of the government's ability to meet its future obligations for development issues.

Allegedly, it has been claimed that Nepal's debt burden is increasing rapidly. The trend of borrowing through external sources has a long history. Public debt refers to short-term and long-term debt, which has an important role in the government budget. Public debt is an important measure of bridging the financing gaps of the government. Proper utilization of public debt leads to higher economic growth and adds a capacity to service and repay external and domestic debt. The need of public debt is increasing to strengthen resource mobilization for financing for development.

The major objectives of collecting debt are: to manage the resources to meet the expenditure revenue gap, to bring change in the investment patterns in the country, to maintain the fiscal stability, to develop the socio-economic infrastructures, to finance the immediate problems of the country such as natural calamities and war, to avoid the unpopularity of taxation, to reduce the inequitable distribution of the wealth, to finance the public enterprises, and to solve the balance of payments (BOP) difficulties, and plenty more.

Public debt has been used in Nepal as a regular mechanism of deficit financing for the last five decades. Nepalese economy depends heavily on short-term domestic debt and on concessional foreign loans. Public debt helps to achieve economic growth and to narrow down the gap between expenditure and revenue. However, the country seems falling into a debt trap in the form of interest and principal payments every year.

Historically, there is great debate among economists about the role of public debt. The classical economists were generally against public debt/borrowing. They assumed that

in the long run, actual GDP automatically adjusts to the potential GDP. Due to this reason, classical economists were not in favor of counter-cyclical fiscal policy. Contrastingly, Keynes was against the view of classical economists. He argued that resources in the private sector may remain unemployed for a long period if corrective or compensatory action is not employed by the government (Bhattraï, 2013).

In Nepal, the level of government expenditure is increasing over time. On the other hand, the slope of taxation is seriously limited to collect sufficient resources to finance the government expenditure. In such a complex situation, public debt is an important instrument of mobilizing the resources for the economic growth and development of the country.

The public debt of a central government when expressed in money terms is often referred to as national debt. Government debt also known as public debt or national debt is money or credit owed by any level of government, either by the central government, federal government, municipal government, or local government. As the government represents the people, public debt can be seen as the indirect debt of the taxpayers.

For a country like Nepal, public debt helps in achieving a growth rate. It allows for a higher level of investment than its saving can meet. It narrows down the gap between saving and investment required for a targeted growth rate. The types of bond and treasury bills used by the government of Nepal to collect the internal debt are treasury bills, development bonds, national saving bonds, civil saving certificates, and special bonds and external debt from foreign countries, bilateral loans, and multilateral loan.

1.2 Statement of the Problems

Developing countries like Nepal are always facing problems regarding funds needed for development projects. Domestic resources are inadequate to meet the financing requirement for economic development due to lack of income, lack of savings, investment, and low capital formation.

In Nepal, every year budgetary deficit is growing asking for an effective management of available resources is needed. The proposition of government borrowing, and debt servicing obligations are increasing rapidly. To maintain the resource gap, debt is only

one solution, which helps to increase the amount of available funds. In the context of Nepal, the increasing size of public debt to maintain fiscal deficit is a challenging proposition. Therefore, the public debt in Nepal is a matter of great concern.

Both, internal and external debt has been increasing year after year, but external debt is increasing more rapidly than internal debt. Since developing countries like Nepal always need foreign currencies to import many capital goods required for development, these countries have to depend more on external borrowing (Guru Gharana, 1996). The increasing pattern of public debt and debt servicing obligations are also increasing rapidly. Nepalese economy is characterized by various kinds of macro-economic imbalances like revenue-expenditure gap, saving-investment gap, and export-import gap, for which to fulfill, public debt is important. Ever-increasing debt and debt servicing obligations will create a serious problem in the economy. Therefore, proper utilization of debt is of great concern, which can be evaluated by its impact on economic growth. So, in this context, some important questions are raised for the study as given under.

- 1) What is trend and structure of public debt in Nepal?
- 2) What is the role of public debt in the economic development of Nepal?

1.3 Objectives of the study

The following objectives are set for this study:

- 1) To examine the trend and structure of public debt in Nepal.
- 2) To analyze the role of public debt on economic growth in the Nepalese context.

1.4 Significances of the study

The study demonstrates the importance and significance of public debt and economic growth in Nepal. Public debt is one of the important sources of government finance. The use of public debt is concerned with maintaining a high level of employment, a reasonable degree of price level stability, a balance in foreign accounts, and an acceptable rate of economic growth.

The process of modern economic development in Nepal started with the implementation of the five years plans in 1956. Since then, the magnitude of

development outlays has been increasing because of the growing demand for the fund. The fiscal deficit of Nepal is continuously increasing due to the lack of income management to meet the increasing pattern of government expenditure and public debt is shrinking the gap between revenues of government and expenditure. Public debt is playing a crucial role in physical capital formation and human capital formation, which gives a favorable impact on the economy. The government needs a huge amount of resources for reconstruction, rehabilitation, and relief to make a modern and prosperous society. In this regard, public debt can be a major source of revenue due to the low level of tax payable capacity of the people. So, this study will be helpful for the better understanding of this sector and is important.

It will provide the relevant information on Nepalese public debts to those who are interested. This study will also be useful for researchers, policymakers, and general students.

1.5 Limitation of the study

This study has the following limitations:

- This study has covered the period of 36 years from FY 1985/86 to 2019/20 only, and the quality of this study is directly affected by the quality of data and my limited knowledge to analyze them.

1.6 Organization of the study

This study is divided into six chapters in line with the general research methodological approach. The first chapter covers the general background; statement of the problem, objectives, significance, and limitations of the study. Besides, the organization of the study is also mentioned in this chapter. The second chapter includes the analysis of public debts, focusing on their trend, pattern, and structure. The third chapter presents the review of related literature. The fourth chapter describes research methodology, discusses on model, data and presents the results and interpretation. Chapter five is about results and discussion, and the last chapter presents the summary of the findings, conclusion, and recommendations.

CHAPTER-2

PUBLIC DEBT IN NEPAL

Debt has been a useful resource for the economic development of underdeveloped countries. To fulfill the objectives of economic development, there is a need for heavy investment to build up socio-economic infrastructures such as health, education, transportation, communication, etc. Public debt helps to achieve targeted economic growth and to narrow down the gap between expenditure and revenue if it is mobilized properly.

As of now, the Nepalese economy relies heavily both on domestic debt and concessional foreign loans; particularly multi-lateral agencies like the World Bank, Asian Development Bank (ADB), International Monetary Fund (IMF) etc. Public Debt Act, 2059 delegates domestic debt management role to Nepal Rastra Bank (NRB). On behalf of GON, Nepal Rastra Bank acts as the manager and regulator of domestic debt. Accordingly, MOF has been focusing on policy guidelines and external debt and while, NRB executes through its open market Operation Committee (OMOC) and Public Debt Management Department (PDMD) on issuing government domestic debt securities in the form of treasury bills and longer-term bonds, while external debt is managed by Ministry of Finance.

The government has to borrow a large amount of loans to meet the fiscal deficit. According to the Economic Survey of the Ministry of Finance, the government borrowing and annual growth rate from the period 1985/86 to 2017/18 shows that the contribution of both external and internal debt to the total debt has been an increasing trend. The average growth rate of public debt is 18.86%. The growth rate of the economy is relatively lower. A low rate of economic growth and a high rate of debt growth is one of the major problems of the Nepalese economy. The total debt has been increased from Rs.3909.5 million in F/Y1988/89 to Rs.8,766 million in 2018; it has increased by 2,195 million since 2017. This amount means that the debt in 2020 reached 32.9% of Nepal GDP, a 4.11 percentage point rise from 2017 when it was about 26% of GDP.

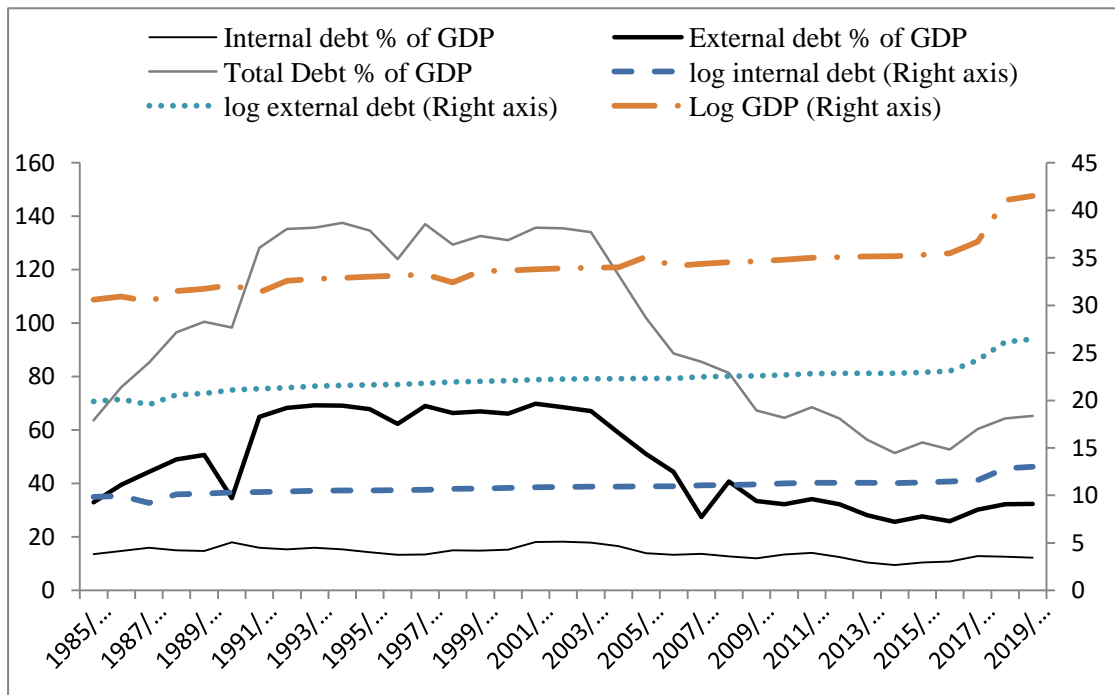
2.1 Net outstanding public debt in Nepal

The total amount of internal as well as external debt after deducting repayment of principal and interest is called net outstanding public debt. As the revenue surplus has not been adequate to meet the development expenditure, the deficit budget has remained the prime feature of Nepalese fiscal policy. So, to cover the deficit, foreign and internal loans have been mobilized by the government to meet the ever-increasing financial resources gap. Therefore, the value of the total loan has been increasing in each Fiscal Year.

Table 2.1 highlights the debt burden of Nepal in which the outstanding internal debt has increased from 7190.2 million to 394499.5 million in the review period with an average annual growth rate of 14.28million and it is estimated to stand at 440047.2 Rs. Million in the FY2019/20. The table shows that the outstanding external debt has increased from 10330.2million in the fiscal year 1985/86 to 436484.2 million in the fiscal year 2017/18 with an average annual growth rate of 35.1 and it is estimated to Rs. Million 699749.6 in the FY 2017/18.The table shows that the total outstanding public debt of the government has increased from Rs. 16361.8 million in 1985/86 to Rs. 2518734 million in FY 2016/17 with an average annual growth rate of 50.1percent;It is estimated to reach 3458793 million in FY 2019/20.

The average annual shares of total internal outstanding, external outstanding and total outstanding debt to GDP are found to be 10.6, 20.5 and 28.8 per cent, respectively. The share of the internal outstanding debt to GDP is relatively low to the share of external outstanding debt to GDP.

Figure 2.1: Net outstanding public debt in Nepal



Data in appendix

2.2 Structure of Net Internal debt in Nepal

Nepal started borrowing in 1961. The government borrowed debt from various sectors to maintain the balance between expenditure and revenue. It has been borrowing the internal debt to bridge the resource gap on the budgetary deficit and mobilizing the financial resource for development from various sources such as treasury bills, Development bonds, National saving certificates and special bonds. The structure and trend of internal outstanding debt is shown in table 2.2.

The table above shows the pattern of net outstanding debt and its variation into treasury bills, development bonds, national saving certificates, and special bonds. In the table, the percentage share of treasury bills, development bonds, National savings certificates, and Special bonds shows total net outstanding debt is 42.8%, 31.8%, 20.8%, and 4.45%, respectively in FY 1985/86. From the table above, we have seen the increasing trend of treasury bills and declining trend of both development bonds and national saving certificates in total outstanding internal debt. Similarly, there is a fluctuating trend in a special bond. In FY 2019/20, the treasury bills, Development

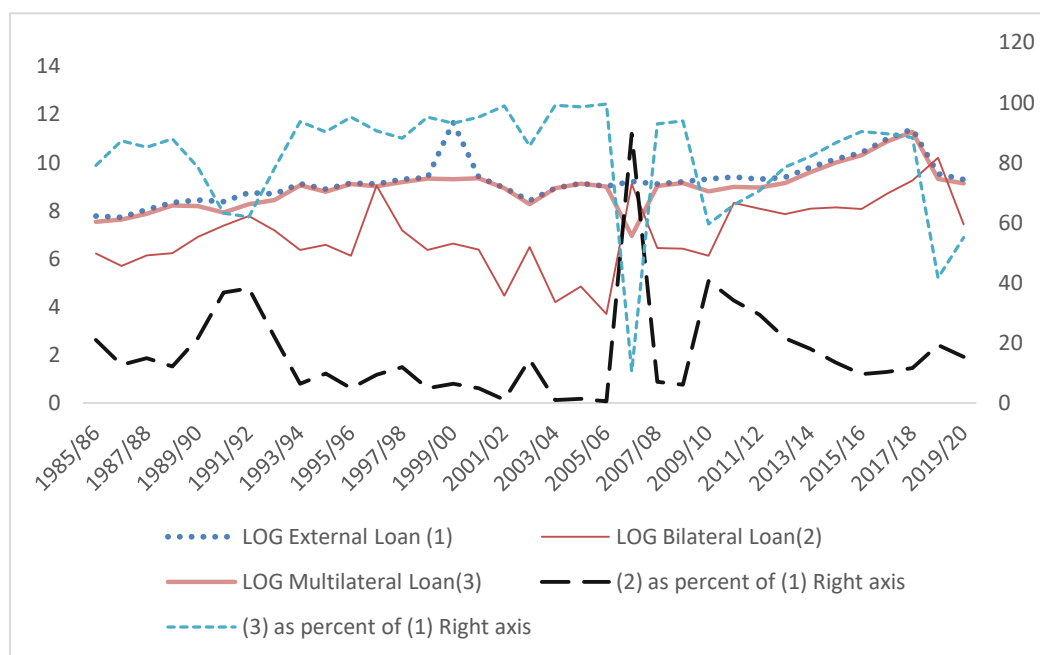
bonds, National Saving Certificates, and Special Bonds are 61.5, 63.1, 3.4, and 2.9, respectively.

2.3 Pattern of External Debt in Nepal

The need for external borrowing is growing due to revenue deficiency. The foreign assistance grants and loans are the major source of foreign currency for Nepal. However, Nepal had started to borrow foreign loans since 1964/65. Nepal has borrowed external loans through bilateral and multilateral sources. Bilateral loans are loans from the government and their agencies, loans from autonomous bodies and direct loans from official credit agencies. Multilateral loans are loans and credits from multilateral agencies like World Bank, IMF, Regional Development Banks, and other multinational and inter-governmental agencies. It is necessary to compare and analyze the flow of foreign loans and their debt servicing through the earnings of foreign trade. Review period between 1985/86 to 2019/2020, the external debt disbursement is presented in Table 2.3.

Table 2.3 shows the pattern of bilateral and multilateral loans. In the review period, bilateral loans increased from 498.9 million to 6098.8 million between, 1985/86 - 2019/20, whereas multilateral loans increased from 1872.0 million to 9250.5 million. Likewise, the average share of the multilateral loan to total external loan on review period stayed on 86.3 percent, whereas the average shares of bilateral loan to total external loan is 17.8 percent. In the pattern of external loan multilateral loan is increased from the bilateral loan.

Figure 2.2: Trend of External Debt in terms of Disbursement by Major Sources



Source: Various Issues of Economic Survey from FY 1985/86 to 2019/20.

Data in appendix

2.4 Export-Import Gap

The export-import gap (trade deficit) is one of the main economic problems of the Nepalese economy. The export-import gap is very high. Nepal is exporting very low amount of goods and services and importing very high amount of goods and services. Nepal being an underdeveloped country, exports is limited to a few goods such as garments, low materials, carpets, etc. Nepal's production process is not much integrated with high-tech products. Hence, import is greater than export creating an imbalance in the current account.

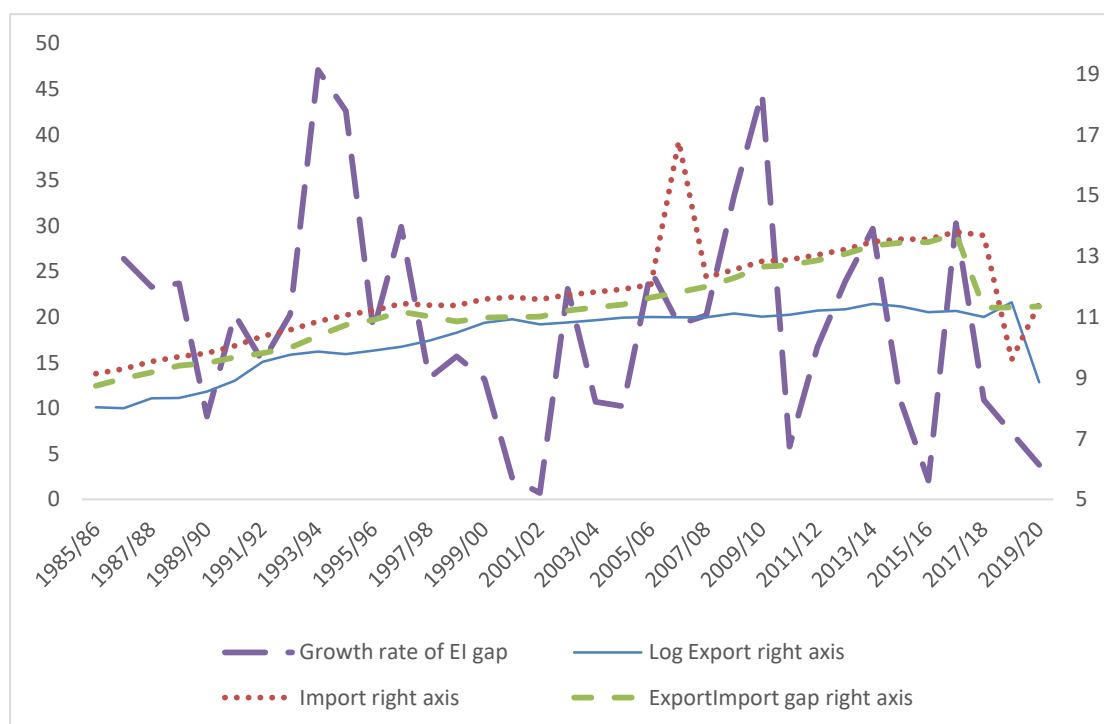
There are many problems, and the import-export gap yields low national income. For these reasons, there is no doubt that the export-import gap created a fiscal imbalance in Nepal. The trends of export and import of Nepal is shown in table (2.4).

Table 2.4 shows the pattern of export in review periods. In FY 1985/86 export was Rs.3078.0 million and import was Rs.9341.2 million, whereas the export gap (X-M) in the same year was Rs. 6263.2 million. The pattern of export has been increasing

and has become Rs.7032.7 million in 2019/20 and the import has also been increasing and became Rs.92424.2 million in FY 2019/20, whereas the export-import gap (X-M) has been increasing each year and become Rs.-85391.5 million in FY 2019/20. The growth rate of the export-import gap has been fluctuating in the beginning of review periods.

It can be claimed that Nepal must increase export or collect the public debt to meet public expenditure. It takes time to promote export and only low-quality goods are exported by Nepal. On the other hand, it imports high values and final goods. That increases the export-import gap, low-quality and the gap is fulfilled by public debt.

Figure 2.3: Trend of Export- Import gap



Source: Quarterly Economic Bulletin 2020

Data in appendix

2.5 Growth trend of Government borrowing

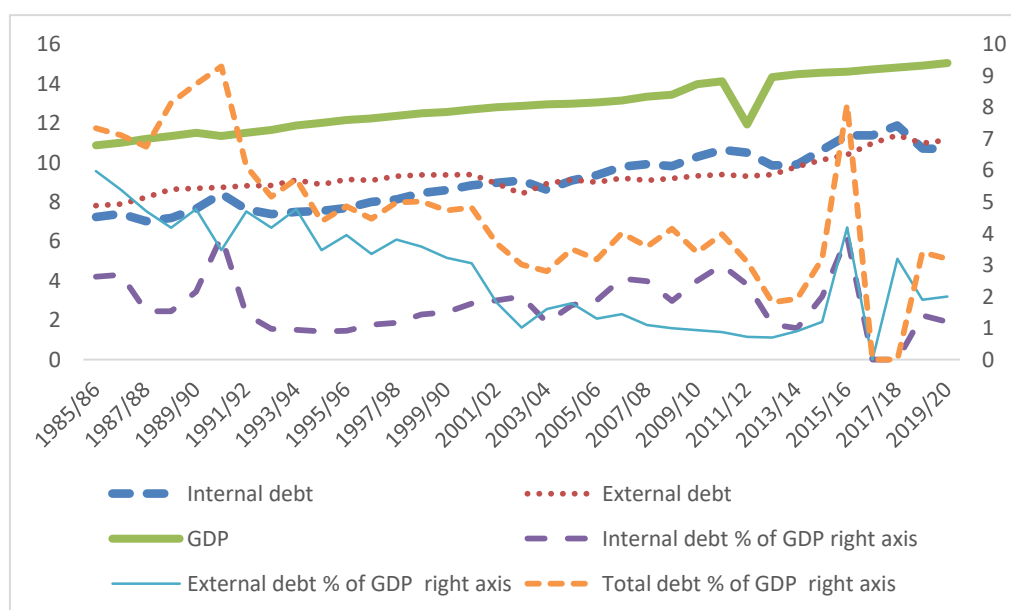
Government borrowing is the main source for financing fiscal deficit in the Nepalese fiscal system. Government borrowing is increasing annually in the context of Nepal's budgetary system. Even after the restoration of a multiparty system, for the attainment

of economic development. Government has to invest more so that government expenditure is increasing. Reliance on taxation is not sufficient because of the large number of financial resources required for growing government expenditure and therefore, there is an increasing need for supplementing it by borrowing internally and externally; Nepal is facing a large financial resources gap in the government budget. The government has to borrow a large amount of loans to meet the fiscal deficit. Table 2.5 shows the growth trend of government borrowing.

Table 2.5 shows that the government borrowing and annual growth rate between the periods 1985/86 to 2019/20. As the table shows that the under the review period total government borrowing has increased from total debt is 113979.6 million to internal debt 44004.7 million and external debt is 69974.9 million and it is estimated to stand GDP at 3458793 million in the FY 2019/20. Similarly, external borrowing also increased from internal borrowing. Since the share of total debt to GDP was 7.35 per cent in FY 1985/86 and it is decreased to 3.2 percent in FY 2019/20, the government borrowing is increasing in absolute value.

The table also shows that the share of internal borrowing is increasing as compared to external borrowing. It seems to be government borrowing has also an increasing trend.

Figure 2.4: Growth trend of government borrowing as a percentage of GDP



Source: Various Issues of Economic Survey from FY 1985/86 to 2020

2.6 Resource Gap in Nepalese Economy

The resource gap in the Nepalese economy has always been a common phenomenon since the starting of the systematic budgetary system in the country. Every individual, as well as government, needs funds to maintain their expenditure, but the importance of funds is much essential for the government due to the concept of national development. The government collects the revenue in different ways through taxation and other sources of revenue. However, government income is inadequate to meet the expenditure because of limited sources of revenue generation. Nepal is facing a serious and growing problem of resource gap. This is because of the growing trend of the total expenditure and its revenue generation capacity. The annual absolute volume of government expenditure has outpaced its revenue collection resulting in a financial resource gap in the budget of the government. On the other hand, foreign aid has not been materialized as expected; export trade tendency is not so encouraging which also leads to budgetary deficits.

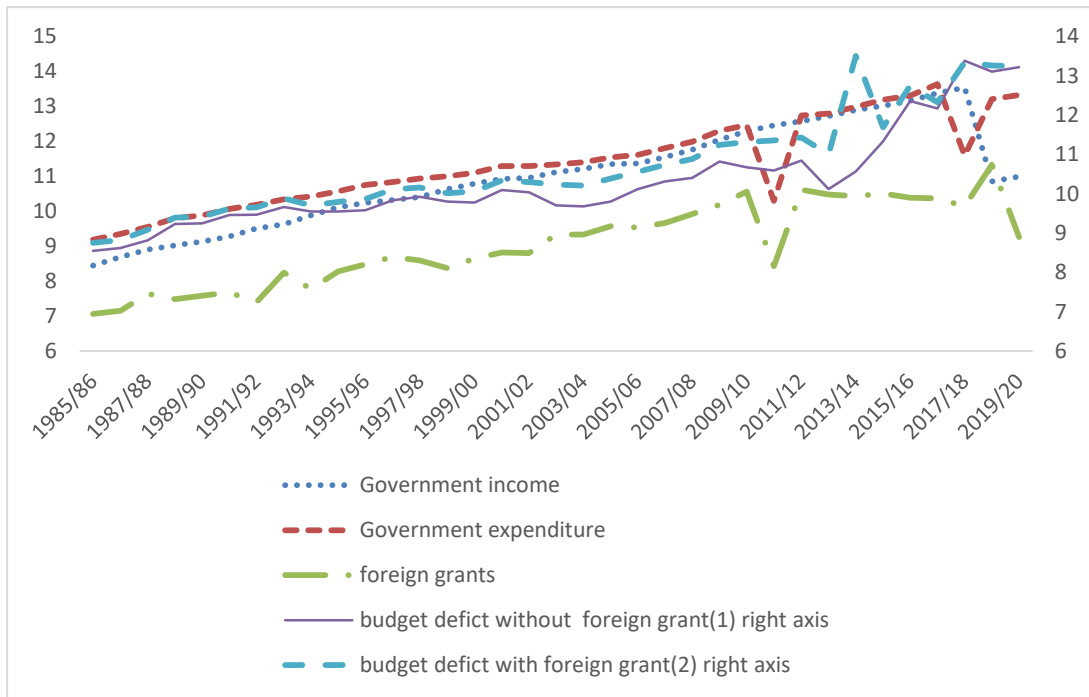
Marginal propensity to save is low, an annual growth rate of the total expenditure and revenue are not keeping in the same pace resulting in resources gap in the budget of the government. Table 2.5 shows the resources gap in the Nepalese economy.

Table 2.6 first scenarios show the trends in income and expenditure in Nepal. The revenue and expenditure both are continuously increasing every year. The total expenditure is higher than total income, which shows the increasing tendency of fiscal deficit. However, the annual growth rate of government income is greater than the government expenditure. The amount of total income was Rs. 4644.5 million in FY 1985/1986; it has gone up to Rs. 51698.8 million in FY 2018/19, whereas total expenditure has increased from Rs. 9797.1 million in FY 1985/1986 to Rs. 540897.6 million in FY 2018/19. This shows the public expenditure dominated in comparison to government income. The revenue gap was Rs. 63255 million in the FY 1985/86. The government expenditure continuously increased than government income. In FY 2016/17 the revenue gap increased to Rs. 644530.1 million. This indicates that the problem of the resource gap is serious.

In the review period, the average annual growth rate of total expenditure has 14 percent whereas the average annual growth rate of income has stood at 16 percent.

The foreign grant is not increasing in the desirable pace as it predicts where it was Rs.1172.9 million in 1985/86 and increased to Rs.10492.4million in 2019/20. The budget deficit was Rs. 5152.6 million in 1985/86 and Rs.561810.4 million in 2019/20. It happened due to the fluctuation of foreign grants.

Figure2.5 Resource gap in Nepalese economy



Source: Various Issues of Economic Survey from FY 1985/86 to 2020

Data in appendix

CHAPTER-3

REVIEW OF LITERATURE

3.1 Background

Nepal is a small and beautiful country endowed with natural resources. Nepalese economy is passing through the critical phase of a low-income level, equilibrium trap, and vicious circle of poverty. Agriculture is the main source of the Nepalese economy. These problems can be solved not only by the investment in the private sector but also by deliberate actions of the government in the field of transaction, communications, power, road and other basic infrastructure and directly productive activities. So, to reduce poverty and economic development, the government invests a big amount in this field. Government has to depend on borrowing from both internal and external sources (Bhandari, 2014).

In Nepal, firstly the public debt was raised in 1961 with the means of Treasury Bills and other instruments to raise the debt internally and externally. From the very beginning of classical economists of the 19th century, like J.B. Say, Malthus and Pigou all have raised the argument of debt on for and against. They were against all types of debt, but they appreciated the productive use of Public Debt; then the argument of Public Debt has become a favor after the rise of Keynesians.

3.2 Theoretical Review

Classical School of Thoughts

Classical thought was generally against public borrowing and favored the minimum role of government. This view is expressed by economists of the 19th century and by their neo-classical successors. According to classical economists, when the government borrows money from private sectors, the resources are transferred from the productive sectors to non-productive sectors. In the free market economy, resources are fully utilized at the level of full employment of the private sectors. If the government borrows money or takes the public debt, then the effectively utilized productive resources will be transferred to the non-productive field.

The classical economists (R.A. Musgrave, Adam Smith and J S Mill) have given the following justifications against public debt:

- Deficit financing means an increase in public debt therefore; the government has to take loans from different sectors which ultimately direct the revenue from the productive sector to the non-productive sector.
- Deficit financing makes the purchasing power of money low which ultimately creates price inflation.
- To maintain the deficit financing, the government has to increase the tax rate which causes a burden on the people. As the limitation odd taxation is fixed, the government may also face problems.

Keynesian School of Thoughts

The Keynesian view that public debt is favorable in increasing income and employment, on the other hand, public borrowing is favorable in cases when revenue from taxation is not enough. To increase the national income with the increase in employment level, maximum resources should be mobilized. In this context, public borrowing becomes an indispensable factor for the government to mobilize resources.

It was Keynes who affected a truly significant revision in the theory of public debt.

- Keynes rejected the classical notion of a free enter price economy as self-equilibrating at full employment level and emphasized the existence of underemployment equilibrium.
- Resources in the private sector may remain unemployed for relatively long periods if corrective or compensating action is not taken by the government.

Post Keynesian School of Thought

During the World War II and post-world war periods, the size of public debt and servicing increased enormously. This has made the economist to revisit the aspect of public debt. The Post Keynesian development was that it emphasized the transfer and management aspect as well as the interrelationship between public debt and money supply. Public borrowing is favorable in cases when taxation cannot be sufficient to collect the required revenue from the government. Similarly, public borrowing plays a

vital role in cases of emergency. To take public debt, the whole scenario of economic situations should be kept in mind instead of taking into consideration of the investment sector only.

Later thinking does not even accept borrowing in a period of full employment which must be inflationary. It depends on the circumstances. If borrowing taps funds otherwise spent on consumption, it is not more inflationary than taxation.

Public debt imposes a real burden only during full employment. A large public debt, if internally held, poses many problems for the economy. It complicates monetary policy and creates difficulties in management.

Modern school of Thought

Recent Thinking opined that heavy growth of borrowing is dangerous for the economy for two reasons. Firstly, the growth of debt ratio may lead to crowding out of the private investment; secondly, the government spending out of borrowed funds might be unproductive (Ponser, 1992).

Recently public debt is considered necessary for the following purpose.

- Smoothing out the tax rate
- Macroeconomic stabilization
- Emergency Expenditure
- Current expand
- Capital expenditure

3.3 International Context

Taylor (1961) has analyzed the nature and the burden of public debt upon the economy upon which fiscal policy must stand, without it the financing of public emergencies would be impossible. Public debt is desirable, no matter what its burden when incurred to secure benefits that outweigh the burden. In this sense debt is a necessary evil like cost of production; if the benefits could be secured with fewer burdens the alternative would be preferable. The burden of public debt is represented by the economic hardship which it imposes. This hardship may take the form of waste of productive efficiency for the economy as a whole or undesirable economic burden

imposed upon a particular class. The possibility of inflation resulting from the form of borrowing constitutes another element of burden.

Nevin (1962) has considered public debt as an important tool for the development of the capital market as well. According to Nevin in the early stages of the requirement stock exchange, the public debt and the government operation in it will play a fundamental role in the presuppose and adequate flows of capital to the productive enterprises of the country. In this instance, this is likely to be done to a large degree through the medium of the public debt, with the development of trading facilities in securities; the possibility of the issues of private securities directly to local institutional investors becomes a responsible one and the follow of capital will be stimulated and expanded.

Harris (1974) concluded that the classical writers were generally against public borrowing. The classical writers assumed that the individual, consumer, and business firm employ the resources more efficiently. They were against the role of the state, and they had the philosophy that the government is the best which governs the least. Classical economists like J.B. Say, TR Malthus and CG Base table have a strong faith that “Debt creates a burden in the economy because of its unproductive nature”.

Singh (1991) has stated that the debt involves merely a series of economic transfer payments. Hence the main concern subject is about the level of income, employment, and economic stability. It propounded the concept of the double budget, current budget and capital budget. But the Keynesian view is that the budget deficit should be undertaken during the period of depression. Post-Keynesian economists think about the developing countries as having a very low income, saving, and investment. They further say that without increasing the rate of these crucial factors, no country could achieve steady growth. So, the overall aim of borrowing is not to equalize income in different countries but to provide every country with an opportunity to achieve steady growth.

Lekhi (2001) has explained the classical economist Adam Smith opposed any use of Public Debt. He took Public Debt as a lead to extravagance, encouraged resort to war, and induced generally disadvantageous economic conditions for the nation, which employed it. Similarly, the Base table (1964) observed, a nation cannot any more than

an individual keep adding continually to its liabilities without at least coming to the end of its resources. They have also taken Public Debt which is no longer a cake-eating feast but rather a careful and efficient brain to handle the management of the Public Debt.

World Bank (2011) has stated that baseline external public debt sustainability indicators are more favorable compared to the previous Debt Sustainability Analysis (DSA), and external debt dynamics are resilient to standard stress tests; however, total public debt ratios increase gradually over the projection period. External debt indicators breach the thresholds under an alternative scenario developed to analyze risks arising from heightened financial sector stress, highlighting the urgent need to address financial sector vulnerabilities. A prudent fiscal stance remains appropriate, and net domestic financing of deficits should be contained to around two and a half per cent of GDP or less. Stronger efforts to improve the absorption capacity for foreign financing would release pressure on the domestic debt market, while structural reforms to boost long-run growth and revenue generation would improve overall public debt sustainability. The DSA results would change if large-scale external borrowing on commercial terms were to arise, for example, to fund hydro development.

Ozurumba and Kanu (2014) have studied domestic debt and economic growth in Nigeria. The study applied time series from 1980-2011 with multiple regression techniques. This research revealed that not all components of the domestic debt profile are contributing positively to the economic growth of Nigeria, both in the short and long run. This calls for caution and a rethink on the burgeoning level of our domestic debt profile. Government should not be seen as borrowing money for the sake of it. Domestic loans should only be called for when it is necessary.

In the modern context, the least developed countries borrow to fulfill the resource gap. There is a wider gap of the import-export, Revenue-Expenditure, and the gap of saving-investment. The internal resources are not sufficient to meet the government expenditure. Generally, the government makes a larger investment for infrastructure development which is the backbone of the nation.

3.4 Nepalese Context

Joshi (1982) has covers the structure of public debt and the importance of public debt in financial development. He has presented the poor performance of the nation's topography and the poor performance of the human capital. He concludes that the debt is only one source to fulfill the resource gap of the budgetary expenditure of the nations and internal debt is the essential phenomenon for the development of the capital as well as the entire money market.

Adhikari (1996) has analyzed the foreign debt servicing problem in Nepal. She found a substantial increase in foreign debt servicing. She prescribed effective implementation of liberalization policy in all areas of investment. This can bring great relief to the country by creating capacity for foreign exchange earning which can reduce the burden of debt servicing substantially in the years to come.

Acharya (1998) has analysis internal debt is more productive than external debt. Diving GDP growth rate by the growth rate in internal debt, he found has there are seven out of eleven observations where GDP growth rate exceeds the growth rate in domestic public debt. There is only one instance when the GDP growth rate exceeds the growth rate in external public debt.

Koirala (2002) has views if the debt is not handled properly our generation to generation may become tired of paying back ancestral earnings. In this perspective, he prescribed some policies to mitigate the pain and adverse effects of an ever-increasing trend of public debt in Nepal. Loan assistance should be utilized selectively after scrutiny at the purpose. The cost and benefits of such projects and programs should be carefully analyzed to reduce the burden of external debt while contributing to accelerating growth meeting socio-economic objectives.

- Increase the share of tax and reduce the dependency on foreign debt for the mobilization of financial resources.
- Unproductive expenditure should not be made out of foreign grants or loans.
- Proper attention should be given to the macro-economic stability of the country while accepting short-term and long-term loans.

- Proper attention should be given to cost-benefit analysis when using public debt.

Pyakurel (2004) has claimed the inadequacy of Nepal's revenue surplus to finance the development expenditure. Government expenditure and revenue patterns have shown that the economy has lost its productive capacity to respond to sustained growth. The ratio of regular government expenditure to GDP in F/Y 1996/97 was 8.6 per cent but increased to 11.5 percent in F/Y 2001/02. The revenue during the same period decreased from 7.3 percent in F/Y 1996/97 to 7 per cent in F/Y 2001/02. Development expenditure also declined from 9.5 to 7.5 during the same period. Nepal's debt service position, though within a sustainable limit, has consumed significant chunk of fresh resources, which could otherwise be used for productive purposes. Its debt service ratio during the 1990s remained around one-third of annual regular expenditure. With the dominance of the loan portions in the foreign assistance and the maturity of the debt incumbent upon the nation, to have advocated the necessity of a cautious approach to proper management of the variable external resources.

Neupane (2007) has observes government borrowing has been increasing unlikely uncertainties, high expenditure, hence, the government always lacks resources then borrows new loans to previous ones; that is why, the public debt and its interests are mounting rapidly, but addressing capacity for the redemption of the debt is not increasing at the same pace.

Regmi (2008) has found Nepal is in the critical phase of managing public finance because inadequate internal resources fiscal or revenue deficit is widening every year. To finance the deficit, the government is borrowing internal and domestic debt. The portion of external debt is too high when compared to a domestic loan.

Bista (2011) has analyzed public external debt has a negative and significant relationship with per capita GDP and investment both in the short run and in the long run in Pakistan for the period of 1972-2009. It develops a hybrid model that explicitly incorporates the role of public debt in growth equations. Autoregressive Distributed Lag (ADRL) technique has been applied to estimate the model.

CEID Nepal (2012) analyzed the study of the overall situation of public debt in Nepal. It examined that the high stock of debt, a slow growth rate of the economy, and outflow of a considerable amount of resources in the form of debt servicing have raised questions of debt sustainability and also whether foreign or domestic borrowing on current terms is beneficial for our economy or not. This study purposed to analyze the current debt situation analyzed the trend of public debt and analyzed the impact of debt on macroeconomic performance & so on. The methodological approach used in this study is based on inductive inquiry, reviewing of secondary sources of information, which includes published status reports, audit reports and financial records, and consultation and interactions with the officials of key stakeholders this study was carried out for a quick assessment of the situation, as per the call made from Financial Comptroller General Office. The study has examined and identified the key issues in the overall debt situation of Nepal and has made recommendations for its improvement.

Sharma (2014) has suggested the growing trend of borrowing creates a great problem for debt management and has become a challenging issue for the country. The borrowing money is unlikely financed on the non-monetized and unproductive sectors of the economy which in turn has proved to be a burden for the country. The degree of indebtedness of the external debt has increased due to the poor mobilization of internal resources, widening investment saving 14gap, export-import gap, revenue expenditure gap and a large amount of fiscal deficit. The burden of debt and debt servicing obligations are increasing every year, but debt-servicing capacity is not increasing at the same phase.

Public debt is regarded as a prime mover for economic development. Along with this reasonable abundance of natural resources, a spirit of enterprises, a technically trained labor force and dedicated civil servants are the essential requirement for achieving rapid economic development. For this increased capital is needed which seems the fundamental problems of economic development in underdeveloped countries like Nepal due to the low-level of income and saving capacity of people. In such condition a government can take loan from internal as well as external sources. The scope of domestic borrowing is very limited because of scarcity of internal resources.

In the past, the way of living was very simple, and the borrowing was not very significant. The government budgets were very small. The government also followed the policy of non-intervention in economic system. However, in modern times, especially after the World Development of 1929-30, the public authorities started to keep interest in the economic development of their respective countries. Thus, public borrowing has become vital for the economic development of the nation. The government's activity is expanding vastly and without public borrowing, it is not possible to work on such heavy projects in this way, it has become part and parcel of the instrument of fiscal policy for the economic development of under-developed as well as for the developing countries. Nowadays, an extraordinary increase in public debt is considered good as it brings to the economy, the capacity of repaying the debt as it is spent on productive purposes.

As Nepal is a capital deficient economy, foreign currency is necessary to import foreign capital, which is very important to accelerate the growth rate of the economy. In such complex situation, public debt is an important instrument of mobilizing the resources for economic growth and development of the country. So that public debt is a term used for all short-term and long-term borrowings of the government from the people or the nationals of other countries. Nevertheless, in Nepal, the available stock of capital goods is not sufficient to employ the available labor force on the basis of modern techniques of production; these is because it has a slow rate of saving, investment, income, low living standard due to the low per capita income and poverty, dualistic economy, unutilized natural resources, lower health and education condition of people, deficiency of capital and many more in comparison to developed countries in which development is financed by the automatic forces of capital formation under free market economy. Nonetheless, Nepal has market imperfection. In such market resource are not mobilized properly due to lack of capital. So that public debt is only one solution to fulfill the lack of capital deficiency.

Public debt has important effects on the operation of the economic system of the country. There are many objectives of raising loan by the government. The major objectives include: to collect the resources to the government to meet the expenditure-revenue gap, to bring change in the investment pattern in the country, to maintain the fiscal stability, to accelerate the growth rate of the economy, to develop the socio-

economic infrastructures, to finance the immediate problems of the country, like natural calamities and war, to avoid the unpopularity of taxation, to reduce the inequitable distribution of the wealth, to finance the public enterprises, to solve the balance of payments (BOP) difficulties, and so on. The government of Nepal has specific legal framework for the collection of resources through the public debt. The interim constitution of Nepal 2063 provides the foundation for mobilizing the resources through the public debt. There is the provision of consolidated fund in the present constitution. The resources raised through the public debt are credited to that fund.

Fiscal policy must be designed to maintain or achieve the goals of high employment, a reasonable degree of price level stability, balance in the foreign account and an acceptable rate of economic growth. Public borrowing is needed for stabilization since full employment and price stability do not come about automatically in a market economy but require public policy guidance; without it the economy tends to be subjects to unemployment or inflation (Musgrave and Musgrave; 1981)

Underdeveloped countries like Nepal have low income whereby it is very difficult for mobilization of resources. Nepal has some vague areas where resources are abundant but those are not monetized. These sectors make the mobilization of financial resources more complex. People have no incentives to save. The government policy to promote development is less effective. Thus, the rigorous fiscal policy must be adopted to maximize domestic savings for required investment. The availability of capital funds can be increased through compulsory saving by the help of various fiscal instruments like borrowing, deficit financing and import restriction. There is no doubt public debt is one of the major sources for development financing in developing countries.

3.4.1 To maintain the Balance between Expenditure and Revenue

The most important aim of public debt raised by the government is to fill the gap between the revenue received by the government and proposed expenditure during the year. The government may borrow money for internal or external sources as the government falls short of its expenditure. This income of the state comprises all taxes and other revenue resources, but debt incurred is the income of the state for the year alone. Hence, it will have to be repaid through taxation or other recourses. The

government borrows money from internal and external in order to meet certain unforeseen calamities like floods, famines, earthquakes, landslides and so on.

3.4.2 Public debt and mobilization of resources

For economic development of UDCs public borrowing is a means to mobilize finance resources due to revenue constraints. No doubt to uplift the economic development public borrowing has a significant role. In terms of the orthodox theory of public finance, the current expenditure of government develops to producing capital expenditure the fruits of which subsequently be sold to purchase for fees, should be finance by loan.

Domestic savings is the only reliable source of financing economic development but unfortunately the rate of domestic saving is very low in Nepal because of low income, poverty and most part of income have to pay on tax. In such circumstances, public borrowing should be adopted by government for productive purpose, public borrowing consists of internal borrowing and external borrowing. Moreover, external borrowing/ sources of debt are supplementary in nature as internal saving mobilization is stagnant. The foreign sources are the only option to finance development activities as internal borrowing capacity of an economy is determined by rate and faith of people upon government. Therefore, public borrowing seems to be a safe an effective measure for mobilizing resources for development.

The objectives of public debt in developing country like Nepal is that the public debt should be used as an instrument to mobilize savings of the people, which would otherwise have gone to ideal or wasteful consumption. Public debt should be advocated creating additional capacity and producing capital equipment. Generally, government borrows for the creation of infrastructure in the economy; since it requires huge investment initially this cannot be met only through revenue collection. The aim of public debt policy should be to help in strengthening the money and capital market which in turn accelerate development and policy stability. In most of the underdeveloped countries, there is a match between revenue and expenditure in one hand and in another investment on infrastructure development is needed. Due to this reason abundant resources are not available through the revenue. In such

condition public debt can play a major role in raising resources for developing funding. (Basnet'2004)

In modern era, in the context of Nepal, public borrowing is applied in the development process of underdeveloped countries is a wider perspective. It is used not only for meeting the huge wasteful expenditure or for recovering the deficiency of effective demand but is also used as an instrument of fiscal policy for mobilizing savings for development purpose and also as an effective instrument of monetary policy for combating inflation created in the process of growth, the ensuring growth with stability.

3.4.3 To Fight against Depression

Depression is the competition of falling prices, slackness of productive activities and no hope for profitability in the economy. To eradicate the evils of depression, public debt is the most indispensable tool of financial management. Depression does not mean that there is no money with the public, but the money remains un-utilized due to the lack of entrepreneurship. Nobody is ready to invest money as there is less profit or very low expectations. At such a stage, the government can utilize this money by raising loans and increasing the public expenditure on public works in the country. This would increase the effective demand of the people through the combined operation of multiplier and acceleration. On the other side, the private enterprise may be willing, but due to shortage of funds, it may not be in a position to enhance production and thereby raise output and employment. In this situation, the government may borrow from banks and release the funds for supplementing the private enterprise. The government may be able to lift the depressed economy to recovery which, in turn, leads to prosperity, either by ensuring new money or by activating the idle resource by raising loans. As a result, it would help in checking the falling prices and lead the economy to the path of growth and prosperity. Hence, public debt plays a vital role during the period of depression.

3.4.4 Public Borrowing and Deficit Financing

Deficit financing is used to mean any public expenditure that is in excess of current public revenue. It has been used for acquiring resources for economic development. When the government cannot raise the enough revenue through taxation and other

sources, expenditure met through public borrowing is known as deficit financing. To fulfill such deficit, government can adopt the following solution:

- Loan from central bank
- Loan from people
- Issuing paper money
- External loan, grants

Deficit financing is resorted mainly to enable the government to obtain necessary resources for plan. The level of outlay local down by government cannot meet only by taxation and other resources. The gap in resources some extent is made up partly by external assistance but when external assistance is not enough to fill the gap, deficit financing has to be undertaken when the targets of producing and employment cannot be achieved by the level of expenditure with resources obtained taxation and other sources, additional resources have to be found. How much deficit financing must be?

3.4.5 To Control the Cyclical Fluctuation

After world depression, every government is conscious about the various cyclical fluctuations which occur in the economy. These cyclical fluctuations generally lead to many disastrous consequences. Therefore, to control these cyclical fluctuations is one of the chief objectives of the debt policy of the government. By raising loans, the government can finance the production activities when it tends towards recession, thus, preventing it from the evils of depression. It also helps to balance the economy.

3.4.6 Public Borrowing and Economic Development

Most of the underdeveloped countries are conformed to rapid population growth, low human capital development, inadequate infrastructural problems, and repressive regions. More importantly the inappropriate domestic policies, fiscal policy, monetary policy, liberalization, investment policy and taxation policy pursued by the country have contributed to this weak and disappointing overall growth performance (Regmi; 2004).

Nepal is facing the deficiency of capital in relation to their production and natural resources due to low tax payable capacity of the people cause of low income which creates low savings. Nepal is also suffering from vicious circle of poverty. To break vicious circle and uplift a country with a self-sustaining growth, a large amount of

initial investment is necessary. Thus, the government of such underdeveloped country should emphasize to stimulate and accelerate capital formation.

Underdeveloped countries are suffering from poverty, unemployment, low level of income, low tax payable capacity, economic instability and many more. To get rid of this problem mentioned above, economic development is necessary to accelerate economy. Economic development helps to transform the traditional society onto modern society. So economic development is the main goal of developing countries but there are resource constraints to achieve such goal. Since other sources of revenue are limited public borrowing becomes useful resources for development.

3.12 To Finance Public Enterprises

Public sector is directly under the control of government as public sector has been recognized to play a major role in the economic development, growth and prosperity of a nation. For financing public enterprises, the government may borrow. So, at first, the government needs finance to meet the needs of these enterprises and hence, it borrows. Taxation one is not sufficient for these purposes. So that, government also invests in many sectors and they have to earn the fund of revenue. It also maintains the balance of government expenditure and revenue and also invests of productive sector. Therefore, modern governments have been resorting to extensive borrowings.

3.5 Research Gap

The literature concerns very few studies in the literature with the public debt of Nepal. However, the issues of public debt are not a new phenomenon. Few research works have analyzed different aspects of public debt like the trend, pattern and relationship between public debt and GDP growth. However, the issues of public debt over the changes of the time has not been analyzed yet systematically capturing the debt dynamics in Nepal. Therefore, this research study attempts to find out the role of public debt and economic growth in Nepal.

CHAPTER- 4
RESEARCH METHODOLOGY

4.1 Model and Variables

Variable selection is the crucial part of any research investigation involving the secondary data that represent the research problems started earlier and the objectives framed.

This study adopts the methodology adopted by Ozurumba and Kanu (2014), which have studied domestic debt and economic growth in Nigeria. This study applied time series from 1980-2011 with regression techniques. This research released that not all components of the domestic debt profit are contributing positively to the economic growth of Nigeria both in the short and long run

This research work aims to evaluate the public debt and economic growth in Nepal. The dependent variable is the growth of real GDP. The independent variables are Total Debt (TD), Internal Debt (ID), and External Debt (EP). Among the independent variables total trade is the sum of total exports and import; to examine the impact of these variables on the economic growth, the following relationship is tested. My Denmark model is an in equation (1)

$$GDPT=\alpha+\beta_1 ID+ \beta_2 ED+ \beta_3TD+\epsilon\eta \dots\dots\dots (1)$$

Equation (1) explains that economic growth i.e. GDP is determined by TD, ID, and ED. Following long- linear model is considered as.

$$LGDP = \alpha +\beta_1 L TD+\beta_2 L ID+\beta_3 L ED+ \epsilon t\dots\dots\dots (2)$$

Where,

α is intercept, β_1 , β_2 and β_3 are elasticity coefficients and ϵ is error term, t refers to the time, i.e., year as we are using the annual data spanning from 1986 to 2020. Based on the literature, we expect $\beta_1\dots\beta_3$ to be positive.

The detail of the entire variable used in the formulation of equation (1) and (2) is presented as below.

Table 4.1 Variable Details.

Variable Name	Variable Details
LGPP	Natural logarithm of gross Domestic Product
LTD	Natural logarithm ratio of Total Debt
LID	Natural logarithm of Internal Debt
LED	Natural logarithm of External Debt

4.2 Sources of Data

This study is based on secondary sources of data and information collected from published sources like books, magazines and reports. Most of the data are taken from the publication of Nepal Rastra Bank (2020), MoF (2020), Economic survey and Central Bureau of statistics.

4.3 Time Series Properties of variables.

4.3.1 Unit root

A key concept underlying time series processes is that of stationary. A time series is stationary when it has the following three characteristics.

- a) $E(Y_t) = \text{constant for all } t$
- b) $\text{Var}(Y_t) = \text{constant for all } t$ and
- c) $\text{Cov}(Y_t) = \text{constant for all } t \text{ and all } k \neq 0$

Or if its mean, its variance and its covariance remain constant over time.

If the structural breaks were detected, it would mean the variables have unit root automatically to avoid the phenomenon of spurious regression individual time series data must be stationary. If data is not stationary at the level $I(0)$, generally it becomes stationary after first order $I(1)$.

H_0 : The variable is Non-stationary (has a unit root)

H_1 : The variable is stationary (does not have unit root)

For the purpose, a decision is made based on the calculated statistics and McKinnon critical value; if the computed statistics are higher than the critical value in absolute

terms then H_0 is rejected, and the selected variable is stationary and vice versa. Table 4.4 shows the result of Augmented Dickey- Fuller (ADF) tests and the Philips- Perron (PP) tests of the variables considered in the model.

If time series is stationary at level, it is called time series integrated of order zero or I (0) process. Similarly, a time series is said to be integrated of order one or I (1) process if it is not stationary at level but stationary at first difference.

4.4 Unit Root Test Results.

Table: 4.2 Unit root test results of the variables

Unit root test at level				
Variable	test with constant		test with constant and trend	
	ADF	PP	ADF	PP
LNRGDP	-0.10	-0.18	-2.23**	-2.15**
LNEXP	-2.12	-1.81	-1.70	-0.19
LNIMP	-0.40	-0.41	-2.41	-1.96
LNINDEBT	-2.78	-2.54**	-2.23	-5.22**
LNEXDEBT	-4.23***	-4.19***	-4.46	-4.42
LNTDEBT	-3.63**	-3.53**	-4.36**	-4.32**
Critical value at 5 %	-2.95	-2.95	-3.54	-3.54

***1%, ** indicate 5 % and * indicate 10 % level of significance

Unit root test at difference				
Variable	test with constant		test with constant and trend	
	ADF	PP	ADF	PP
LNRGDP	-6.37**	-6.51**	-6.26**	-6.37**
LNEXP	-3.82**	-3.72**	-3.90**	-3.89**
LNIMP	-2.12	-5.28**	-5.20	-5.20**
LNINDEBT	-9.62**	-12.78**	-9.46	-12.56
Critical value at 5 %	-2.95	-2.95	-3.55	-3.55

***1%, ** indicate 5 % and * indicate 10 % level of significance

As shows by the test results, LNEXDEBT and LNTDEBT are stationary at 5% level of significance as critical value is greater than calculated statistics in both ADF ns PP test. All other variables gross domestic product, export, import and internal debt are stationary at first differences 5% level of significance as critical value is greater than the calculated statistics in both ADF and PP test. Therefore, we can conclude that the empirical variables are mixed with I (o) and I (1).

4.5 Estimation of Auto Regressive Distribution Lag (ARDL) model to co integration

(ARDL) are standard least squares regressions which include lags of both dependent variables and independent variables as regressors. Although, ARDL models has been used in econometric for years. They have gained popularity in recent years as an examining long-run and co integrating relationship between variables (Pesaran Shin, 1999) as we have the time series data with the different order of integration, the variables included in the equation (2) will be analyzed using a co integration test based on autoregressive distributed lag (ARDL) approach. The advantage of this method is that it gives the long-run and short-run coefficient of the variables irrelevance of the order of their integration (Pesaran et al., 2001; Paudel and Jayantha Kumaran, 2009) if the variables are either I(0) or I(1).

Because the data have a combination of I (0) and I (1) variables, this suggest to use ARDL model of co integration. The advantage of using ARDL model is that it provides the order of co integration with the mix set of variables I(0), and I(1), and provides the long run and short run coefficients of the model. Also, the model itself is dynamic that captures the lag effect of the dependent variables.

Following Pesaran et.at. (1997, 2001) an ARDL representation of equation (2) can be written as

$$\begin{aligned}
 LGDP_t = & \alpha + \beta_1 LGDP_{t-1} + \beta_2 LTD_{t-1} + \beta_3 LID + \beta_4 L \\
 & ED_{t-1} + \sum_{i=1}^{44} \gamma_i \Delta LGDP_{t-i} + \sum_{i=1}^n \delta_i \Delta LTD_{t-i} + \sum_{i=1}^n \phi_i \Delta LID_{t-i} + \\
 & \sum_{i=1}^{44} \lambda_i \Delta LID_{t-i} + V_t \dots \dots \dots \dots \dots \dots \dots \dots (3)
 \end{aligned}$$

Here, the notable point is that the equation (3) captures the dynamic impact in the form of Auto-Regressive Distributed Lag Model, where Δ stands for the first order differential variable, α is the intercept, β_1 , β_2 , β_3 , and β_4 are the coefficients of first order variables. Similarly, γ_i , δ_i , ϕ_i and λ_i are error correction model parameters, and v_t is a random error vector.

CHAPTER-5

RESULTS AND DISCUSSION

5.1 Time series properties of the variables

The underlying assumption of ARDL procedure that each variable in growth equation is I (1) or I (0). Thus, there is no need to check whether the variable is I (0) or I (1). However, if any variable is integrated of higher than order one, then the procedure is not applicable because if any variable is I (2) or of some higher order, the table values given by Pesaran (1997) do not work. Thus, it is still necessary to perform unit root tests to ensure that none of the variables in equations is I (2) or higher order. Augmented Dickey-Fuller (ADF) unit-root test has been applied to test the order of integration of the variables. Before conducting the ADF test, an attempt is made on whether to include the trend as a variable in the ADF regression or not.

5.2 Estimated Long Run Coefficients using the ARDL Approach

Long run coefficient using the ARDL approach selected based on Schwarz Bayesian Criterion. This long run coefficient gets the value of variable with I (0) and I (1). So, that it helps to find out the relationship between export, import, internal debt and external debt to GDP ratio.

Table 4.3 Long Run Coefficient

Variables	coefficients
LNEXP	0.47*** (0.11)
LEXDEBT	-0.21** (0.08)
LNIMP	0.72*** (0.09)
LNINDEBT	0.28*** (0.07)
Constant	-1.05 (-0.44)

The long run coefficient is shown in table 4.3, which is calculated using ARDL approach. Here, the independent variables that determine the public debt in Nepal are shown along the first column and their coefficients are shown in the second column respectively. From the test we can see export, external debt and internal debt are significant at 1% and 10% level of significance. Export and internal debt are positively associated with the dependent variable and are statistically significant but external debt has a negative association and statistically significant. The long run coefficient of export is 0.47 which is significant this, in term shows that a one percent increase in export leads to increase in GDP by about a half percent. The coefficient of external debt to GDP -0.21 and internal debt 0.28 are positive and negative relation. They are also significant. The statically significant coefficient implied that in long run economic growth rate remain depend of both external and internal.

Table: 4.4
Error Correction Model for the Selected ARDL Model

Autoregressive Distributed Lag Estimates

ARDL (3, 4, 3, 4, and 3) selected based on Schwarz Bayesian Criterion

Dependent variable: LNRGDP

31 observations used for estimation from 1985 to 2019

Error Correction Model

Variable	Coefficient
D(LNRGDP(-1))	-0.71*** (0.08)
D(LNRGDP(-2))	-0.20 (0.09)
D(LNINDEBT)	0.017** (0.02)
D(LNINDEBT(-1))	0.055 (0.006)
D(LNINDEBT(-2))	0.058 (0.007)
D(LNEXP)	0.091** (0.01)

D(LNEXP(-1))	0.015
	(0.01)
D(LNEXP(-2))	0.014
	(0.007)
D(LNIMP)	0.22***
	(0.01)
D(LNIMP(-1))	0.074
	(0.02)
D(LNIMP(-2))	0.084
	(0.02)
D(LEXDEBT)	0.004
	(0.003)
D(LEXDEBT(-1))	0.002
	(0.002)
D(LNEXPDEBT(-2))	0.026**
	(0.02)
ECM(-1)	-0.17**
	(0.04)

Table 4.4 shows the short run coefficient estimate obtained from the ECM version of the ARDL model, which represents the gross domestic product, internal debt are significant at 1% and 10% level of significance respectively. Similarly, it shows the speed of adjustment towards the previous year's disequilibrium to current years. It should have a statistically significant coefficient with a negative sign. Also, a high significant negative error correction term is proof of the existence of a stable long term relationship. Specifically, the estimated value of ECM (-1) is -0.172. The above results express the adjustment speed of 17% per annum.

In the short run first lag of internal debt to GDP ratio also affects economic growth rate positively. Increase in internal debt to GDP ratio by 1 in previous year increases economic growth rate by 0.0175%.

5.3 Stability Test

Finally, the stability of the long run coefficients together with the short run dynamics is examined. In doing so, Pesaran and Pesaran (1997) have been followed and the CUSUM and CUSUMSQ tests proposed by Brown, Durbin, and Evans (1975) have been applied. The tests are applied to the residuals of the two models following Pesaran and Pesaran (1997). Specifically, the CUSUM test makes use of the cumulative sum of recursive residuals based on the first set of n observations and is updated recursively and plotted against break points. If the plot of CUSUM statistics stays within the critical bounds of 5% significance level represented by a pair of straight lines drawn at the 5% level of significance whose equations are given in Brown, Durbin, and Evans (1975)], the null hypothesis that all coefficients in the error correction model are stable cannot be rejected. If either of the lines crosses, the null hypothesis of coefficient constancy can be rejected at the 5% level of significance. A similar procedure is used to carry out the CUSUMSQ test, which is based on the squared recursive residuals. Figure 2.6 and figure 2.7 shows the graphical representation of the CUSUM and CUSUMSQ plots applied to the model selected by the SBC criterion. Neither CUSUM nor CUSUMSQ plots cross the critical bounds, indicating no evidence of any significant structural instability. Since all the graphs of CUSUM and CUSUMSQ statistics stay comfortably well within the 5 percent bound, it is safe to conclude that the estimated growth equation is stable.

Figure: 2.6
Plot of Cumulative Sum of Recursive Residuals

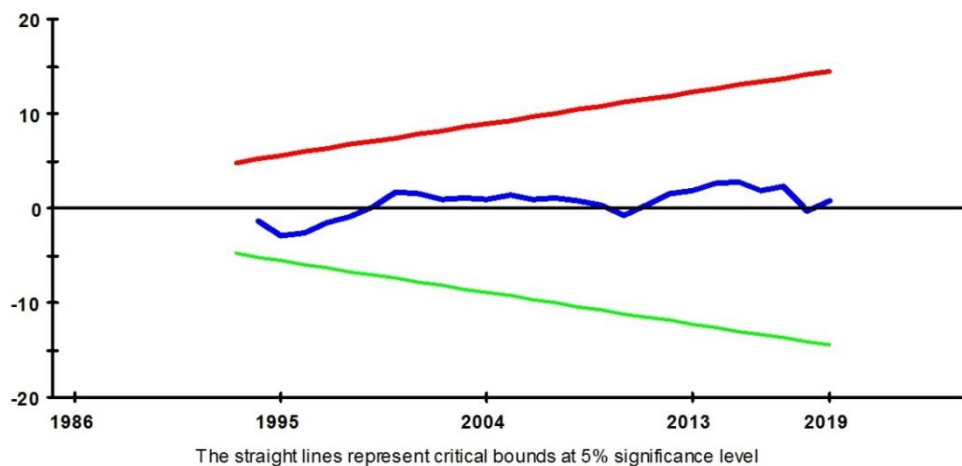
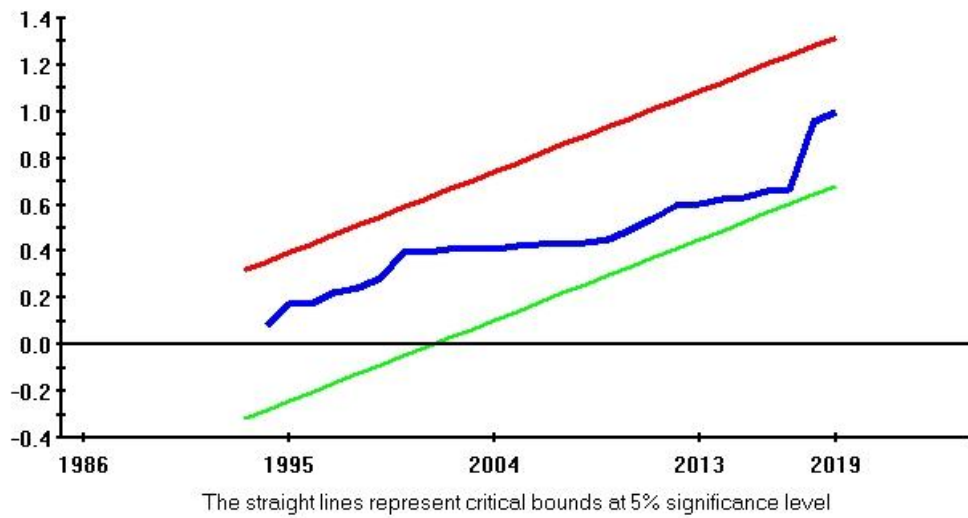


Figure:2.7

Plot of Cumulative Sum of Squares of Recursive Residuals



Thus, on the basis of all statistical tests applied, it can be concluded that a statistically robust growth equation can be modeled using the ARDL model proposed by Pesaran and Shin (1997). There exists long-run cointegrating relationship between GDP growth rate and variables included in the model.

CHAPTER- 6

SUMMARY OF MAJOR FINDING, CONCLUSION AND RECOMMENDATION

6.1 Summary of Major Findings

In the context of developing countries like Nepal public debt is playing a prominent role, for public debt is one of the widely accepted measures for financing government expenditure. It is a loan raised by the government within the country and outside of the country to meet the growing expenditure social-economic development of the nation. Every year the government expenditure is increasing rapidly but the revenue is not growing at the same pace.

Now, Nepal is facing an acute resources gap problem, which is also being expected to grow in coming years. Nepal is demanding more and more financial resources through public debt to fulfill the resources gap in budget.

Economic growth is the rate of incrementing the market value of the goods and services produced by an economy over time. It is conventionally measured as the percentage rate of increase in real gross domestic product, or real GDP. An increase in per capita income is referred to as intensive growth, so that public debt is also helpful to economic growth of the country. Such factor helps to raise internal and external borrowing, for developing countries like Nepal. External borrowing is growing in higher rate than internal borrowing, increasing trend of borrowing also increased debt servicing obligation. In the early stage of development higher resource gap itself would not have been a serious problem because of foreign grants but the situation in just reserved amount of grants decreasing another.

Like other developing countries, in order to fulfill the ever-increasing aspiration of the people, government of Nepal is also trying to formulate such projects that produce results more quickly to the people, which need more resources than the government has on its hands. As the estimated budgetary expenditure of the government exceeds the domestic revenue fund, the government borrows the money as an alternative resource. The major features of the contemporary Nepalese economy are slow growth

of exports based on very few export items, unproductive use of increasing remittance and consumption-oriented import structure.

The share of external outstanding debt in total outstanding debt is more than the internal debt; it seems that government could not raise enough internal debt due to its limited sources and the presence of non-productive sectors. Now, Nepal is indebted by external and JJ loans but further that external outstanding debt. Similarly, in external sources Nepal has been receiving borrowing in the form of bilateral and multilateral sources such as ADB, UNDP, WB, WHO, IMF. Consequently, external debt servicing has become a current issue. In the context of Nepalese economy, question may raise whether our country's revenue and foreign exchange availability can sustain that increasing external debt serving payment.

Share of total debt, internal debt and external debt on GDP shows the increasing trend. Share of external debt is more in GDP than internal debt. It means the burden of external loan is more than internal debt in GDP. In some of last year of study period, share of external debt shows decreasing trend, it is because of worse political condition of the country but not due to strong and sustainable development of the country. This shows increasing public debt burden over the head of each Nepalese people.

Summary of major finding are as follows:

- Basically, the study shows that there is lack of adequate fund for development financing. We have limited resources, small size GDP, lower per capita income, lack of infrastructure, saving investment gap, export import gap, revenue expenditure gap etc. so, the domestic resources are not sufficient to promote the rapid development of the economy. All these factors are major causes to increase external dependency.
- Public debt is an important source of resources for a government to finance public spending and fill holes in the budget. Public debt as a percentage of GDP is usually used as an indicator of the ability of a government to meet its future obligations.
- There are limited sources of government revenue such as non-tax revenue, which is not sufficient for growing needs of expenditure, so it is necessary to burrow fund through the internal and external sources.

The ECM coefficient is statistically significant at 5% level of significance. The deviation between the dependent and independent variables in the short run equilibrium converge to the speed of 17% in a year.

6.2 Conclusion

Public debt is loan raised by government internal and external. Public debt refers to the obligation to pay money back to the people, institutions, or countries from whom it was obtained. It plays a valuable role in socio-economic development of a nation. Nepalese economy characterized as three kinds of macroeconomic imbalance, saving-investment gap, export- import gap and revenue- expenditure gap. These fundamental gaps represent the foreign dominance in Nepalese economy, while saving- investment and revenue- expenditure gaps are mainly consequences of excess activities in economic matters. To fulfill this gap public debt in the form of either internal or external is inevitable. The growing pattern/ trend of the borrowing creates great problems for debt management and becomes a major challenging issue for the country. The borrowing money is unlikely financed on the non- monetized and unproductive sectors of the economy which in turn has the burden for the country.

The level of public debt is increasing in the Nepalese economy. While talking about composition of public debt, the average share of external loan is greater than that of internal loan. However, in the latter period, the share of internal loan is significantly greater than that of external loan. The growth rate of economy seems to be relatively low. Low rate of economic growth and high rate of inflation is one major problem of the Nepalese economy. So, the efforts should be accelerating the growth rate so that more employment opportunities can be generated, and income of the people can be increased. For this, those measures should be employed which increase the level of aggregate supply. For this, investment should be increased, and use of new technology should be promoted.

In course of research, it was found that government borrowing has been increased rapidly and financed mostly on the unproductive sectors including high expenditure uncertainties, and hence government always lacks the resources then borrows the new loan to pay the previous ones. That's why the public debt and its interest are mounting

rapidly but addressing capacity for redemption and dept. is not increasing at the same pace. In the case of public debt government invests more money in unproductive sectors so that the unproductive sector cannot get more benefit and lose the money. So that government borrows money to pay the loans.

It is concluded that the average annual growth rate of GDP, revenue and export earnings are considerably low as compared with that of debt and its servicing obligation. Due to the misuse of borrowed funds, other things remaining the same there are signs of steadily falling into the debt trap.

6.3 Recommendation

In the Nepalese effective budgetary system public debt has a meaningful place and implementation of planning. It also fulfills the gap between revenue and expenditure. It is a very effective tool to management of debt situation of Nepal. After the study of Public Debt in Nepal during the period 1985/86 to 2019/20, the following recommendations are proposed to be a tool for the Public Debt management in Nepal:

- To minimize the resource gap, the government expenditure has to be controlled and allocated on the basis of national priority so that productivity may increase within stipulated time period.
- On the country, the maximum export-import gap is the main feature of foreign trade deficit of Nepal. For this, there is a need for export promotion and diversification of trade both country wise and commodity wise. The establishment and operation of export processing zone would be great help to enhance the export of Nepalese goods.
- Government should maintain fiscal balance by applying strong fiscal monetary policy, which might contribute to control growing unproductive and useless expenses in one side and increased revenue on the other side. Government efforts should be directed towards mobilizing internal resources and thus to reduce dependency on loans for financing development expenditure.
- The government should try to mobilize the internal resources at maximum level for development purpose through internal source and excessive dependency upon foreign assistance which must be

minimized by encouraging the domestic capitalist. Government should properly mobilize its resources in every field of the economy such as building infrastructure, hydropower, communications, transportation, agriculture, industries, health and education.

- If the government takes loan, and then the loan should strictly utilize to meet the national priorities. The loan should never be used for regular expenditure.
- Government should increase the debt servicing capacity of the country. And, also used in productive sector.
- The size of revenue collection is very low and expenditure is very high which creates economic instability. This leads to heavy borrowing from internal and external sources. So, for reducing the volume of borrowing and maximize revenue collection, government should adopt effective tax policy by improving tax administration.
- The government should try to get the grants more as far as possible. There is more domination on bilateral grants. The government also should maintain such external policy so that more grants should be received rather than the loans.
- To increase the debt servicing capacity, government should increase revenue growth, tax payments, GDP growth, and export earn growth in suitable path so that country will not be trapped on debt servicing problems.
- The government borrows money from external and internal sources so that internal borrowing is short-term which needs to be minimized and long-term external borrowing should be given priority.
- The share of debt servicing is substantial in regular expenditure, so, loan from external sources should be received only when needed. Foreign aid should be channelized in such investment programs which help improving the productive activity of the economy.

Nepal has so many under-developed areas, where the role of government is dominating. Government should maintain the balance between urban and rural areas, agricultural and industrial sectors, tradable and non-tradable sector. The maintenance of such various unbalanced sectors of the economy should be done through control of

unproductive expenditure, big push through capital and proper utilization of resources of the under-developed areas. And Government should reduce foreign dependency emphasizing on export promotion, tourist attraction and import substitution police.

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Appendix 1

Year	log internal debt (Right axis)	log external debt (Right axis)	Log GDP (Right axis)	Internal debt % of GDP	External debt % of GDP	Total Debt % of GDP
1985/86	9.856740971	10.01410873	10.726034	13.51	19.4	30.7
1986/87	9.954117028	10.18103997	10.786325	14.71	24.8	36.6
1987/88	9.213783299	10.31860586	10.864333	15.9	28.5	40.8
1388/89	10.11018216	10.46563413	10.933644	15.01	34	47.6
1989/90	10.16652188	10.56585844	10.998704	14.71	36	49.8
1990/91	10.31922894	10.77455565	11.064933	18	16.5	63.9
1991/92	10.36614081	10.85079261	10.161158	16	48.9	63.3
1992/93	10.40579016	10.94161478	11.218404	15.4	52.9	66.9
1993/94	10.48616401	11.00845879	11.282386	16	53.2	66.5
1994/95	10.50593507	11.0530819	11.32217	15.3	53.8	68.4
1995/96	10.53455659	11.10736059	11.379102	14.3	53.5	66.9
1996/97	10.55498314	11.12085942	11.430672	13.3	49	61.7
1997/98	10.58440699	11.20738659	11.462095	13.4	55.6	68
1998/99	10.69609066	11.22908181	10.477382	15	51.4	63
1999/00	10.73525548	11.28033179	11.563779	14.9	52.1	65.6
2000/01	10.77846745	11.28033065	11.595554	15.2	50.9	64.9
2001/02	10.86700171	11.30190725	11.628853	18.15	51.7	65.9
2002/03	10.90073189	11.34267055	11.647434	18.27	50.3	66.9
2003/04	10.92760285	11.34914771	11.675361	17.9	49.2	67
2004/05	10.9351731	11.34171519	11.714324	16.6	42.4	59
2005/06	10.94232658	11.36915758	12.799548	13.9	37.1	51
2006/07	10.96863189	11.3348571	11.843226	13.3	31	44.4
2007/08	11.06460585	11.3978799	11.914245	13.7	13.7	58.1
2008/09	11.09933528	11.44247977	11.994876	12.7	28	40.7
2009/10	11.15490973	11.40865252	12.076558	12	21.5	33.9
2010/11	11.26528727	11.4141392	12.138288	13.4	18.9	32.3
2011/12	11.33025139	11.49036167	12.183937	14	20.2	34.3
2012/13	11.32607521	11.5230203	12.229173	12.5	19.7	32.2
2013/14	11.31531652	11.54010301	12.293261	10.5	17.7	28.2
2014/15	11.30461287	11.53562548	12.326432	9.5	16.2	25.7
2015/16	11.36950896	11.5896847	12.35193	10.4	17.3	27.7
2016/17	11.45287562	11.6169781	12.401182	10.8	15.1	26.8
2017/18	11.59604646	12.63996853	12.439575	12.9	17.3	30.2
2018/19	12.8573	13.2962	13.7983	12.6	19.6	32.2
2019/20	12.9946	13.4585	13.9464	12.2	20.2	32.9

Appendix 2

Fiscal Year	LOG External Loan (1)	LOG Bilateral Loan(2)	LOG Multilateral Loan(3)	(2) as percent of (1) Right axis	(3) as percent of (1) Right axis
1985/86	7.771025	6.212406	7.534763	21	79
1986/87	7.724491	5.702782	7.631529	12.7	87.3
1987/88	8.037317	6.136647	7.875423	14.9	85.1
1988/89	8.340146	6.230088	8.210913	12.1	87.9
1989/90	8.439945	6.908355	8.196354	21.6	78.4
1990/91	8.380227	7.379507	7.921971	36.8	63.2
1991/92	8.743436	7.778965	8.263487	38.1	61.9
1992/93	8.693111	7.175949	8.445504	21.9	78.1
1993/94	9.122994	6.368016	9.057201	6.4	93.6
1994/95	8.897313	6.575494	8.794067	9.8	90.2
1995/96	9.15524	6.131226	9.105413	4.9	95.1
1996/97	9.109813	9.048645	9.011023	9.4	90.6
1997/98	9.310593	7.181212	9.183996	11.9	88.1
1998/99	9.380286	6.369901	9.329758	4.9	95.1
1999/00	11.67947	6.630551	9.310575	6.4	93.1
2000/01	9.396322	6.374514	9.346382	4.9	95.1
2001/02	8.948794	4.465908	8.937429	1.1	98.9
2002/03	8.422091	6.487988	8.265959	14.5	85.5
2003/04	8.939712	4.189655	8.931023	0.9	99.1
2004/05	9.134118	4.840242	9.120372	1.4	98.6
2005/06	9.013632	3.703768	9.008677	0.5	99.5
2006/07	9.215676	9.105491	6.955497	89.6	10.4
2007/08	9.102744	6.449048	9.02975	7	92.9
2008/09	9.207215	6.418202	9.143869	6.1	93.9
2009/10	9.325756	6.121396	8.805795	40.6	59.5
2010/11	9.398942	8.321762	8.982586	34.1	65.9
2011/12	9.313177	8.087763	8.965552	29.4	70.6
2012/13	9.390109	7.853372	9.147922	21.5	78.5
2013/14	9.79806	8.083483	9.599561	18	82
2014/15	10.15096	8.139616	10.00731	13.4	86.6
2015/16	10.41116	8.071343	10.30985	9.6	90.3
2016/17	10.98567	8.715847	10.8766	10.3	89.6
2017/18	11.40508	9.258168	11.28083	11.6	88.3
2018/19	9.534277	10.19642	9.318737	19.3	41.6
2019/20	9.299084	7.424762	9.132433	15.3	55.1
Average Growth rate				17.8	86.3

Appendix 3

Fiscal year	Log Export	Import	Export- import gap	Growth rate of EI gap
1985/86	8.032035314	9.14219	8.742447	
1986/87	8.003496784	9.296995	8.976363	26.4
1987/88	8.322296903	9.537455	9.185535	23.3
1988/89	8.341791636	9.696691	9.398346	23.7
1989/90	8.547955153	9.816016	9.485598	9.1
1990/91	8.907544662	10.05305	9.670231	20.3
1991/92	9.525625452	10.37161	9.811016	15.1
1992/93	9.756523487	10.57657	9.996026	20.3
1993/94	9.867518347	10.85071	10.38212	47.1
1994/95	9.777878977	11.06162	10.73727	42.6
1995/96	9.897524811	11.21794	10.9073	18.5
1996/97	10.02729684	11.44629	11.16926	29.9
1997/98	10.22243207	11.39641	11.02661	13.3
1998/99	10.48224188	11.37968	10.85609	15.7
1999/00	10.81622598	11.59455	10.97989	13.2
2000/01	10.92691103	11.6602	11.00265	2.3
2001/02	10.75672772	11.58421	11.00948	0.7
2002/03	10.81838932	11.73087	11.2175	23.1
2003/04	10.89508425	11.82245	11.31893	10.7
2004/05	10.98029211	11.91487	11.41606	10.2
2005/06	11.00599392	12.06555	11.63997	25.1
2006/07	10.99176495	16.78436	11.81533	19.2
2007/08	10.9897995	12.31015	11.99949	20.2
2008/09	11.12280453	12.55838	12.2866	33.3
2009/10	11.01573973	12.83291	12.65559	44.6
2010/11	11.07191349	12.88961	12.7124	5.8
2011/12	11.21534119	13.0426	12.86723	16.7
2012/13	11.2504835	13.22985	13.08117	23.9
2013/14	11.42945037	13.47915	13.35247	29.7
2014/15	11.35415362	13.5598	13.44353	10.8
2015/16	11.15792198	13.55881	13.4638	2.07
2016/17	11.1988871	13.80557	13.72893	30.3
2017/18	10.99774537	13.68346	11.31024	10.9
2018/19	11.4835533	9.605991	11.31754	7.3
2019/20	8.858325979	11.43414	11.355	3.8

Appendix 4

Fiscal year	Internal debt	External debt	GDP	Internal debt % of GDP right axis	External debt % of GDP right axis	Total debt % of GDP right axis
1985/86	7.246653	7.824486	10.8821	2.63	5.98	7.35
1986/87	7.405313	7.904261	11.02092	2.69	5.39	7.12
1987/88	7.029973	8.246906	11.20054	1.54	4.71	6.76
1988/89	7.192934	8.642309	11.36014	1.54	4.19	8.15
1989/90	7.673223	8.692759	11.50994	2.15	4.78	8.75
1990/91	8.423476	8.741408	11.36014	3.9	3.48	9.31
1991/92	7.639546	8.82716	11.50994	1.43	4.7	6.14
1992/93	7.390181	8.842171	11.66244	0.98	4.19	5.17
1993/94	7.506592	9.122962	11.88403	0.95	4.78	5.73
1994/95	7.549609	8.897313	12.01582	0.9	3.48	4.39
1995/96	7.696213	9.15524	12.16314	0.92	3.95	4.87
1996/97	8.006368	9.109813	12.25475	1.11	3.35	4.47
1997/98	8.131531	9.310593	12.38584	1.17	3.81	4.99
1998/99	8.457443	9.380286	12.50458	1.43	3.59	5.02
1999/90	8.612503	9.376888	12.57694	1.5	3.23	4.73
2000/01	8.853665	9.396322	12.7069	1.78	3.06	4.83
2001/02	8.987197	8.948794	12.81107	1.88	1.81	3.69
2002/03	9.091557	8.422091	12.88424	2	1.02	3.02
2003/04	8.631914	8.939712	12.96091	1.18	1.61	2.8
2004/05	9.098078	9.134118	13.0037	1.73	1.79	3.51
2005/06	9.378749	9.013644	13.068	1.88	1.3	3.18
2006/07	9.792126	9.215656	13.15772	2.57	1.44	4.01
2007/08	9.928005	9.102744	13.35395	2.49	1.1	3.59
2008/09	9.821035	9.207215	13.45452	1.86	1	4.16
2009/10	10.30608	9.326647	13.99179	2.5	0.94	3.4
2010/11	10.65763	9.398942	14.13393	3	0.87	3.98
2011/12	10.50284	9.313177	11.93646	2.38	0.72	3.1
2012/13	9.854455	9.390109	14.3432	1.12	0.7	1.82
2013/14	9.902627	9.79806	14.49077	1	0.91	1.93
2014/15	10.65414	10.15096	14.56715	2	1.2	3.2
2015/16	11.38509	10.41116	14.62586	3.9	4.2	8.1
2016/17	11.38893	10.98567	14.73927	3.3	2.3	5.8
2017/18	11.88277	11.39838	14.82767	4.8	3.2	8.5
2018/19	10.72101	10.99361	14.92441	1.4	1.9	3.4
2019/20	10.69205	11.15589	15.05643	1.2	2	3.2

Appendix 5

Fiscal year	Government income	Government expenditure	foreign grants	budget deficit without foreign grant(1) right axis	budget deficit with foreign grant(2) right axis
1985/86	8.443439003	9.189841702	7.067235	8.54725672	8.752344
1986/87	8.695188738	9.351249482	7.158903	8.61940676	8.828142
1987/88	8.902510012	9.554284623	7.638584	8.81797903	9.086069
1988/89	9.018695488	9.798404776	7.484706	9.23289411	9.393387
1989/90	9.136424689	9.886814324	7.588526	9.24780955	9.421994
1990/91	9.280770876	10.06685138	7.680083	9.46342324	9.618781
1991/92	9.511385263	10.18180845	7.404766	9.46540886	9.651771
1992/93	9.625650195	10.33843703	8.240992	9.6645512	9.880352
1993/94	9.882304773	10.42220396	7.780428	9.54799762	9.70564
1994/95	10.10949308	10.5728542	8.2782	9.54799762	9.795552
1995/96	10.23613463	10.748119	8.481587	9.5808551	9.868373
1996/97	10.3213258	10.83414854	8.697563	9.83356389	10.11203
1997/98	10.40237925	10.93521724	8.594636	9.92084602	10.1563
1998/99	10.63556454	10.99505844	8.374846	9.79763247	10.01358
1999/00	10.79149197	11.10153031	8.650272	9.77945377	10.05958
2000/01	10.92678345	11.28771854	8.817801	10.0936161	10.33985
2001/02	10.95311441	11.29068276	8.807801	10.0406548	10.29643
2002/03	11.1209031	11.33864469	9.336012	9.70730234	10.23194
2003/04	11.20523658	11.40135236	9.331088	9.6758464	10.2114
2004/05	11.3446713	11.53820425	9.574372	9.80070704	10.38708
2005/06	11.36337618	11.61628678	9.534415	10.117776	10.56119
2006/07	11.54745249	11.80263997	9.667816	10.3120013	10.73405
2007/08	11.76191842	11.9913312	9.919395	10.4065662	10.88552
2008/09	12.04271395	12.29983618	10.18047	10.8158245	11.24093
2009/10	12.28551256	12.46720885	10.55961	10.6723172	11.3107
2010/11	12.45192049	10.29427886	8.432071	10.5871398	11.35679
2011/12	12.5706602	12.73425172	10.61673	10.8431881	11.4295
2012/13	12.71867769	12.7900688	10.4781	10.1150038	11.00609
2013/14	12.88995201	12.98321625	10.43294	10.5646279	13.50024
2014/15	13.01328485	13.18355255	10.50162	11.329243	11.69186
2015/16	13.15718443	13.30637717	10.38834	12.3512547	12.74388
2016/17	13.3762768	13.63787596	10.37138	12.1689833	12.3223
2017/18	13.53482873	11.59264935	10.13513	13.3800537	13.3403
2018/19	10.85318985	13.20098471	11.32542	13.1005226	13.25707
2019/20	10.99089058	13.32228039	9.258406	13.22007	13.23892

Appendix-6

Year	LNRGDP	LNIMP	LNEXP	LNINDEBT	REXDEBT	RTDEBT
1985	12.88829	11.09364	10.05514	11.01968	11.38204	11.91033
1986	12.93293	11.14678	10.03662	11.10928	11.63179	12.09743
1987	12.94979	11.18227	9.888773	9.285286	11.82923	11.90486
1988	13.02394	11.31105	10.09587	11.23764	12.0561	12.42151
1989	13.0663	11.36357	10.0086	11.26065	12.18016	12.51571
1990	13.11161	11.38111	10.11305	11.51049	12.55892	12.85938
1991	13.17333	11.52805	10.38255	11.52842	12.64437	12.92774
1992	13.21359	11.67024	10.82425	11.44333	12.67711	12.93268
1993	13.25134	11.77572	10.95567	11.52892	12.73154	12.99422
1994	13.33033	11.97861	10.99542	11.5032	12.76305	13.01279
1995	13.36442	12.12841	10.84467	11.508	12.82693	13.06391
1996	13.41642	12.20951	10.88909	11.4798	12.78278	13.02315
1997	13.46769	12.36961	10.95064	11.47931	12.91377	13.12746
1998	13.49669	12.27875	11.10477	11.69549	12.92275	13.17979
1999	13.54055	12.17756	11.28012	11.70121	12.95629	13.20709
2000	13.59991	12.34788	11.56956	11.75616	12.91174	13.18548
2001	13.65467	12.31534	11.5836	11.86338	12.86478	13.17767
2002	13.65587	12.20231	11.37483	11.90245	12.92005	13.22861
2003	13.69456	12.31873	11.40625	11.93408	12.90473	13.22597
2004	13.74032	12.36948	11.44212	11.91069	12.84679	13.17764
2005	13.77452	12.40252	11.46794	11.86777	12.85059	13.1685
2006	13.80762	12.48217	11.42262	11.85732	12.70059	13.05847
2007	13.84116	12.52253	11.33511	12.00503	12.77242	13.15375
2008	13.90042	12.59882	11.27847	12.03032	12.82044	13.19461
2009	13.94475	12.69942	11.26384	12.01066	12.59492	13.03801
2010	13.99179	12.83291	11.01574	12.12377	12.46652	13.0029
2011	14.02544	12.78695	10.96926	12.1707	12.53937	13.06507
2012	14.07214	12.8757	11.04844	12.09684	12.55033	13.04222
2013	14.1126	12.99926	11.01988	12.00837	12.52596	12.99343
2014	14.17077	13.15915	11.10945	11.89432	12.42625	12.88839
2015	14.20345	13.19196	10.98591	11.9955	12.50248	12.97393
2016	14.20932	13.14029	10.7394	12.13719	12.51505	13.03701
2017	14.28835	13.29466	10.68797	12.37446	14.77817	14.8647
2018	14.35321	13.45895	10.73086	12.28155	12.72042	13.21802
2019	14.42079	13.52949	10.84795	12.359	12.82284	13.31072