EFFECT OF FOREIGN TRADE IN GDP OF NEPAL

A Thesis

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By:

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DECLARATION

I, Gyan Bahadur Ghalan, declare that this thesis entitle EFFECT OF FOREIGN TRADE IN GDP OF NEPAL is my original work except where Otherwise indicated or acknowledged in the thesis. The thesis does not contain Materials that have been accepted or submitted for any other degree at any other Institutions.

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Gyan Bahadur Ghalan

March, 2023

LETTER OF RECOMMENDATION

This thesis is entitled EFFECT OF FOREIGN TRADE IN GDP OF NEPAL has been prepared by Mr. Gyan Bahadur Ghalan under my guideless and supervision. I hereby, recommend it in partial fulfilment of requirements for the degree Master of Arts in Economics for the final examination.

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Dr. Dil Nath Dangal
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Date.....

APPROVAL LETTER

We, the under designed certify that we have carefully read the research report submitted by Mr. Gyan Bahadur Ghalan and conducted the viva voce examination of the candidate, We are fully satisfied with the quality and academic standard of the research project report. The candidate has defined his research work very satisfactory. We therefore recommended that the research project entitled topic EFFECT OF FOREIGN TRADE IN GDP OF NEPAL be accepted as partial fulfilment of the requirements for the award of the degree of Master of Arts in M.A Economics of Tribhuvan University.

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ABSTRACT

This paper examines the effect of foreign trade in GDP of Nepal. The study shows the linkage between GDP with import, export, and capital expenditure. The objectives of study are to study the growth trend of foreign trend, capital expenditure and to examine the relationship between between import, export, capital expenditure and GDP of Nepal. The Engle Granger Test has been used to examine the long run relationship between foreign trade and GDP of Nepal in long run. To produce much reliable result, various econometrics tools were employed to check autocorrelation function, goodness of fit and stability of the model. The data frequency is annual and obtained from government sources. The analysis is based on data for the period of 1990/91 to 2020/21.The study concludes that the effect of RGDP on RIM and RCE is positive while the effect of RGDP on REX is negative.

Keywords: Foreign Trade, Real Gross Domestic Product, Engle Granger Test

ABBREVIATIONS

APA	American Psychological Association
C.V.	Coefficient of Variation
CBS	Central Bureau of Statistics
DW	Durbin Watson
F/Y	Fiscal Year
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
Govt.	Government
IMF	International Monetary Fund
MA	Master of Arts
MOFA	Ministry of Finance
N.G.	Nepal Government
OLS	Ordinary Least Square Method
NRB	Nepal Rastra Bank
P.E.	Probable Error
RCE	Real Capital Expenditure
RGDP	Real Gross Domestic Product
RM	Real Import
RX	Real Export
S.D.	Standard Deviation
T.U.	Tribhuvan University

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CHAPTER 1

INTRODUCTION

1.1 Background of Study

The exchange of goods and services between individuals, businesses, and institutions is referred to as trade. International trade is the transfer of products and services to another country, whereas domestic trade is the interchange of commodities and services within a single nation. International trade can occur between individuals, companies, and governments of different nations. It comprises purchasing goods created abroad and marketing home grown goods abroad. International trade has a significant impact on how economies grow and develop. (Winters, 2004).

When a nation's exports surpass its imports, it achieves a surplus balance; the opposite is true for a trade deficit. Exports are thought to be the main engine of economic growth and prosperity, and a trade surplus is often regarded as a positive indicator for international trade. Trade is a vital tool for fostering development, employment, and prosperity. Trade significantly boosts the Gross Domestic Product of several countries (GDP).International trade is vital when a nation is unable to produce enough of its own production inputs, consumer goods, or capital goods. Trade was essential to the rise of the world economy in the 19th and 20th centuries. (Winters, 2004).

For the purpose of importing commodities and services that are not domestically produced, particularly capital goods, trade are one of the main ways to acquire foreign currency. Foreign trade has traditionally been highlighted in business and economics as a source of competitive advantage and a major GDP-influencing component. The sustainability of an economy is a worry when there is a persistent and significant deficit in global trade. Any economy's expansion depends heavily on international trade, which is why trade liberalization is often seen as a growth accelerator. (Winters, 2004).

Since it is considered that trade openness is favourably correlated with national economic growth, trade liberalization has been an important component of policy recommendations for developing countries. Trade openness is the term for the decrease or elimination of all trade obstacles, and both developed and developing

countries regularly use it when drafting policies. Trade not only involves exchanging physical commodities but also information, technology, and education. As the world drew closer to globalization, emerging nations gradually shifted from adopting trade policies that were restrictive to ones that were more open. (Winters, 2004).

There is a lot of evidence in the literature to support the notion that increased trade openness fosters economic growth. The majority of studies, however, concentrate on developed nations. It is discovered that trade liberalization has fewer beneficial benefits than anticipated when looking at the outcomes of trade openness in developing economies. (Winters, 2004).

Despite geographical restrictions that limited Nepal's commercial possibilities outside of India and Tibet, the country has a long history of commerce. Usually, when examining Nepal's commerce, three regions are looked at: Tibet, India, and other foreign nations. In its historical commercial links with Tibet throughout the Malla and Lichchhavi era, bartering was the earliest method of exchange Nepal adopted. As a result of the emergence of the Tibetan empire in the 17th century, new Trans-Himalayan trade routes connecting Chinese and Indian cities were made possible, with Nepal acting as a centre between the two important countries. (Sharma & Bhandari, 2015)

Since Nepal and India share similar geographical, cultural, and social factors that affect their economic operations, the two countries have had trading contacts for a long time. Trade with other countries has, however, been restricted by Nepal's relative economic underdevelopment and political isolation. Before to the Second World War, Nepal purchased commodities from countries including England, Japan, and Singapore while exporting mostly to the UK, USA, and France until 1951.Due to the country's need for foreign cash for development after 1960, Nepal's trade with other nations became accessible, and it was vital to encourage exports via diversifying trade. Presently, India accounts for about 60 percent of all of Nepal's trade, with the remaining 40 percent flowing to the rest of the world. Due to a number of circumstances, Nepal's exports have not performed up to expectations. Lack of access to seaports, which restricts its trade possibilities, is one of the key problems. Nepal also lacks a strong production base and is uncompetitive on the international market. Trade restrictions with foreign countries are partly a result of Nepal's open border with India and the few transit options available. Due to the lack of viable alternate

transit routes, Nepal is primarily dependent on India for commercial flows. The trade balance of Nepal faces difficulties because exports are not as high as imports. (Sharma & Bhandari, 2015)

With only accounting for 31 percent of Nepal's GDP, more than 70 percent of the population is employed in agriculture. Industries in Nepal struggle to operate efficiently due to a lack of advanced machinery and industrial raw supplies. As a result of a substantial percentage of the populace insisting on working in the low-productive agriculture sector, Nepal is mired in a cycle of poverty. Foreign commerce has the potential to be extremely important in transferring the high labour density burden from the agriculture sector to the modern manufacturing sector and breaking this cycle. Foreign trade can enhance market size, provide more incentives for income investment and savings encourage industry specialization, and boost national wealth through resource allocation. (Bhusal, 2015).

The advantages of trade openness for developing countries like Nepal are a subject of contention. Excessive regulations, intrusive government intervention, and confusing economic policies are obstacles to prosperity everywhere. Over the course of several years, Nepal has embraced a liberal and open stance in all areas.

In order to compete and sell their goods in the Nepali market, every trading partner has an equal opportunity. Because of its understanding of market-oriented economic changes from the beginning of the 1990s, Nepal became more integrated into the global economy. It is prohibited for any nation to dominate and further constrict the Nepali market. Enhances the financial incentives for income investment and saving (Regmi, 1999)

An Overview of Trade Scenario in Nepal

During the Malla and Lichchhavi dynasties' trade contacts with Tibet, the barter system was created in Nepal. Trade between Nepal and other countries hasn't been going on for very long due to its geographic isolation and relative political backwardness. Only the UK, USA, and France were permitted to conduct foreign trade before 1951.Before World War II, Nepal used to export agricultural items like jute while buying non-agricultural products. Because Nepal required other countries for its development after 1960, trade with them became feasible.Trade diversification was necessary for the export development of Nepal. (Sharma, 2014).

By abolishing import restrictions and breaking down tariff barriers in the middle of the 1980s, Nepal established a liberalized trade policy. Nonetheless, Nepal has been struggling with a trade deficit, mainly with India and the rest of the globe, that grew to 20 percent of its GDP in the second half of the 1990s. (Devkota, 2004).

Presently, India accounts for around 60percent of Nepal's total commerce, with the remaining 40 percent going to other countries across the world. Thus far, Nepal's foreign trade has not performed well. There are a number of problems that are allegedly to blame, including being a landlocked country, having a tiny production base, and not being competitive. Only commercial flows are economically possible in India because of its geographic position. In Nepal's business environment, there has been a substantial change in the foreign commerce since 1995.

With exports and imports totalling Rs 97.71 billion and Rs 1196.80 billion in 1974–75, respectively, the value of global trade in 2019–20 is Rs 1294.51, a rise of Rs 1814.6 million from that period.. A big trade imbalance, which has been increasing recently, is brought on by the large gap between export and import commerce. Nepal’s trade balance decreased to Rs. 1099.09 billion in 2019–20 from a negative Rs. 925 million in 1974–1975.

The trade balance as a percentage of GDP in FY2017/18 was negative 38 percent as a result of the unfavourable global trade. With exports making up 2.7 percent of GDP and imports accounting for 41.1 percent of GDP, overall commerce accounts for 43.8 percent of GDP. (MOF, 2019)

1.2 Statement of the Problem

Over the last 45 years, Nepal's external trade sector has experienced significant growth, with imports and exports rising from 1814.6 million and 889.6 million rupees in 1975 to approximately 491655.9 million rupees and 85319.1 million rupees in 2015 respectively (MOF, 2016). In FY 2015/16, imports had increased by 270 times and exports had increased by 96 times compared to FY 1974/75.

Despite the increase in import volume, Nepal has not been able to achieve competitive levels of exports. As a result, Nepal can only export agricultural-based raw materials, while it has to import expensive finished products from other countries. Nepal's isolation from the global market, its status as a landlocked, least developed, and agriculture-based country highlights the importance of foreign trade for achieving sustainable economic growth and development. Imports have always exceeded exports in the last 41 years. For a developing country like Nepal, foreign trade is crucial to achieving national goals of economic growth and development in order to meet the demands of a fast-growing import market. The research problem is focused on determining the extent to which trade openness influences economic growth in Nepal.

1.3 Research Questions

The research paper hence aimed at answering the following research questions.

i. What is the growth trend of import, export and capital expenditure in Nepal ?
ii. What is the effect of import, export and capital expenditure on GDP growth in Nepal?

1.4 Objectives of Study

The main objective of the study is to examine relationship between import, export and GDP growth in Nepal. However, the specific objectives are;

i. To examine the growth trend of import, export and capital expenditure of Nepalese trade.
ii. To analyze the effect of import, export and capital expenditure on GDP growth in Nepal.

1.5 Hypothesis of the Study

The following three hypotheses have been made in this research;

H_{01} There is no significant relationship between import and GDP of Nepal.

H_{02}: There is no significant relationship between export and GDP of Nepal.

H_{03}: There is no significance relationship between capital expenditure and GDP of Nepal.

These hypotheses have been tested on the basis of theoretical and empirical foundation.

It also explained with data to find out some statistical tests.

1.6 Limitation of study

This Study is based on following limitations:

i. This study is based on secondary data and does not involve any field survey.
ii. The study covers the time period from fiscal year 1990/91 to fiscal year 2020/21, which corresponds with the implementation of Nepal's liberalization policy.
iii. Data are taken from Ministry of finance, NRB, CBS, WB and IMF.
iv. The study considers the real GDP.

1.7 Organizations of the Study

This study is divided into five chapters for a systematic approach. The initial section includes the title and introductory information. Chapter one covers the background information, statement of the problem, research questions, study objectives, hypotheses, rationale, study limitations, and organization of the study. Chapter two includes an extensive literature review, covering both national and international studies and country-specific cases. Chapter three explains the research methodology, including the research design, sample period, sources of data, sample size, data analysis techniques, and measurement issues. Chapter four examines the historical trends related to trade diversification, imports, exports, and total trade in Nepal, including ratios and growth rates of trade variables. Finally, chapter five presents the major findings of the study, conclusions, and recommendations, followed by references and appendices.

CHAPTER 2

LITERATURE REVIEW

This chapter provides a detailed review of the literature on the relationship between fo reign trade and GDP, including academic articles, newspapers, and related works. Its objective is to establish a robust theoretical and empirical basis for the thesis and is di vided into two primary sections. The first section deals with theoretical literature, whil e the second section concentrates on empirical analysis.

2.1 Theoretical Review

The theoretical framework helps the reader to understand the relationship between the variables and factors related to the problem. It establishes connections between all the variables, enabling the reader to comprehend the theoretical link between them. A theoretical framework guides research studies by identifying the variables to be measured and the statistical links to be investigated.

Absolute Cost Advantages Theory

Adam Smith, a well-known classical economist, proposed the absolute cost advantage theory, which contends that high efficiency manufacturing is preferable to globalization. The idea of making a superior product at a lower cost is supported by this philosophy.

This theory minimizes the significance. The fundamental premises of this theory are as follows: the market is perfectly competitive, the economy is built on full utilization of resources, there is no intervention by the government, two nations produced the same two items, and there are no import or export restrictions or transportation costs. Labour is also one of the only homogeneous production variables, and it is perfectly mobile both inside and outside of the two nations. (Subba, 2020)

Ricardo Comparative Cost Advantage Theory

Comparative cost advantage theory was propounded by David Ricardo in 1973. It is improved and extension version of Adam Smith’s Absolute cost advantage theory. Under this theory trade exist between two countries on the basis of comparative

maximum benefit or comparative least disadvantage. So this theory is termed as the comparative maximum benefit and comparative least disadvantage.

The main assumption of this theory are economy is based on full employment of resources, There is no government intervention on economy, there are two countries exist in the international trade, only two goods and services are traded, there is no transportation cost, There is no restriction no import and export in the market,Lobour is only homogenous factor of production, Labour is perfectly mobility inside the country, and not mobility outside the country, no technical changes in both countries and there is no transportation cost in moving goods from once country to other country.

According to this theory each country should specialize in the production on that commodity in which they have the greatest comparative advantages or least comparative cost advantages. (Subba, 2020)

Factor Endowment Theory

Eli Heckscher, a Swedish economist, established the actor Endowment Theory in 1919; his student Bertil Ohlin finished it in 1935. It is also known as the Heckscher Ohlin Theory. The absolute cost advantage and comparative cost advantage, which failed to explain "Why cost differs in the production of goods among different nations" in their international theory, were the foundation for the development of the theory. The difference in factor combinations needed to produce various commodities and the relative differences in factor endowment in various countries were two elements that the factor theory attempted to take into account in an effort to provide an answer. Based on the production factor of a nation, this theory contends that nations should export goods with plentiful production factors and buy goods with scarce production factors.

This theory makes the following assumptions: there are two nations, two commodities (X and Y), two production factors (L and K), the market is a perfect competitive market, tastes and preferences are the same in both countries, country A uses labour-intensive technology to manufacture X goods, while country B uses capital-intensive technology to generate Y goods, the price of inputs (L and K) is given, there is no transportation cost, both countries have the same technology, and factors are mobile domestically.. (Subba, 2020)

The New Growth School

Romer, Lucas, and Svensson, the representatives of this school, thought that advancing technology would increase output. In accordance with this hypothesis, the advent of industrialized nations would be caused by greater productivity. The theory created a number of models based on this reality to examine the relationship between international trade, technological development, and economic growth. They believed that by leveraging technology and providing external stimulus, global commerce might boost economic growth. Each technology has a spill over process, on the one hand. Owners of cutting-edge technologies would eventually be forced to share their knowledge with other countries through international trade, whether they wanted to or not. Global trade, on the other hand, provided a broader market, more frequent information exchange, and increased competition, which compelled every country to develop new technology and products. The beneficial interactions between international commerce and technology breakthroughs may guarantee long-term economic prosperity. (Subba, 2020)

The New Trade School

According to the new trade theory economist Paul Krugman, there are two ways that global trade could promote economic growth. One was scale economies brought about by trade, and the other was international trade, which might promote economic growth by promoting the best possible resource allocation across the sectors of knowledge and material production. We attempt to gain a better grasp of this relationship through the empirical review because the theoretical literature does not provide any precise representations of the relationship between openness and growth. In this way, it is possible to determine the probable causality and direction of any relationship between trade openness and economic growth. (Subba, 2020)

Leontief Paradox

Prof. Wassily Leontief developed the concept of the Leontief Paradox. According to the Heckscher-Ohlin theory, a country should export goods that use its abundant factors of production and import goods that use its scarce factors of production. However, Leontief argued that this theory did not hold in all cases. He conducted an empirical study of trade in the American, Japanese, and German economies and found

that the United States, which is a capital-intensive country, was importing capital-intensive goods and exporting labour-intensive goods. Similarly, Japan, a capital-intensive country, was importing capital-intensive goods and exporting labour-intensive goods. This contradiction with the Heckscher-Ohlin theory is known as the Leontief Paradox. (Subba, 2020)

2.2 Empirical Review

This part is concerned with literature review on the test of theories and their result about the topic.

2.2.1 Nepalese Context

Karmacharya (2004) conducted a study on performance of Nepal's foreign Trade. The paper discusses the countries merchandize trade in terms of both recorded (formal) and unrecorded (informal) transactions. In addition, the researcher reviewed various external and internal factors affecting recorded export performances. The researcher also explores the extent, commodity composition and possible causes of unrecorded trade between Nepal and India. The main finding of the research were increasing competitiveness is a key to enhancing export performance in Nepal. Researcher has given the five suggestions. First, good macroeconomic policies to keep the economy competitive with low and stable inflation and interest rates and a competitive exchange rate will need to be sustained. Second, transport costs have to be lowered to promote trade and competitiveness. Finally, regulatory restrictions on labour and capital mobility will need to be removed. For this, it will be necessary to modify labour regulations that obstruct flexible labour markets, investments in labour training and productivity, and reduce productivity incentives. Fourth, increasing efficiency and production will support Nepal's commerce. The restoration of peace, political stability, and social concord will all significantly impact export growth.

Regmi (2004**)** conducted a study on Nepal's Export performance. The constant market share model was used in the research for the two sub periods of 1977–1988, and 1986–1998.According to the study's findings, the single most significant element contributing to Nepal's export growth's acceleration has been the international trade's quick expansion. Also, the nation has developed specializations in goods whose demand is expanding relatively slowly on the global market, such as exports of ready-

to-wear and seeds for various field oils. According to this, the country's experience over the past forty years demonstrates that the export sector has been dominated by products with modest growth, the majority of which are targeted at unchanging markets. The researcher comes to the conclusion that the government was unable to effectively increase exports of high growth commodities to high growth markets because of the existence of ad hoc and flawed plans and policies.

Sharma and Bhandari (2005) examined the relationship between imports, exports to economic growth during the period 1974/75 to 2002/200. The relationship between export growth and economic growth has been supported by various linear and log-linear models. As a result, it is advised to adopt a policy of adequate investment in export-oriented sectors that exhibit the "right mix" of export promotion and import substitutes.

Bhusal (2015) analyzed the relationship between foreign trade and economic growth in Nepal using annual data over the period of 1974/75 to 2013/14. As indicators of international commerce and economic expansion, total exports and real GDP were used. Domestic data sets were used in the ordinary least squares method of regression. Techniques for Granger causality, co-integration, and error correction models agreed that international trade stimulates economic growth in Nepal over the long and short terms.

Kafle (2017) did research on the foreign trade of Nepal and its current developments. The primary goals of this study were to examine the causes of the trade deficit, especially with India. The trade and export promotion centre (TEPC), Nepal Rastra Bank (NRB), National Planning Commission of Nepal, Economic Survey Report, Newspaper Magazines, etc. were some of the secondary sources studied by the researcher. Commodity trade by Standard International Trade Classification (SITC) for FY2011/12 to FY2015/16 has been used to assess the make-up of Nepal's exports. The study's conclusions indicate that a substantial trade deficit, brought on by rising imports and falling exports, has severely hampered Nepalese business. Over the past few years, imports have been rapidly increasing while exports have remained constant. Beginning in the middle of 1980, economic liberalization has not been able to increase export variety or decrease the trade deficit. The researcher goes on to claim that the reason for the growing trade deficit is because of the unstable political

environment and frequent political changes that have led to frequent changes in trade policy.

Nepal and India

While the British were in control of India in 1792, the two countries entered into their first trading pact. In accordance with this treaty, a British resident was assigned to Kathmandu in order to promote commerce and business between the two countries. However, the people were forced to return two years later due to the war between Nepal and India. By the Sughauli Treaty, state hostilities were ended, and a British envoy was given permission to post himself in Kathmandu.

Nepal and China

The 1850 pact put an end to the war between Nepal and Tibet, which had erupted in a succession of wars. In exchange for Nepal receiving an annual tribute payment of Rs. 10,000 from Tibet, this agreement forced Tibet to give up her further territorial rights and concessions to Nepal. The 1956 deal with the People's Republic of China still marked a new chapter in the relationship between Nepal and Tibet.

Nepal Rastra Bank (1987) had attempted a quantitative analysis entitled as “Import and Export Function in Nepal”. The correlation between international trade and economic parameters has been attempted to be explained in this study. The elasticity of exports with regard to output and the marginal willingness to import have both been examined in this study using quantitative methods. This study has examined the factors influencing imports and exports and analyzed how they behave using mathematical methodologies.

Chaulagain (2013) concluded that in the free international trade an economy is assumed to be reeling under the ' black hole effect' of another economy As a result of the Indian economy's "black hole effect," Nepal has been going downhill. Such an effect typically persists indefinitely unless a strong enough counterbalancing force is supplied to cancel it out. Both Nepalese and Indian economic factors are used in the study to compare how well they affect Nepalese export to and import from India. The outcome of this research clearly demonstrates that all economic variables whether they are related to the Nepalese or Indian economies work against the Nepalese economy and instead support the Indian economy.

Prasai (2014) examined Nepal's pattern of international trade. The study uses the basic and augmented form of gravity model time period from 1981 to 2009. The empirical

findings are largely consistent, and the coefficients for the majority of the variables are as anticipated, with some exceptions, such as the per capita GDP in the basic model having a positive sign but a negative sign in the enhanced model for both import and export.

The outcome was in line with the fundamental predictions of the gravity model for both the pre- and post-liberalization periods. While the negative value of the coefficient during the period following liberalization suggests that Nepal imports consumer necessities; the positive sign of per capita GDP during the period prior to liberalization suggests that Nepal uses import Luxury items.

The survey also found that Nepal's commerce with China is disproportionately low and heavily focused with India. It demonstrates that Nepal should refocus its trade with China and lessen its too reliant and dangerous reliance on India.

Jha (1996) conducted a comprehensive study of Nepal's foreign trade, this study conducted by Jha in Nepal aimed to analyze the country's trade with India, third countries, and Tibet. The study found that the policy measures implemented for export promotion and diversification and import management were ineffective, leading to the economy's failure to achieve the expected results. The low economic growth rate resulted in a low export surplus, and the large volume of primary commodities in total exports, massive deforestation, and liberal import policies were the main reasons for the widening unfavorable trade gap. To correct trade imbalances with India and other countries, Dr. Jha recommended several measures, such as establishing an export-import bank, setting up export processing zones, encouraging foreign investment in export-related industries, providing favorable interest rates, and managing imports through quantitative restrictions to promote export diversification.

Pant (1990) analyzed the study "Economic Development of Nepal" and found that despite recent efforts towards trade diversification in Nepal, the majority of the country's trade is still with India. He noted that increasing trade with Tibet of China and other neighboring countries such as Bangladesh will take time. Pant concluded that the success of diversification efforts will depend on the development of adequate transport facilities in Nepal and the establishment of trade routes with different countries. He also noted that the pace of economic development and the inflow of aid have influenced the direction of Nepal's foreign trade to some extent.

Acharya (1996) in his research paper Foreign Trade and Industrialization in Nepal has argued that Nepal's foreign trade is basically concentrated upon her southern neighbor, India due to topographical reasons and easily accessible markets. During 1956–1957, 98 p of Nepal's export and imports were concentrated to India and the share of other countries accounted for only 2 percent of her foreign trade. In that period of time Nepal's share of exports to and imports from India accounted for 99 percent and 88 percent respectively. Lastly he add ,data after 1970–71, although the percent of both export and import trade with India haves significantly come down but India has remained to be the single largest trade partner among South Asian countries.

Dahal (2009) presents the issue of Nepal's negligible share in world trade, which he attributes to limited exportable items, low-quality products, high prices, and a lack of sufficient knowledge about foreign markets. He points out that Nepal's share in world exports declined from 0.01501 percent in 1956 to 0.00533 percent in 1979, while its share in world imports decreased from 0.02587 percent to 0.01915 percent during the same period. Consequently, Nepal's trade performance in the world is insignificant, and it needs to expand its exports through various measures to use trade as an engine of economic growth.

Shah (1999) conducted an unpublished M.A thesis on "The Study of Nepal Foreign Trade," which aimed to determine the volume, composition, and export and import instability of Nepal's foreign trade through various statistical tools. Secondary data was used in the research. The study revealed that commodity and geographic concentration ratios were the primary causes of export instability. Additionally, income and foreign aid were identified as the main determinants of Nepal's trade. The study also found an export multiplier of 10.72. The results of multiple regression analysis demonstrated that imports were explained by income and foreign aid. Furthermore, the study revealed that import was not dependent on previous income but only on current income.

Mahat (2015) did research on the effects of the trade deficit on the Nepalese economy. With an emphasis on the trade deficit, the study sought to assess Nepal's economic performance as well as the effects of foreign trade. Geographical structure, political unpredictability, exchange rates, and remittances were some of the primary factors utilized in order to identify and assess Nepal's trade deficit. The research reveals that Nepal's economic performance is directly impacted by the trade deficit.

Discussions also included Nepal's relationship with its principal economic partner, India, as well as other possible partners like China and Japan. The report also provided data on Nepal's historical trade policies and business environment.

Sharma & Dhungana (2015) conducted a case study on the macroeconomic effects of remittances in Nepal. The study examined the effects of remittance on key macroeconomic indicators from 1991 to 2012, including gross domestic product, consumption, national savings, investment, and imports. The study sought to ascertain the long-term equilibrium relationship between nominal GDP, private consumption, remittances, foreign aid, and foreign direct investment. It also sought to ascertain the relationship between nominal GDP and remittance revenues from tourism.

Dhungle (2017) highlighted the importance of remittances in Nepal's and other developing countries' economic development is The author observes that the amount of money flowing has significantly increased over time, with official remittance inflow in poor nations increasing from US$167 billion in 2005 to US$401 billion in 2012.The author also talks on how migration and deindustrialization have affected Nepal since 1990.

Overall remittance income was four times higher than export revenue and 81 times higher than FDI.Tourism revenue was eight times higher and grants were nine times higher in 2009.Every year, Nepal receives a substantial sum in remittances; in 2012, that amount was US$4793 million. As a result, the economy's foundation progressively changed from simple subsistence farming to remittance. It unquestionably raises household income, which raises the purchasing power of the general populace and the destitute at the bottom of the economic ladder.

During the period of 2000-2012, both remittance and imports in Nepal have been increasing. The inflow of remittance increased significantly at an annual growth rate of 35 percent, where it accounted for 2.03 percent of the GDP in 2000 and 24.96 percent in 2012. As a result, consumption also increased, with nearly 80 percent of remittance being spent on it. The increase in consumption led to a higher demand for goods and services, which could be fulfilled through imports or expanding domestic production. However, Nepal's imports increased by 16.4 percent during the past

decade, while the annual growth rate of exports during the same period remained at 4.7 percent. This trend has resulted in a significant deficit in trade balance.

According to an analysis of the import function, Nepal spends about 50 percent of the additional money it receives from other countries on purchasing products. Nepal should lessen its reliance on imports and promote investment in industries that can help raise domestic production levels in order to boost economic growth. The creation of import substitution industries can help with this. Both strategies are essential to achieve the needed growth in Nepal, which also needs to enhance remittances to raise GDP.

2.2.2 International Context

Dollar (1992) and Edward (1998) concluded that open economies have higher potential for economic growth compared to closed economies. More specifically, Dollar (1992) suggested that the majority of developing nations support an open economy from the standpoint of growth.93 nations were chosen by Edward (1998) to examine the connection between openness and increase in the total factor productivity. While increased imports and exports of products and services result from trade opening, home grown technology is also developed. Thus, open economies expand more quickly than closed ones.

Some studies, however, contest the association between trade openness and economic growth. According to Edwards (1992) and Dollar and Kraay (2004), Rodriguez and Rodrik (1999) believed that the positive relationship between trade openness and economic growth was caused by a dearth of other factors that academics do not take into account. Free trade, in the opinion of Rodriguez and Rodrik, boosts revenue but does not ultimately result in long-term growth.

Sachs and Warner (1995) explored the correlation between trade openness and economic growth in both developing and developed countries. According to Sachs and Warner's research from 1995, emerging nations with open economies grew at a pace of 4.49 percent annually greater than industrialized ones (2.29 percent).Also, they discovered that the closed developing and developed countries had annual growth rates of 0.69 and 0.74, respectively.

Harrison (1996) examined the relationship between trade openness and growth in emerging nations between 1960 and 1987 and discovered that as trade openness rises, economic growth does too, and does so quickly. Furthermore, Spilimbergo (2000) showed that developing nations benefit from trade openness more favourably than industrialized nations do. Trade openness not only enables developing nations to access intermediate and high-tech goods through imports, but also aids in the diffusion of industrialized nations' knowledge and technological advancements.

Frankel and Romer (1999) conducted study on the correlation between trade openness and income. They calculated instrumental variable estimates using measures of a country's geographic component and discovered that trade openness significantly increases income. They argued that rather than the other way around, there is a direct causal relationship between trade openness and economic growth.Alcala, Ciccone, and Dollar, as well as Dollar and Kraay (2004), were questioned by Rodrik (2002) for utilizing actual openness metrics, which can lead to positively skewed estimates. He suggested adopting standard openness metrics.

Rigobon and Rodrik (2004) found that trade openness has a significant negative impact on economic growth using the trade share in GDP as a proxy. As was already established, the relationship between openness and growth is also influenced by how big or small, developed or growing, a country is. The majority of research claimed that increased trade openness promotes economic growth, particularly in emerging nations.

Vamvakidis (2002) examined the relationship between trade openness and growth over a significant time period of 1870–1990.He noted that the favourable relationship between trade openness and growth has been increasingly apparent recently, which can be linked to the significant expansion of international trade that began in the 1970s.The period from 1970 to 1990 revealed a strong beneficial influence of trade openness on economic growth, but earlier eras demonstrated no significant positive link between openness and growth.

Dollar and Kraay's (2004) analyzed the sizable panel sample of nations, opening the economy to foreign trade can greatly boost economic growth. They made use of a trade volume-based openness metric. Similar to the study mentioned above, Lee (2004) looked at the relationship between trade openness and economic growth in a

sample of 100 nations between 1961 and 2000 and discovered a strong and favourable impact of openness on growth.

After examining the effects of trade openness on income levels and the rate of income growth for a sample of 150 countries using the empirical model of Frankel and Romer, Rassekh (2007) came to the conclusion that developing (low-income) countries benefit more from trade openness than developed ones.

Chang (2009) examined the effects of trade openness on economic growth in 82 countries, including 22 developed and 60 developing nations, between 1960 and 2000.The results showed that, in contrast to developed countries, trade openness has a stronger effect on economic growth in developing nations.

Villaverde and Maza (2011), which looked at a sample of 101 nations between 1970 and 2005, also demonstrates that economic globalization for which trade openness is one of the key indicators leads to stronger economic growth and concurrent global income convergence.

More recently, Busse and Koniger (2012) suggested that the definition of trade is critical to the effect of trade in dynamic panel estimations. Eventually, they came to the conclusion that openness has an extremely good impact

Abbas and Raza (2013) carried out a study to investigate the impact of Pakistan's trade deficit on its economy. Gross domestic product, foreign direct investment, and exchange rate were the study's dependent variables, with the trade imbalance acting as an independent variable. The goals were to investigate the relationship between the trade deficit and the exchange rate as well as the relationship between the trade deficit and foreign direct investment. Along with the conventional least square method of multiple regressions, the study included a number of analytical tools, including histograms, scatter matrices, and correlation. The histogram demonstrated that Pakistan's trade volume is characterized by substantial imports and negligible exports. With the exception of trade volume, the scatter plot revealed a positive association between the dependent and independent variables. This indicates that trade volume in trade deficit is positive but statistically significant.

Umer (2014) conducted a study to investigate the relationship between trade openness and economic growth in Pakistan using the autoregressive distributed lag model (ADRL) approach for the period of 1960-2011. Economic growth is positively and noticeably influenced by investments and human capital, according to empirical

studies. Additionally, studies shows that trade restrictions have a negative impact on economic growth over the long term. The purpose of the study is to evaluate the long- and short-term effects of trade openness on economic development in Pakistan using a limits testing approach to co integration. The results showed how important policies for trade liberalization are to accelerating Pakistan's economic expansion.

This study also demonstrates that a rise in both human and physical capital leads to an increase in GDP growth and skilled labour emigration, primarily as a result of unstable low and other scenarios. Openness to trade has been viewed as one of the most important measures for helping developing countries alter the speed, pattern, and structure of their participation in the global market environment. Indeed, there can occasionally be balance of payments problems, but trade openness can solve them. This allows for both the improvement of technology and assistance for economic growth. Trade openness is seen to improve economic performance by encouraging more competition and giving domestic enterprises access to the best foreign technology, both of which are essential for increasing domestic production and producing better financial results.

2.3 Research Gap

The majority of previous studies has concentrated on the connection between foreign trade and economic growth but has not analyzed the association between GDP, import, export, and capital expenditure using modern methods and data. Additionally, no research has been conducted on this topic in Nepal after the onset of the Covid 19 pandemic. Although some studies have been carried out on foreign trade and economic growth in Nepal, no research has analyzed data over a period exceeding 25 years. Therefore, this study aims to use the Angle Ganger Test to investigate the relationship between Nepalese import, export, capital expenditure, and GDP.

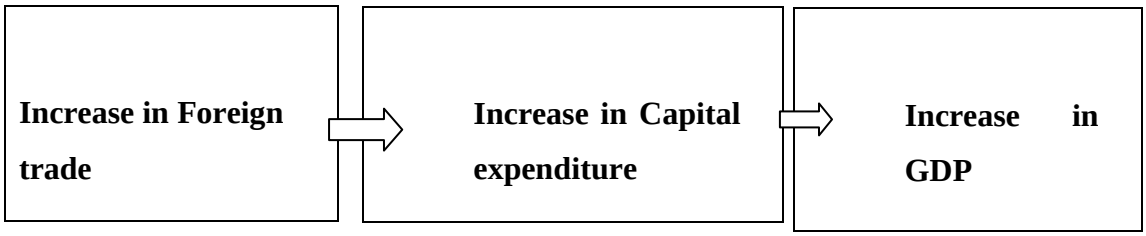
CHAPTER 3

RESEARCH METHODOLOGY

The research methodology refers to the procedures and techniques used to select, process, and analyze information related to the research topic. This chapter provides an explanation of the various tools and methods employed in this study, including the Conceptual Framework, research design and sample period, sources of data, model specification, and data analysis techniques.

3.1 Conceptual Framework

The conceptual framework outlines the relationship between variables in the study. It identifies the independent and dependent variables. In this study, the independent variables are import, export, and capital expenditure, while the dependent variable is GDP.



In the above chart, there are three boxes; box one shows the increase of foreign trade and When foreign trade increases, it results in an increase in capital expenditure. This increase in capital expenditure, in turn, leads to a rise in GDP. These relationships can be explained as follows:

Foreign trade and capital expenditure are related in that foreign trade can impact a country's capital expenditure and vice versa.

First, when a country engages in trade, it may need to invest in capital assets to support that trade. For example, a government that exports goods may need to invest in new equipment to increase production capacity, or a port may need to invest in infrastructure to handle increased shipping volume.

On the other hand, capital expenditure can also impact foreign trade. For example, a country that invests heavily in its infrastructure may be able to attract more foreign

investment and trade by creating a more efficient and attractive environment for businesses to operate in. Overall, foreign trade and capital expenditure are interdependent, and changes in one can have significant impacts on the other.

Capital expenditure and GDP are related in that capital expenditure can impact a country's GDP and vice versa.

When businesses and governments invest in capital assets, they can increase their production capacity, efficiency, and competitiveness, which can lead to increased economic growth and a higher GDP.

On the other hand, changes in GDP can also impact capital expenditure. When the economy is growing and there is demand for goods and services, businesses may be more willing to invest in capital assets to meet that demand. Conversely, when the economy is in a recession or experiencing a slowdown, businesses may cut back on capital expenditure to conserve cash and reduce risk

Overall, capital expenditure and GDP are interdependent, and changes in one can have significant impacts on the other.

3.2 Research Design

Sellitz, C.L., Writsman, and S.W. Cook (1976) define research design as a systematic arrangement of conditions and analysis of data for a study, with the main purpose of combining relevant factors and conditions to the research aims and objectives in a procedure. Research methodology, on the other hand, is more focused on quantifying data through numerical expression and causal relationships between variables. It is related to deductive theory, where observations depart from existing theory, positivism theory, where it adapts the process used in natural sciences to test the validity of a theory, and the social reality that the observed phenomenon is an external factor for the observer. Bryman, A. & Bell (2003) state that research design can be descriptive or analytical and this study focuses on both. Specifically, it examines the relationship between import and export trade and economic growth, with the research seeking to answer questions such as whether there is a meaningful relationship between imports, exports, and economic growth, the nature of such a relationship, and whether it is significant. The study employs linear and quadratic trends and classical ordinary least squares method to estimate the results.

3.3 Sample Period

The study utilizes 31 observations of annual data on various variables, ranging from FY 1990/91 to 2020/21. FY 1990/91 is represented as 1991, and subsequent years are symbolized accordingly. It is assumed that the government of Nepal has formally adopted a liberalization policy and restored democracy in the country.

3.4 Method of Data Collection

The study gathers the necessary data and information from a variety of sources, including the Nepal Rastra Bank (NRB), published reports such the quarterly Economic Bulletin (QEB), and the present macroeconomic and financial position, which are based on annual data sets. Through a sampling of statistical data, primarily on Nepali exports and imports, the information about Nepal's foreign commerce is gathered.

The study uses a sample strategy for data collection, categorization, tabulation, and interpretation and only collects the information that is required.The study takes into account data from 1990/91 to 2020/21 in order to gain a thorough understanding of Nepalese international trade behavior and its significance in both short- and long-term national development. Most of this data is collected from sources such as the NRB, Central Bureau of Statistics (CBS), and Ministry of Finance (MOF).

3.5 Sources of Data

The majority of the data used in this study comes from secondary sources. A variety of journal articles, working papers, study reports, case studies, books, other publications by various national and international institutions and scholars, as well as unpublished theses and dissertations, are among the sources used to gather information on theoretical and empirical concepts. The information used in this study was gathered from a variety of sources, including the World Bank Development Indicators, the National Accounts of Nepal issued by the CBS, Economic Survey Reports by the Ministry of Finance, and the quarterly Economic Bulletin published by the NRB.

3.6 Model Specification

The study considers the following model to examine the impact of foreign trade on Nepal's GDP, based on the theoretical, literature, and methodology of previous empirical studies.

$GDP_t = \alpha + \beta_1 RIMP_t + \beta_2 REX_t + \beta_3 RCE_t$

Where,

RGDP = Real Gross Domestics Product

RIMP = Real Import

REXP =Real Export

RCE = Real Capital Expenditure

3.6.1 Stationary Test

The stationary test, which shows if a time series data set can provide both short-term and long-term information, is a crucial attribute. Statistical features like mean, variance, and covariance that don't change over time are known as stationary time series. Regression models applied to non-stationary data may yield misleading relationships that lead to unreliable results from hypothesis tests. In order to prevent a fictitious relationship, it is essential to determine whether a time series is stationary or not. Static tests can be carried out using a variety of techniques, such as graphical analysis, the correlation test, and the unit root test. The unit root test will be utilized in

this study, nevertheless.(Bhusal,2018) There are several methods available for the unit root test, and this study will use the following test:

Engle Granger Test

The Engle-Granger test is used to examine whether or not there is a common trend between the variables. Regressing Yt on Xt creates a residual series in the first step. The residual series' stationary or non-stationary status is assessed in the second phase using a unit root test. The variables Yt and Xt are said to be co-integrated if the residual series is stationary, and an error correction model is generated to track the short-run behavior of the variables.

3.7 Data Analysis Technique

The study analyzes the data using descriptive statistical methods including mean, standard deviation, and variance. Tables, graphs, pie charts, and written explanations are used to present the results. Rather than calculating linear and quadratic trends, the time series trend is shown by showing the data in level form. Also, to assess annual gains or declines, the study examines ratios and growth rates of the various variables. Each model's variables were converted into natural logarithms and used to examine the data. In the summary statistics, the transformed variable's fundamental features are shown, including its mean, standard deviation, shape (skewness and kurtosis), variability, and normalcy (Jarque-Bera). In order to ascertain the relationship between the dependent variable and each explanatory variable for each model, a correlation matrix of the estimating variables has also been computed. Coefficient of determination is the proportion of overall variation in the dependent variable (RGDP).Regression line explains this. The predicted regression line's fit to the sample observations of the RGDP and RIMP, RCE, and REXP provides an explanation through the coefficient of multiple determinations. As a result, it is the measurement of the observational dispersion around the regression line.

CHAPTER 4

DATA ANALYSIS AND PRESENTATION

This chapter provides an analysis of the trends and patterns observed in foreign trade, imports, exports, capital expenditure, and GDP in Nepal. The study also employs the Engel Granger Test approach to examine the relationship between the dependent and independent variables and test for long-run co-integration between the variables.

4.1 Trend of Nepalese Foreign Trade

Nepal's foreign trade has been expanding over the years as indicated by export plus import as percentage of GDP.For example: the total foreign trade to GDP ratio was 32.5 percentages in 2069/70 which increased to 44.1 percentages in 2078/79.This indicates the growing foreign trade and its dependency of Nepal.

The export to GDP ratio is more or less stagnant and below 5 percent during the decade. For example export to GDP ratio was 3.9 percent in 2069 /70 which decline to 2.4 percent in 2074/75 and estimated to be increased 4.6 percent in 2078/79. This indicates the poor performance of export sector and the effort made to promote export are not functioning well.

The import to GDP ratio ratio is much higher and increasing over the years .The import to GDP ratio was 28.6 percent in 2069/70 in which increased to 39.5 percent in 2078/79.This indicates Nepal's economy is gradual converting in import base economy.

The trade deficit has been a major challenge to the Nepalese economy due to poor performance of export and rapidly increasing import. Such trade deficit was 24.6 percent in 2069/70 and it increased to 34.9 percentages in 2078/79. This indicates an increasing threat for foreign exchange management and macroeconomic stability of the country.

Nepal's trade is poorly diversified in terms of export. Both destination and exportable products are limited .For example more than 60 percent of Nepal's export is with India and other major the exportable items have remain more or less same for the year except doubtful products. This indicates the weak results of trade diversification and

promotion through the membership of multilateral arrangements such as WTO, Regional arrangements such as SAGFTA, BIMSTEC and Bilateral Trade Agreement.

Nepal exports primary and low value added products and imports high value added manufacturing products, expensive technology to the products related daily activities of the common people. This has created unequal exchange from international trade and the term of trade is weakling.

Due to the free and open boarder with India a substantial proportion of trade between Nepal and India is informal. It is estimated that such informal trade is more than one third of the formal trade. This has the implication in revenue mobilization and forex management.

Import has become the major source of government revenue, the taxes related to import such as custom duty, excise duty and VAT on imports consists of almost half of the total tax revenue. This indicates the import base revenue policy of Nepal.

4.2 Trend and Growth Rates of Import

Import refers to the goods and services that are brought into a country from another country. It is a critical aspect of international trade. Importing becomes necessary when the domestic industries are unable to produce similar goods and services at competitive prices. The table below depicts the growth rate trend line of imports and the import to GDP ratio.

Table 1

Trend of growth rate of import from 1991 to 2021 in (Rs.Million)

Year	Import	RGDP	Imp to GDP	Growth Rates
1990/91	23,226.5	666508	0.03484806	-
1991/92	31,940.0	693888	0.04603046	37.52
1992/93	39,205.6	720581	0.05440835	22.75
1993/94	51,570.8	779807	0.06613279	31.54
1994/95	63,679.5	806854	0.0789232	23.48
1995/96	74,454.5	849921	0.0876017	16.92
1996/97	93,553.4	894635	0.10457161	25.65
1997/98	89,002.0	920956	0.09664092	-4.87

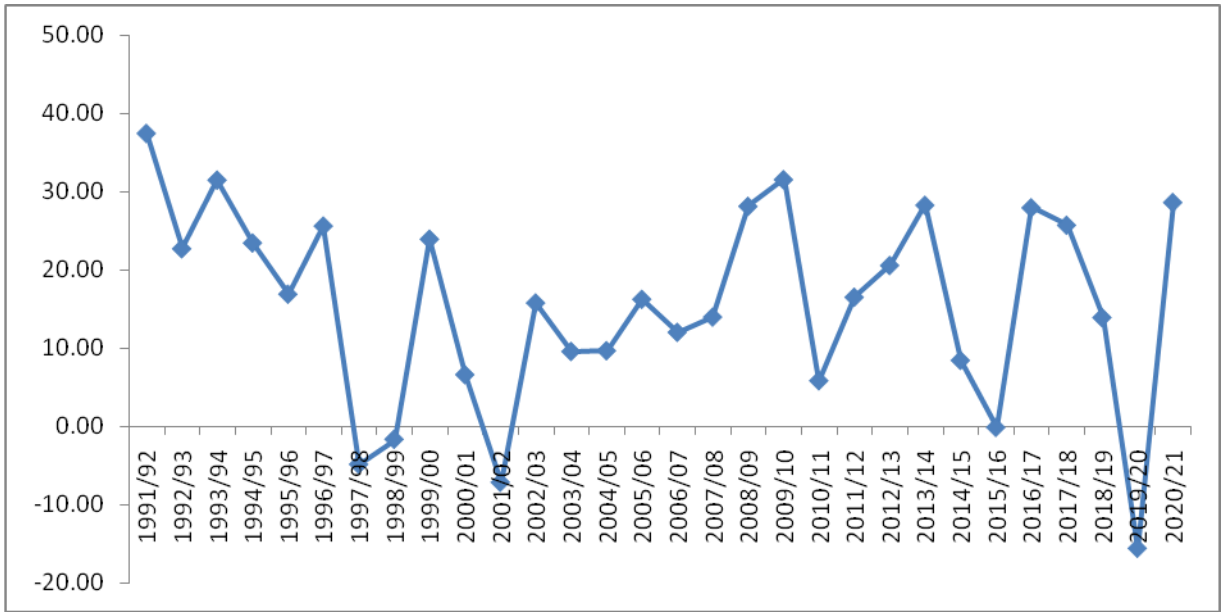
1998/99	87,525.3	962249	0.09095912	-1.66
1999/00	108,504.9	1021095	0.10626326	23.97
2000/01	115,687.2	1078567	0.10726011	6.62
2001/02	107,389.0	1079863	0.0994469	-7.17
2002/03	124,352.1	1122465	0.11078488	15.80
2003/04	136,277.1	1175025	0.11597804	9.59
2004/05	149,473.6	1215905	0.12293193	9.68
2005/06	173,780.3	1256815	0.13827037	16.26
2006/07	194,694.6	1299693	0.1498004	12.03
2007/08	221,937.7	1379034	0.16093703	13.99
2008/09	284,469.6	1441548	0.19733621	28.18
2009/10	374,335.2	1510979	0.24774354	31.59
2010/11	396,175.5	1559223	0.25408523	5.83
2011/12	461,667.7	1632040	0.2828776	16.53
2012/13	556,740.3	1689572	0.32951549	20.59
2013/14	714,365.8	1791141	0.39883287	28.31
2014/15	774,684.2	1862357	0.41596966	8.44
2015/16	773,599.1	1870424	0.41359569	-0.14
2016/17	990,113.2	2038337	0.48574565	27.99
2017/18	1,245,103.2	2193706	0.56757969	25.75
2018/19	1,418,535.3	2339743	0.60627835	13.93
2019/20	1,196,799.1	2284300	0.52392384	-15.63
2020/21	1,539,837.1	2381313	0.64663376	28.66
Average	**406,860.63**	**1,371,565.89**	**0.23**	**15.74**

Sources: NRB (2021) Current Macroeconomic Situation

Table 1 shows the trend of growth rate of import of Nepalese economy. The growth rate of import was percent in 37.52 FY 1991/92 and 28.66 percent in FY 2020/21.The average growth rate of import is 15.74 percent. The maximum growth rate is 37.52 percent in FY 1990/91 and minimum growth rate is -15.63 percent in FY 2019/20. Similarly, the import to GDP ratio was 0.035 percent in FY 1990/91 and average ratio is0.23 percent during the study period.

Figure 1

Trend line of growth rate of import from 1991 to 2021



Based on the Table 1, Figure 1 presents the trend line of growth rate if import from 1991 to 2021.It shows ups and down during study period .The growth rate of import were negative in FY 2001/02 due to political instability (Moist armed conflict), in FY 2015/16 due to blocked and earthquake and in FY 2019/20 due to global pandemic Covid-19.

4.3 Trend and Growth Rates of Export

Export refers to the act of selling goods and services produced within a country to another country. It involves shipping goods and services out of a country's borders to be sold in foreign markets. Exports are a crucial component of a country's economy, as they generate revenue and create employment opportunities. The types of goods and services exported vary depending on a country's resources, industries, and strengths. The following table shows the trend line of growth rates of export and ratio of export to GDP.

Table 2

Trend of export of Nepal from 1991 to 2021 in (Million)

Year	Export	RGDP	Exp to GDP	Growth Rates
1990/91	7,387.5	666508	0.011	-
1991/92	13,706.5	693888	0.020	85.54
1992/93	17,266.5	720581	0.024	25.97
1993/94	19,293.4	779807	0.025	11.74
1994/95	17,639.2	806854	0.022	-8.57
1995/96	19,881.1	849921	0.023	12.71
1996/97	22,636.5	894635	0.025	13.86
1997/98	27,513.5	920956	0.030	21.54
1998/99	35,676.3	962249	0.037	29.67
1999/00	49,822.7	1021095	0.049	39.65
2000/01	55,654.1	1078567	0.052	11.70
2001/02	46,944.8	1079863	0.043	-15.65
2002/03	49,930.6	1122465	0.044	6.36
2003/04	53,910.7	1175025	0.046	7.97
2004/05	58,705.7	1215905	0.048	8.89
2005/06	60,234.1	1256815	0.048	2.60
2006/07	59,383.1	1299693	0.046	-1.41
2007/08	59,266.5	1379034	0.043	-0.20
2008/09	67,697.5	1441548	0.047	14.23
2009/10	60,824.0	1510979	0.040	-10.15
2010/11	64,338.5	1559223	0.041	5.78
2011/12	74,261.0	1632040	0.046	15.42
2012/13	76,917.1	1689572	0.046	3.58
2013/14	91,991.4	1791141	0.051	19.60
2014/15	85,319.1	1862357	0.046	-7.25
2015/16	70,117.1	1870424	0.037	-17.82
2016/17	73,049.1	2038337	0.036	4.18
2017/18	81,359.8	2193706	0.037	11.38
2018/19	97,109.5	2339743	0.042	19.36

2019/20	97,709.1	2284300	0.043	0.62
2020/21	141,124.1	2381313	0.059	44.43
Average	**56,666.8**	**1,371,565.9**	**0.011**	**11.9**

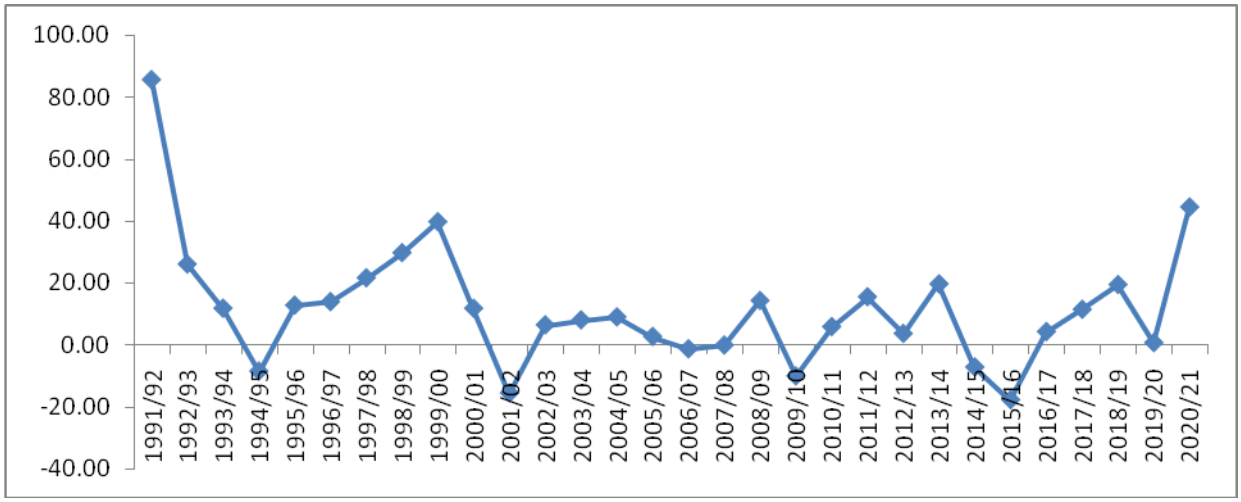
Sources: NRB (2021) Current Macroeconomic Situation

Table 2 shows the trend of growth rate of Export of Nepalese economy. The growth rate of export was percent in 85.54 percent in FY 1991/92 and 44.4 percent in FY 2020/21.The average growth rate of export is 11.9 percent. The maximum growth rate is 85.54 percent in FY 1990/91 and minimum growth rate is -17.18 percent in FY 2015/16.

Similarly, the export to GDP ratio was 0.011 percent in FY 1990/91 and average ratio is 0.03 percent during the study period.

Figure 2

Trend line of growth rate of export from 1991 to 2021



Based on the table 2, Figure 2 presents the trend line of growth rate of export from 1991 to 2021.It shows ups and down during study period .The growth rate of export were negative in FY 2001/02 due to political instability (Moist armed conflict), in FY 2015/16 due to blocked and earthquake and in FY 2019/20 due to global pandemic Covid- 19.

4.4 Trend and Growth Rates of Capital Expenditure

Capital expenditure refers to the funds invested by the government in various developmental projects such as infrastructure, machinery, equipment, buildings, health facilities, and education. It also includes expenses incurred on acquiring fixed assets, such as land, and investments made by the government that are expected to generate profits or dividends in the future. The following table shows the trend line of growth rates of capital expenditure and ratio of capital expenditure to GDP.

Table 3

Trend of capital expenditure of Nepal from 1991 to 2021 in (Million)

Year	Capital Expenditure	RGDP	CE to GDP	Growth Rate
1990/91	15,979.5	666508	0.02	-
1991/92	16,512.8	693888	0.02	3.34
1992/93	19,413.6	720581	0.03	17.57
1993/94	21,188.2	779807	0.03	9.14
1994/95	19,794.9	806854	0.02	-6.58
1995/96	24,980.5	849921	0.03	26.20
1996/97	26,542.6	894635	0.03	6.25
1997/98	28,943.9	920956	0.03	9.05
1998/99	22,992.1	962249	0.02	-20.56
1999/00	25,480.7	1021095	0.02	10.82
2000/01	28,307.2	1078567	0.03	11.09
2001/02	24,773.4	1079863	0.02	-12.48
2002/03	22,356.1	1122465	0.02	-9.76
2003/04	23,095.6	1175025	0.02	3.31
2004/05	27,340.8	1215905	0.02	18.38
2005/06	29,606.6	1256815	0.02	8.29
2006/07	39,729.9	1299693	0.03	34.19
2007/08	53,516.1	1379034	0.04	34.70
2008/09	73088.9	1441548	0.05	36.57
2009/10	40509.8	1510979	0.03	-44.57

2010/11	47327.7	1559223	0.03	16.83
2011/12	51390.7	1632040	0.03	8.58
2012/13	54598.4	1689572	0.03	6.24
2013/14	66694.7	1791141	0.04	22.16
2014/15	88754.7	1862357	0.05	33.08
2015/16	122350.4	1870424	0.07	37.85
2016/17	208749.4	2038337	0.10	70.62
2017/18	270713.7	2193706	0.12	29.68
2018/19	241562.5	2339743	0.10	-10.77
2019/20	189140.1	2284300	0.08	-21.70
2020/21	228836.1	2381313	0.10	20.99
Average	**69,492.6**	**1,371,565.9**	**0.042**	**11.6**

Sources: NRB (2021) Current Macroeconomic Situation

Table 3 shows the trend of growth rate of Capital expenditure. The growth rate of capital expenditure was 3.34 percent in FY 1991/92 and 20.99 percent in FY 2020/21.The average growth rate of capital expenditure is 11.6 percent. The maximum growth rate is 70.62 percent in FY 2016/17 and minimum growth rate is -44.57 percent in FY 2009/10.

Similarly, the capital expenditure to GDP ratio was 0.02 percent in FY 1990/91 and average ratio is 0.042 percent during the study period.

Figure3

Trend line of growth rate of capital expenditure from 1991 to 2021

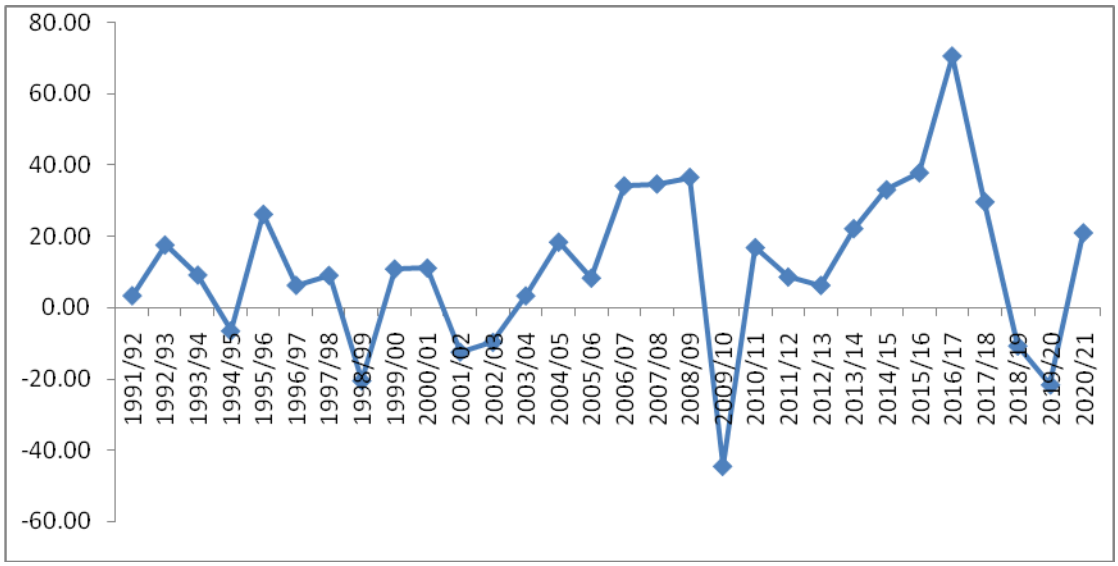


Figure 3 shows the trend line of growth rate of capital expenditure during the study period. The trend line of growth rate is ups and down during the study period. The maximum growth rate was in FY 2016/17 due to post earthquake reconstruction and minimum growth rate was negative in FY 2009/10 due to the effect of global financial crisis.

4.4 Trend and Growth Rates of Gross Domestic Product

Gross Domestic Product (GDP) is the total monetary value, or market value, of all finished goods and services produced inside a nation's borders over a certain time period. It provides a country's economic overview and is used to calculate the size and growth rate of the nation's economy. Three approaches :the expenditure approach, the production approach, and the income approach can be used to determine GDP.Real GDP and Nominal GDP are additional categories for GDP.Even if GDP has obvious limits, it continues to be a vital instrument for decision-making among investors, corporations, and policymakers. The trend line of GDP growth rates is displayed in the table below.

Table 4

Trend of GDP of Nepal from 1991 to 2021 in (Million)

Year	GDP (in Millions)	Growth Rate
1990/91	666508	-
1991/92	693888	4.11
1992/93	720581	3.85
1993/94	779807	8.22
1994/95	806854	3.47
1995/96	849921	5.34
1996/97	894635	5.26
1997/98	920956	2.94
1998/99	962249	4.48
1999/00	1021095	6.12
2000/01	1078567	5.63
2001/02	1079863	0.12
2002/03	1122465	3.95
2003/04	1175025	4.68
2004/05	1215905	3.48
2005/06	1256815	3.36
2006/07	1299693	3.41
2007/08	1379034	6.10
2008/09	1441548	4.53
2009/10	1510979	4.82
2010/11	1559223	3.19
2011/12	1632040	4.67
2012/13	1689572	3.53
2013/14	1791141	6.01
2014/15	1862357	3.98
2015/16	1870424	0.43
2016/17	2038337	8.98
2017/18	2193706	7.62
2018/19	2339743	6.66

2019/20	2284300	-2.37
2020/21	2381313	4.25
Average	**1371566**	**4**

Sources: NRB (2021) Current Macroeconomic Situation

Table 4 shows the trend of growth rate of GDP. The growth rate of GDP was 4.11 percent in FY 1991/92 and 4.25 percent in FY 2020/21.The average growth rate of GDP is 4 percent. The maximum growth rate is 8.98 percent in FY 2016/17 and minimum growth rate is -2.37 percent in FY 2019/20.

Figure 4

Trend line of growth rate of GDP from 1991 to 2021

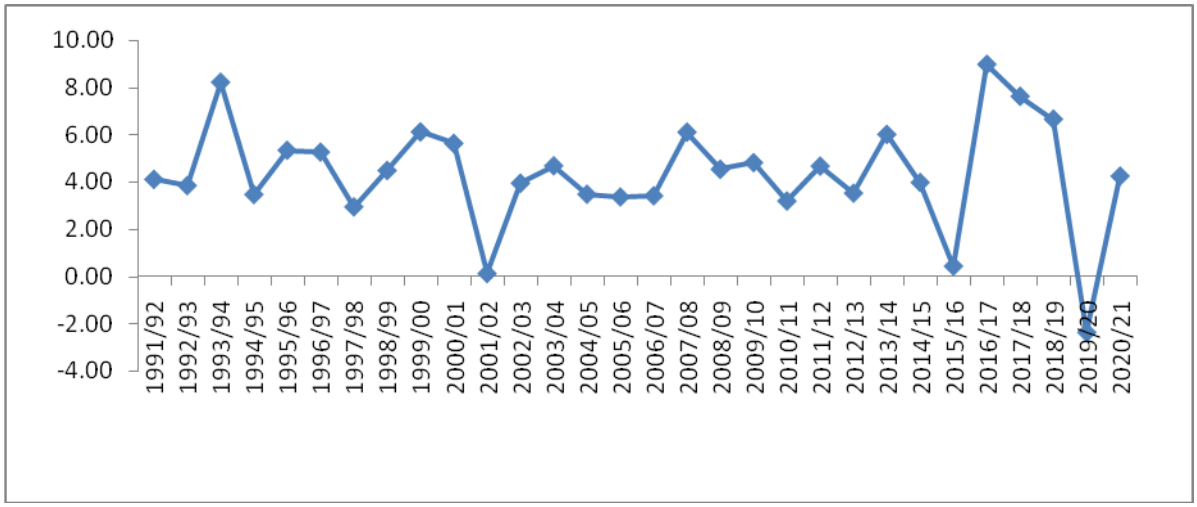


Figure 4 shows the trend line of growth rate of GDP during the study period. The trend line of growth rate is ups and down during the study period. The maximum growth rate was in FY 2016/17 due to post earthquake reconstruction and minimum growth rate was negative in FY 2019/20 due to global pandemic Covid 19 and Locked down effect.

4.5 Summary Statistics

Summary statistics are used to describe the distribution of a dataset and include measures such as mean, median, maximum, minimum, standard deviation, skewness,

and kurtosis. In this study, there were 31 observations. The positive values of kurtosis for all variables indicate that the frequency curves of these variables are peaked. Additionally, the positive values of skewness suggest that the variables are positively skewed. The JB statistics reveal that individual variables are heterogeneous, with some being normal and others not normal. Overall, the summary statistics suggest that the variables share certain characteristics. It's important to note that the summary statistics were calculated in the arithmetic scale.

Table 5

Summery Statistics

	RGDP	**IPM**	**EX**	**CAE**
Mean	1371566.	406860.6	56666.78	69492.63
Median	1256815.	173780.3	59266.50	29606.60
Maximum	2381313.	1539837.	141124.1	270713.7
Minimum	666508.0	23226.50	7387.500	15979.50
Std. Dev.	521577.3	449992.6	30151.21	75142.83
Skewness	0.493890	1.248562	0.428173	1.612879
Kurtosis	2.106964	3.290845	3.312086	4.133620
Jarque-Bera	2.290414	8.163610	1.073023	15.10037
Probability	0.318158	0.016877	0.584785	0.000526
Sum	42518544	12612679	1756670.	2154272.
Sum Sq. Dev.	8.16E+12	6.07E+12	2.73E+10	1.69E+11
Observations	31	31	31	31

Source:Self Calculation Eview's

4.6 Correlation Analysis

The correlation coefficient shows the degree and directional relationship between variables. Value of partial correlation lies between +1 to -1. Correlation coefficient +1 indicates the high degree of correlation and -1 indicates higher and negative correlation between variables. Table 4.6 shows the correlation.

Table 6

Correlation Matrix

Variables	RGDP	RIM	REX	RCE
RGDP	1.000000	0.979999	-0.026822	0.625157
RIM	0.979999	1.000000	-0.131368	0.706486
REX	-0.026822	-0.131368	1.000000	-0.423015
RCE	0.625157	0.706486	-0.423015	1.000000

Source: self calculation Eviews

The Table 4.6 shows the correlation between GDP and other independent variables (import, export, capital expenditure) and their level of significance. The correlation coefficient between RGDP and real import is 0.977 which the positive and higher degree of correlation between two variables. The correlation coefficient between RGDP and real export is -0.0268 which shows negative lower degree of correlation between two variables. The correlation coefficient between RGDP and real capital expenditure is 0.62 which shows the positive and moderate degree of correlation between two variables.

4.7 Regression Analysis

Regression analysis shows the effect of independent variable on dependent variables. In given study RGDP is the dependent variable and real import, real export and real capital expenditure are independent variables. The regression results are presented as bellow:

4.7.1 Unit Root Results

Individual time series date must be stationary before running regression analysis. Otherwise the regression results will be spurious. Therefore, it is better to determine the order of integration of the variable under the study. If data is not stationary at level I(0), generally it becomes stationary after first order I(1) and secondary I(2).If the variable are stationary, we can do further econometric analysis.therefore,further analysis, we conduct the unit root test.

Table 7

Unit Root Results

	Level		1st Difference	
Variables	**C**	**C & T**	**C**	**C &T**
RGDP	1	1	0.9964	0.0005
RIM	1	1	0.9714	0.0001
REX	0.169	0.4497	0.0071	0.0368
RCE	0.6591	0.6714	0.0014	0.0042

Source: self calculation Eviews

The Table 4.7.1 shows unit root results where C indicates intercept and C & T indicates the intercept and trend. In the above table, the mentioned all of variables are found stationary at first difference I (1).

4.7.2 Engle and Granger Test

The Engle Granger test is a statistical test used to determine whether a common trend exists between two variables. The test involves two steps. In the first step, the variable Yt is regressed on variable Xt to generate a residual series. In the second step, a unit root test is applied to check whether the residual series is stationary or not. If the residual series is stationary, it indicates that the variables Yt and Xt are co-integrated, and an error correction model is estimated to observe the behavior of the variables in the short run. The error correction model is used to explain how the variables adjust to their long-run equilibrium after a short-term shock or deviation from the equilibrium occurs.

Table 8

Engle and Granger Test table

Dependent Variable: GDP

Method: Least Squares

Date: 02/25/23 Time: 16:37

Sample: 1990 2021

Included observations: 32

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RIM	1.903110	0.081262	23.41955	0.0000
REX	1.452140	0.674946	2.151491	0.0402
RCE	-1.055753	0.612519	-1.723625	0.0958
C	396692.3	89971.43	4.409092	0.0001
R-squared	0.973752	Mean dependent var		1348286.
Adjusted R-squared	0.970940	S.D. dependent var		529726.0
S.E. of regression	90302.89	Akaike info criterion		25.77620
Sum squared resid	2.28E+11	Schwarz criterion		25.95941
Log likelihood	-408.4191	Hannan-Quinn criter.		25.83693
F-statistic	346.2485	Durbin-Watson stat		1.721425
Prob(F-statistic)	**0.000000**			

Source: self calculation Eview's

The Table 4.7.2 shows Engle and Granger Test table. R^2 measures goodness of fit on regression line. The value of R^2 is 0.9737 indicates that the dependent variable RGDP is explained 97 percent by independent variables import, export and capital expenditure which is very high at standard. The value of adjusted R^2 is 0.9709 suggested more than 97 percent variations in dependent variable is explained by the independent variables.

The value of D-W test is 1.72 this implies that there is no autocorrelation in model. Moreover, the value of D-W test (1.72) is greater than the value of $R^{2\,(0.97)}$) according to rule of thumb. It implies there is no autocorrelation in model and the overall prob. Value is 0.00 and t which in indicates that there is significant in the model.

4.7.3 Unit Root Test of Residual

Table 9

Unit Root Test of Residual Table

Null Hypothesis: ECT has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.660374	0.0008
Test critical values:	1% level	-3.661661	
	5% level	-2.960411	
	10% level	-2.619160	

*MacKinnon (1996) one-sided p-values.

Source: self calculation Eview's

The results in Table 4.7.3 the unit root test of residual value is 0.0008 shows that the residual series is stationary at the 5 percent level of significance. This confirms the existence of long run Co integration in model.

CHAPTER 5

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This final chapter of the thesis presents an overview of the overall results and findings of the survey and analysis conducted, along with potential solutions to any identified hurdles or obstacles. It aims to provide a comprehensive and conclusive summary of the research work and to offer practical recommendations for addressing any issues or challenges uncovered during the study.

5.1 Findings

Nepal is a developing country with a high degree of trade openness, and historically, imports have dominated exports. Given the country's status as a developing nation, foreign trade plays a significant role in achieving national development goals and supporting economic growth, particularly in meeting the rapidly growing import needs. This study aims to investigate the effect of foreign trade on Nepal's GDP. The major findings of this study are outlined below:

The growth rate of import was percent in 37.52 FY 1991/92 and 28.66 percent in FY 2020/21.The average growth rate of import is 15.74 percent. The maximum growth rate is 37.52 percent in FY 1990/91 and minimum growth rate is -15.63 percent in FY 2019/20.

Similarly, the import to GDP ratio was 0.035 percent in FY 1990/91 and average ratio is0.23 percent during the study period.

The growth rate of export was percent in 85.54 percent in FY 1991/92 and 44.4 percent in FY 2020/21.The average growth rate of export is 11.9 percent. The maximum growth rate is 85.54 percent in FY 1990/91 and minimum growth rate is -17.18 percent in FY 2015/16.

Similarly, the export to GDP ratio was 0.011 percent in FY 1990/91 and average ratio is 0.03 percent during the study period.

The growth rate of capital expenditure was 3.34 percent in FY 1991/92 and 20.99 percent in FY 2020/21.The average growth rate of capital expenditure is 11.6 percent.

The maximum growth rate is 70.62 percent in FY 2016/17 and minimum growth rate is -44.57 percent in FY 2009/10.

Similarly, the capital expenditure to GDP ratio was 0.02 percent in FY 1990/91 and average ratio is 0.042 percent during the study period.

The growth rate of GDP was 4.11 percent in FY 1991/92 and 4.25 percent in FY 2020/21.The average growth rate of GDP is 4 percent. The maximum growth rate is 8.98 percent in FY 2016/17 and minimum growth rate is -2.37 percent in FY 2019/20.

The correlation coefficient between RGDP and real import is 0.977 which the positive and higher degree of correlation between two variables. The correlation coefficient between RGDP and real export is -0.0268 which shows negative lower degree of correlation between two variables. The correlation coefficient between RGDP and real capital expenditure is 0.62 which shows the positive and moderate degree of correlation between two variables.

R^2 measures goodness of fit on regression line. The value of R^2 is 0.9737 indicates that the dependent variable RGDP is explained 97 percent by independent variables import, export and capital expenditure which is very high at standard. The value of adjusted R^2 is 0.9709 suggested more than 97 percent variations in dependent variable is explained by the independent variables.

The value of D-W test is 1.72 this implies that there is no autocorrelation in model. Moreover, the value of D-W test (1.72) is greater than the value of R2 (0.97) according to rule of thumb. It implies there is no autocorrelation in model and the overall prob. Value is 0.00 and t which in indicates that there is significant in the model.

5.2 Conclusions

The study investigated the linkage between GDP with import, export and capital expenditure. The objective of this study was to study growth trend of foreign trade and capital expenditure and to examine the relationship between import, export, capital expenditure and GDP growth in Nepal. For this purpose, the empirical analysis was based on data for the period of 1990/91 to 2020/21.Unit Root test was performed to check the stationary for the variables. The Engle Granger model was employed to analyze the long run relationship.

The study shows that the effect of RGDP on RIM and RCE is positive while the effect of RGDP on REX is negative.However the RGDP growth is low and unstable in Nepal. The growth rates of real imports are higher than the growth rates of real export, the analysis suggest that Nepal is import dominated economy having low and volatile GDP growth. The trade deficit has been a major challenge to the Nepalese economy due to poor performance of export and rapidly increasing import. Nepal's trade is poorly diversified in terms of export.

Due to the free and open boarder with India a substantial proportion of trade between Nepal and India is informal. It is estimated that such informal trade is more than one third of the formal trade. This has the implication in revenue mobilization and forex management.

Finally, the export of goods and service depends on the income level of foreign people. It cannot be controlled by domestic policies and imports of goods and services of an economy depend on income level of domestic people, so government should emphasize policies regarding import substitution rather than the export promotion.

5.1 Recommendation

Based on the descriptive and empirical findings and conclusions of this study, the following policy recommendations can be made:

i. The government and policy makers should pursue the policies that will promote production
ii. Due to the low and unstable GDP growth rate, it is important for the government to prioritize policy improvements.
iii. The findings suggest that Nepal's economy is heavily reliant on imports, and implementing import substitution policies could help address this issue. It is recommended that basic goods be produced domestically to decrease the need for imports in a sustainable manner.
iv. Export competiveness is too weak for Nepal economy. Therefore, trade as well as production policies should be linked to export promotion.

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APPENDIXES

Table 1

Trend of growth rate of import from 1991 to 2021 in (Rs.Million)

Year	Import	RGDP	Imp to GDP	Growth Rates
1990/91	23,226.5	666508	0.03484806	
1991/92	31,940.0	693888	0.04603046	37.52
1992/93	39,205.6	720581	0.05440835	22.75
1993/94	51,570.8	779807	0.06613279	31.54
1994/95	63,679.5	806854	0.0789232	23.48
1995/96	74,454.5	849921	0.0876017	16.92
1996/97	93,553.4	894635	0.10457161	25.65
1997/98	89,002.0	920956	0.09664092	-4.87
1998/99	87,525.3	962249	0.09095912	-1.66
1999/00	108,504.9	1021095	0.10626326	23.97
2000/01	115,687.2	1078567	0.10726011	6.62
2001/02	107,389.0	1079863	0.0994469	-7.17
2002/03	124,352.1	1122465	0.11078488	15.80
2003/04	136,277.1	1175025	0.11597804	9.59
2004/05	149,473.6	1215905	0.12293193	9.68
2005/06	173,780.3	1256815	0.13827037	16.26
2006/07	194,694.6	1299693	0.1498004	12.03
2007/08	221,937.7	1379034	0.16093703	13.99
2008/09	284,469.6	1441548	0.19733621	28.18
2009/10	374,335.2	1510979	0.24774354	31.59
2010/11	396,175.5	1559223	0.25408523	5.83
2011/12	461,667.7	1632040	0.2828776	16.53
2012/13	556,740.3	1689572	0.32951549	20.59
2013/14	714,365.8	1791141	0.39883287	28.31
2014/15	774,684.2	1862357	0.41596966	8.44
2015/16	773,599.1	1870424	0.41359569	-0.14

2016/17	990,113.2	2038337	0.48574565	27.99
2017/18	1,245,103.2	2193706	0.56757969	25.75
2018/19	1,418,535.3	2339743	0.60627835	13.93
2019/20	1,196,799.1	2284300	0.52392384	-15.63
2020/21	1,539,837.1	2381313	0.64663376	28.66
Average	406,860.63	1,371,565.89	0.23	15.74

Sources: NRB (2021) Current Macroeconomic Situation

Table 2

Trend of export of Nepal from 1991 to 2021 in (Million)

Year	Exports	RGDP	Exp to GDP	Growth Rates
1990/91	7,387.5	666508	0.011	
1991/92	13,706.5	693888	0.020	85.54
1992/93	17,266.5	720581	0.024	25.97
1993/94	19,293.4	779807	0.025	11.74
1994/95	17,639.2	806854	0.022	-8.57
1995/96	19,881.1	849921	0.023	12.71
1996/97	22,636.5	894635	0.025	13.86
1997/98	27,513.5	920956	0.030	21.54
1998/99	35,676.3	962249	0.037	29.67
1999/00	49,822.7	1021095	0.049	39.65
2000/01	55,654.1	1078567	0.052	11.70
2001/02	46,944.8	1079863	0.043	-15.65
2002/03	49,930.6	1122465	0.044	6.36
2003/04	53,910.7	1175025	0.046	7.97
2004/05	58,705.7	1215905	0.048	8.89
2005/06	60,234.1	1256815	0.048	2.60
2006/07	59,383.1	1299693	0.046	-1.41
2007/08	59,266.5	1379034	0.043	-0.20
2008/09	67,697.5	1441548	0.047	14.23

2009/10	60,824.0	1510979	0.040	-10.15
2010/11	64,338.5	1559223	0.041	5.78
2011/12	74,261.0	1632040	0.046	15.42
2012/13	76,917.1	1689572	0.046	3.58
2013/14	91,991.4	1791141	0.051	19.60
2014/15	85,319.1	1862357	0.046	-7.25
2015/16	70,117.1	1870424	0.037	-17.82
2016/17	73,049.1	2038337	0.036	4.18
2017/18	81,359.8	2193706	0.037	11.38
2018/19	97,109.5	2339743	0.042	19.36
2019/20	97,709.1	2284300	0.043	0.62
2020/21	141,124.1	2381313	0.059	44.43
Average	56,666.8	1,371,565.9	0.011	11.9

Sources: NRB (2021) Current Macroeconomic Situation

Table 3

Trend of capital expenditure of Nepal from 1991 to 2021 in (Million)

Year	Capital exp.	RGDP	CaE to GDP	Growth Rate
1990/91	15,979.5	666508	0.02	
1991/92	16,512.8	693888	0.02	3.34
1992/93	19,413.6	720581	0.03	17.57
1993/94	21,188.2	779807	0.03	9.14
1994/95	19,794.9	806854	0.02	-6.58
1995/96	24,980.5	849921	0.03	26.20
1996/97	26,542.6	894635	0.03	6.25
1997/98	28,943.9	920956	0.03	9.05
1998/99	22,992.1	962249	0.02	-20.56
1999/00	25,480.7	1021095	0.02	10.82
2000/01	28,307.2	1078567	0.03	11.09
2001/02	24,773.4	1079863	0.02	-12.48
2002/03	22,356.1	1122465	0.02	-9.76

2003/04	23,095.6	1175025	0.02	3.31
2004/05	27,340.8	1215905	0.02	18.38
2005/06	29,606.6	1256815	0.02	8.29
2006/07	39,729.9	1299693	0.03	34.19
2007/08	53,516.1	1379034	0.04	34.70
2008/09	73088.9	1441548	0.05	36.57
2009/10	40509.8	1510979	0.03	-44.57
2010/11	47327.7	1559223	0.03	16.83
2011/12	51390.7	1632040	0.03	8.58
2012/13	54598.4	1689572	0.03	6.24
2013/14	66694.7	1791141	0.04	22.16
2014/15	88754.7	1862357	0.05	33.08
2015/16	122350.4	1870424	0.07	37.85
2016/17	208749.4	2038337	0.10	70.62
2017/18	270713.7	2193706	0.12	29.68
2018/19	241562.5	2339743	0.10	-10.77
2019/20	189140.1	2284300	0.08	-21.70
2020/21	228836.1	2381313	0.10	20.99
Average	69,492.6	1,371,565.9	0.042	11.6

Sources: NRB (2021) Current Macroeconomic Situation

Table 4

Trend of GDP of Nepal from 1991 to 2021 in (Million)

Year	GDP (in Millions)	Growth Rate
1990/91	666508	
1991/92	693888	4.11
1992/93	720581	3.85
1993/94	779807	8.22
1994/95	806854	3.47
1995/96	849921	5.34
1996/97	894635	5.26

1997/98	920956	2.94
1998/99	962249	4.48
1999/00	1021095	6.12
2000/01	1078567	5.63
2001/02	1079863	0.12
2002/03	1122465	3.95
2003/04	1175025	4.68
2004/05	1215905	3.48
2005/06	1256815	3.36
2006/07	1299693	3.41
2007/08	1379034	6.10
2008/09	1441548	4.53
2009/10	1510979	4.82
2010/11	1559223	3.19
2011/12	1632040	4.67
2012/13	1689572	3.53
2013/14	1791141	6.01
2014/15	1862357	3.98
2015/16	1870424	0.43
2016/17	2038337	8.98
2017/18	2193706	7.62
2018/19	2339743	6.66
2019/20	2284300	-2.37
2020/21	2381313	4.25
Average	1371566	4

Sources: NRB (2021) Current Macroeconomic Situation

Table 4.5

Summery Statistics

	RGDP	IPM	EX	CAE
Mean	1371566.	406860.6	56666.78	69492.63
Median	1256815.	173780.3	59266.50	29606.60
Maximum	2381313.	1539837.	141124.1	270713.7
Minimum	666508.0	23226.50	7387.500	15979.50
Std. Dev.	521577.3	449992.6	30151.21	75142.83
Skewness	0.493890	1.248562	0.428173	1.612879
Kurtosis	2.106964	3.290845	3.312086	4.133620
Jarque-Bera	2.290414	8.163610	1.073023	15.10037
Probability	0.318158	0.016877	0.584785	0.000526
Sum	42518544	12612679	1756670.	2154272.
Sum Sq. Dev.	8.16E+12	6.07E+12	2.73E+10	1.69E+11
Observations	31	31	31	31

Sources: self calculation Eview;s

Table 4.6

Correlation Matrix

Variables	RGDP	RIM	REX	RCE
RGDP	1.000000	0.979999	-0.026822	0.625157
RIM	0.979999	1.000000	-0.131368	0.706486
REX	-0.026822	-0.131368	1.000000	-0.423015
RCE	0.625157	0.706486	-0.423015	1.000000

Source: self calculation Eviews

Table 4.7.1

Unit Root Results

Variables	Level		1st differnce	
	C	**C & T**	**C**	**C &T**
RGDP	1	1	0.9964	0.0005
RIM	1	1	0.9714	0.0001
REX	0.169	0.4497	0.0071	0.0368
RCE	0.6591	0.6714	0.0014	0.0042

Source: self calculation Eviews

4.7.2 Engle and Granger Test table

Dependent Variable: GDP

Method: Least Squares

Date: 02/25/23 Time: 16:37

Sample: 1990 2021

Included observations: 32

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RIM	1.903110	0.081262	23.41955	0.0000
REX	1.452140	0.674946	2.151491	0.0402
RCE	-1.055753	0.612519	-1.723625	0.0958
C	396692.3	89971.43	4.409092	0.0001
R-squared	**0.973752**	Mean dependent var		1348286.
Adjusted R-squared	0.970940	S.D. dependent var		529726.0
S.E. of regression	90302.89	Akaike info criterion		25.77620
Sum squared resid	2.28E+11	Schwarz criterion		25.95941
Log likelihood	-408.4191	Hannan-Quinn criter.		25.83693
F-statistic	346.2485	Durbin-Watson stat		**1.721425**
Prob(F-statistic)	**0.000000**			

Source: self calculation Eview's

4.7.3 Unit Root Test of Residual Table

Null Hypothesis: ECT has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=7)

			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-4.660374	0.0008
Test critical values:	1% level		-3.661661	
	5% level		-2.960411	
	10% level		-2.619160	
*MacKinnon (1996) one-sided p-values.				

Source: Self calculation Eview's