

**THE IMPACT OF EXTERNAL DEBT, FDI INFLOWS
AND FINANCIAL DEVELOPMENT ON NEPALESE
EXPORT PERFORMANCE: A GRAVITY
MODELING APPROACH**

**A Thesis
Submitted to the
Central Department of Economics,
Faculty of Humanities and Social Sciences, Tribhuvan University,
In Partial Fulfillment of the Requirements for the
Master of Arts
in
Economics**

**By
BASUNDHARA PAUDEL
Roll No.: 18 /2075
Regd. No. 6-2-38-50-2015
Central Department of Economics, T.U.
Kirtipur, Kathmandu, Nepal
April 2023**

DECLARATION

I, BASUNDHARA PAUDEL, author of this thesis, declare that this thesis entitled “THE IMPACT OF EXTERNAL DEBT, FDI INFLOWS AND FINANCIAL DEVELOPMENT ON NEPALESE EXPORT PERFORMANCE: A GRAVITY MODELING APPROACH” submitted to the Central Department of Economics(CEDECON) is my original work unless otherwise indicated or acknowledged in the thesis. This thesis does not contain materials that have been accepted or submitted for any other degree or institution. All sources of information have been specifically acknowledged by reference to the author(s) and institution(s).

Basundhara Paudel

Roll No: 18/075

Regd. No: 6-2-38-50-2015

Central Department of Economics,

Tribhuvan University,

Kirtipur, Kathmandu.

LETTER OF RECOMMENDATION

This thesis, entitled: “The Impact of External Debt, FDI Inflows and Financial Development on Nepalese Export Performance: A Gravity Modeling Approach”, is submitted by Ms. Basundhara Paudel under my supervision for partial fulfillment of the requirements for the degree of MASTER OF ARTS in ECONOMICS. I hereby forward it with a recommendation for approval.

.....

Associate Professor Ramesh Chandra Paudel, PhD

(Thesis Supervisor)

Date: March 14, 2023 A.D.

APPROVAL LETTER

We clarify that this thesis entitled “**The Impact of External Debt, FDI Inflows and Financial Development on Nepalese Export Performance: A Gravity Modeling Approach**” submitted by Ms. Basundhara Paudel to the Central Department of Economics, Faculty of Humanities and Social Sciences, Tribhuvan University, in the 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 said degree.

Thesis Committee

.....
Prof. Shiva Raj Adhikari, Ph.D.
Head of the Department

.....
Prof. Madhav Prasad Dahal, Ph.D.
External Examiner

.....
Associate Prof. Ramesh Chandra Paudel, Ph.D.
Thesis Supervisor

Date: March 31, 2023 A.D.

ACKNOWLEDGMENTS

I express my gratitude towards my mentor and supervisor Associate Prof. Dr. Ramesh Chandra Paudel from the Central Department of Economics, Tribhuvan University for constantly supervising me to finalize this thesis. He has been an exceptional mentor and role model not just to me but also to other students for emphasizing the application of learned concepts to real-life situations. It has been an excellent opportunity for me to learn from him and I want to thank him for his scholarly guidance and invaluable input while I was writing this thesis. Additionally, I am immensely grateful to the Department's head, Prof. Dr. Shiva Raj Adhikari, for his unwavering support and motivation. My family members have been a constant source of support and I could not have achieved this milestone without their constant encouragement. I also extend my appreciation to the professors who have taught me and aided me in various ways throughout my time in the department as well as my friends and colleagues who assisted me during the data analysis period.

Furthermore, I would express my gratitude to the Confederation of Commercial Banks and Financial Institutions, Nepal(CBFIN) for providing me with financial assistance to complete my thesis. This thesis adheres to the guidelines and formats set by the Central Department of Economics and I take full responsibility for any discrepancies, errors or mistakes found in this document.

This thesis adheres to the guidelines and formats set by the Central Department of Economics and I take full responsibility for any discrepancies, errors or mistakes found in this document.

March, 2023

Basundhara Paudel

ABSTRACT

The primary objective of this thesis is to examine how external debt, Foreign Direct Investment(FDI) and financial development impact Nepal's export performance. This research is motivated by the need to better understand the factors that influence Nepalese exports and it utilizes a unique dataset that includes Nepal and its top 25 trading partners over a 13-year period from 2007-2019. This study employs a balanced panel and applies the gravity model to align with the framework and econometric advances.

The research findings indicate that external debt and financial development have a positive and statistically significant impact on Nepal's export performance. On the other hand, FDI inflows have a significant but negative impact. The study also reveals that the gravity variables, such as Nepal's GDP and population as well as the GDP and population of its trading partners, have a significant impact. Another variable, distance, which serves as a proxy for transportation costs, was found to have a negative impact, supporting the previous studies. To my knowledge, this thesis study is the first to use the gravity model of trade to investigate the impact of external debt, FDI inflows and financial development in Nepal. As such, it seeks to contribute significantly to the existing literature both from an empirical and policy perspective. Based on the scientific procedures, the study suggests several strategies including infrastructure development that focuses on trade and manufacturing for GDP growth, creating an investment-friendly environment, using debt for trade policies and logistics and linking education to enhance the export-oriented production system.

Keywords: Export, Gravity model, CEPII, Panel data

TABLE OF CONTENTS

DECLARATION	i
LETTER OF RECOMMENDATION	ii
APPROVAL LETTER.....	iii
ACKNOWLEDGMENTS	iv
ABSTRACT.....	v
TABLE OF CONTENTS.....	vi
LIST OF TABLES	viii
LIST OF FIGURES	ix
ABBREVIATIONS	x
CHAPTER I.....	1
INTRODUCTION	1
1.1 Background of the study	1
1.2 Statement of the Problem	3
1.3 Research Questions	4
1.4 Objectives	4
1.5 Significance of the Study	5
1.6 Limitations of the Study.....	6
1.7 Organization of the Study	6
CHAPTER II.....	7
REVIEW OF LITERATURE	7
2.1 Introduction.....	7
2.2 Theoretical Review	7
2.2.1 Nexus Between External Debt and Export Performance.....	7
2.2.2 Nexus Between FDI Inflows and Export Performance.....	9
2.2.3 Nexus Between Financial Development and Export Performance.....	11
2.3 Empirical Review.....	12
2.3.1 External Debt and Export.....	12
2.3.2 FDI Inflows and Export	14
2.3.3 Financial Development and Export	15
2.4 Methodological Review	17
2.4.1 The Gravity Studies from Nepal.....	19
2.5 Research Gap	20

CHAPTER III	22
RESEARCH METHODOLOGY.....	22
3.1 Introduction.....	22
3.2 Research Design.....	22
3.3 Conceptual Framework.....	22
3.4 Study Period.....	23
3.5 Sources of Data	23
3.6 Tools of Analysis	24
3.7 Model Specification	24
3.8 Selected Variables.....	26
CHAPTER IV	30
RESULTS AND DISCUSSION	30
4.1 Introduction.....	30
4.2 Trends and Patterns of Exports, External Debts, FDI Inflows and Financial Development.....	30
4.3 Descriptive Statistics of Variables	33
4.4 Empirical Results	33
4.4.1 Gravity Variables on Export	34
4.4.2 External Debt and FDI Inflows on Exports	35
4.4.3 Financial Development on Exports.....	37
CHAPTER V	39
SUMMARY AND CONCLUSIONS	39
5.1 Introduction.....	39
5.2 Summary	39
5.2 Conclusion	40
5.3 Policy Recommendations.....	41
REFERENCES	43
APPENDICES.....	49

LIST OF TABLES

Table 3.1: Sources of Data.....	24
Table 3.2: Description of Variables.....	29
Table 4.1: Descriptive Statistics of Variables.....	33
Table 4.2: Results of Gravity Variables on Exports.....	34
Table 4.3: Results of External Debt and FDI Inflows on Exports.....	36
Table 4.4: Results of Financial Development on Exports	38

LIST OF FIGURES

Figure 2.1: Connection Between Debt and Export.....	9
Figure 3.1: Conceptual Framework	23
Figure 4.1: Trends of Exports and External Debt.....	30
Figure 4.2: Share of Exports, External Debt and FDI Inflows in GDP Measured in Percent.....	31
Figure 4.3: Trends of Financial Development Index, Financial Markets and Financial Institutions.....	32

ABBREVIATIONS

ADB	Asian Development Bank
ARDL	Autoregressive Distributed Lag
BFI	Banking and Financial Institutions
CBFIN	Confederation of Commercial Banks and Financial Institutions Nepal
CEPII	Centre d'Études Prospectives et d'Informations Internationales
FDI	Foreign Direct Investment
FD	Financial Development
FE	Fixed Effect
GDP	Gross Domestic Product
GMM	Generalized Method of Moment
IMF	International Monetary Fund
ITC	International Trade Centre
MNCs	Multinational Companies
NRB	Nepal Rastra Bank
ODA	Official Development Assistance
OLS	Ordinary Least Square
RE	Random Effect
SAFTA	South Asian Free Trade Area
SAARC	South Asian Association for Regional Cooperation
SITC	Standard International Trade Classification
UNCTAD	United Nations Conference on Trade and Development
USD	United States Dollar
VECM	Vector Error Correction Model
WB	World Bank
WDI	World Development Indicator

CHAPTER I

INTRODUCTION

1.1 Background of the study

International trade, particularly export-led growth is increasingly becoming the officially announced development strategy in many developing and least-developed economies as export promotion continues to receive great emphasis from policymakers. Many countries in South Asia embarked upon bold plans to increase exports by creating an export-friendly environment with major reforms in the legal, and tax system along with generous incentive structures for exporters. Promoting exports of goods and services has been one of developing countries most prominent growth strategies. It leads to better economic performance for market economies. Many factors in an economy are responsible for affecting export growth. Most low-income countries rely on exports as an important engine of growth and economic development. The rapid growth of East Asian economies in the last decades is attributed primarily to their export boom (Razmi & Hernandez, 2011).

Nepal being a least developed country with a small open economy has a burgeoning external and domestic debt. The major share of external debt is denominated and accounted in the U.S. dollar. Nepal's Government started to take the domestic loan in 1962 whereas it started to take external debt after the years of initiation of budgetary practice(Bhattarai, 2015). Nepal normally takes external debt from organizations like Asian Development Bank(ADB), World Bank(WB), International Monetary Fund(IMF) and the countries like India, China and United States. According to Shamim et al. (2017) the turning point for debt to gross domestic product is specifically around 35 to 40 % whereas the export debt ratio is 160 to 170 percent approximately. The productivity of external debt mainly lies on its utilization, whether, it is used in export-oriented firms or not. External debt is beneficial in terms of developing a country only if it can be utilized for investment-oriented projects, including infrastructure projects, power points, or any projects in the agricultural industry. As far as the usage of external debt at a low level is concerned, the studies have shown that they do have positive effects on the socio-economic development of any nation, but debt has negative effects if it is not utilized on a greater margin. So, as the money circulation increases through debt in the economy/households, it is expected to contribute for increasing entrepreneurial skills in society.

Nepal, having easy access to India and China and abundant natural resources, still lacks sufficient capital to fully harness its enormous available natural resources and potential to the optimum advantage. Hence, there is a need for resources to bridge the gap required to achieve sustainable growth and development. The effective use of external debt and FDI can help to achieve this development strategy. However, Nepal is still behind on basic infrastructure such as roads and electricity which can discourage investors. There is a huge gap between approved FDIs and actual FDIs in Nepal so, this study uses the actual inward FDI to analyze the impact. Despite deliberate efforts made by the Nepal government to attract FDI into the country with a view and aim of improving export and economic performance, the foreign direct investment in Nepal is only 0.61 percent of gross domestic product(GDP) as of 2019 (UNCTAD¹, 2019) and FDI inflows in Nepal have always been less than one percent of the GDP.

Likewise, the role of financial development in export performance is not much discussed in the literature compared to its role in economic growth. Financial development facilitates export by providing businesses with the necessary financing to expand their operations and increase their production capacity. Additionally, a well-developed financial system can facilitate international trade by providing the necessary financial infrastructure such as trade finance and currency services. It refers that the channel through which financial development contributes to economic growth through promoting export performance, which is one of the major concerns of the growth target set by the policymakers and stakeholders. The effect of financial development is more prominent in terms of the reach of the banking sector further development of financial sectors would promote firms' engagement in export activities, which, in turn, would contribute to the economic growth (Paudel & Alharthi, 2021). The combined efforts of financial institutions and financial markets create the financial development index. Further, both financial institutions and financial markets are judged based on depth, access and efficiency.

World Development Indicators (WDI) database, published by World Bank reveals that trade reforms have not made significant improvements on Nepal's trade-to-GDP ratio. International trade of the countries has been investigated and several theories have been developed such as, the comparative advantage theory, and the absolute cost

¹ See https://unctad.org/system/files/official-document/dom2020_en.pdf for conference and data status.

theory. The gravity model is used in economics literature to investigate international trade between countries considering that international trade is affected by many factors. Therefore, it is important to examine the factors explaining export flows. The top 25 largest importing countries chosen for the study of Nepal from 2007 to 2019 and these countries account for approximately 98 percent of the total exports from Nepal.

The use of panel data for a gravity model of trade to examine the relationships between external debt, FDI inflows and financial development on export is a novel research concept in Nepal. As a result, there is a clear need for a methodical study that focuses on the export. The study will focus on Nepal's top 25 trading partners and will exclude major Covid affected years for Nepal and rest of the World. Given these factors, this research is innovative and utilizes the latest data available. The goal of this study is to provide a valuable contribution to the existing literature.

1.2 Statement of the Problem

Nowadays, the international marketing environment is dynamic, changeable, and essential, as soon as the competition is intensive. The intensification of competition on a global scale has led to an increasing number of firms seeking opportunities in international markets to achieve their objectives, as well as to safeguard their market position and survival (Leonidas & Leonidou, 2002). The circumstances compel exporting firms to adopt certain business concepts, policies and practices to attain goals and to get prominent results. In Nepal, the mass effort has mobilized that focus on expanding exports with a priority set for strategic sectors like agriculture, hydropower, textile and garment manufacturing. Despite possessing the vast potential for goods and services promotion, Nepal lacks the efficiency to utilize its resources. Nepal exports nearly 20% of its total exports to high-income countries (CEPII, 2021). There are ample opportunities in Nepal to harness benefits by utilizing the available human capital and natural resources that could positively impact the living standards of the people. Even though Nepal has a diversified climate, topography and abundant natural resources it seems like these opportunities are not helping to improve the status of exports.

Nepal is practicing various methods to promote export throughout the years like reducing tariffs, low taxes for local products, promoting entrepreneurship, a favorable

labor market and so on but these methods are not showing results as expected. The government has been relying on internal and external debt to fill the resource gap, which even worsens after the 2015 earthquake and the recent coronavirus epidemic. Although the country's debt liability has been increasing at a slow pace till the fiscal year 2015-16, it has increased as the country has to mobilize huge resources for post-earthquake reconstruction. According to UNCTAD (2018) FDI remains the largest external source of finance for developing economies including long-term and short-term loans (private and public), ODA, remittances and other official flows. As the country needs more resources to institutionalize post-2017 federalism, the earthquake of 2015, FDI inflow can be good source for it. Financial development in other hand, distributes the acquired sources for small, medium and large-scale enterprises through financial institutions and financial markets. The development of financial system is important to mitigate the financial constraints that hinders the economy with unproductivity.

This study will aim to find the impact of external debt, FDI inflows and financial development on export performance, and determine the direction of gravity variables. Finally, the study will provide policy recommendations to promote FDI inflows and financial development and also utilize debt in a productive way to enhance export performance in Nepal.

1.3 Research Questions

The main purpose of the study is to examine the association of external debt, FDI inflows and financial development in Nepalese exports. Therefore, the study addresses the following two key research questions:

- a. What are the trends and patterns of exports, external debts, FDI inflows and financial development in Nepal from 2007 to 2019?
- b. How are the impacts of external debt, FDI inflows and financial development on the export performance of Nepal?

1.4 Objectives

The general objectives of this study are to detect the impact of external debt, FDI inflows and financial development on the export of Nepal. However, the specific objectives are:

- a. To analyze the trends and patterns of Nepal's export, external debt, FDI inflows, and financial development from 2007 to 2019.
- b. To examine the impact of external debt, FDI inflows and financial development on the export performance in Nepal.

1.5 Significance of the Study

It is a well-founded fact that the global marketing environment is altering faster competition between business firms especially in exporting industries. With the increasingly competitive and dynamic customer-oriented environment, the success of export performance has been still recognized as one of the vital questions and generated a substantial amount of interest among managers and researchers. Research interest in the firm-level analysis of export performance is motivated by the understanding that governments can give the effect a broad range of policy measures that will facilitate trade and the real action needed to achieve export goals rests in the exporting firm (Iyer, 2010).

The country's strong reliance on oil and gas exports exposes it to the considerable risk of market instability. As external debt continues to rise as exports fall, more attention is being paid to the consequences of this trend. The significance of this study will mainly lie in filling a research gap in the study of the role of external debt, FDI and financial development on the export performance of Nepal. A systematic analysis investigating the role of external debt plus foreign direct investment to the trade area which will be measured by export volume in the country-specific setting of a landlocked least developed country, Nepal is essential to shape the literature in the context.

The results of this study might be beneficial to the Nepal government in identifying the factors affecting Nepal's exports. Therefore, the government can take appropriate actions to achieve its desired exporting goals. The study result is also useful in the Nepal government's plan of action for its future manufacturing export activities. In other words, if they see potential changes in those determinants of exports in the future, they can better adjust their exporting strategies or plans consequently. The exporting firm can enhance its exporting plans by anticipating or following changes in those determinants. Finally, this study will be helpful for other researchers as a source of reference and as a stepping stone for those who want to further study the area

afterward and will be obtained for better policy inferences to improve export performance.

1.6 Limitations of the Study

As in other studies, this study also has some limitations. The study uses a quantitative approach based on secondary data on which the quality of this research directly relies. Also, my learning phase of research skills and time limitations have a direct impact on the quality and depth of the analysis. However, I believe these limitations do not reduce the credibility of the findings of this study.

1.7 Organization of the Study

This study consists of five chapters to make it more systematic. The first Chapter of the study covers the Introduction and background part along with objectives and research questions. The second chapter is a review of existing literature comprising theoretical, empirical and methodological review. Chapter third is a research methodology that consists of research design, sources of data, conceptual framework and model specification. Chapter four is the section on results and discussions. Chapter Five presents a summary of the study followed by conclusions, recommendations and scope for future research.

CHAPTER II

REVIEW OF LITERATURE

2.1 Introduction

Different studies have been carried out to investigate how debt, FDI and financial development interrelate in terms of promoting economic growth and export of countries. The findings of these investigations have varied, with differing conclusions regarding the relationship between these variables. This section of this thesis incorporates such studies from theoretical, empirical and methodological perspective.

2.2 Theoretical Review

The theoretical literature review helps to establish what theories already exist and the what relationship exists between the variables. It examines what degree of existing theories have been investigated and seeks to support the study by linking with the theory This study uses following existing theories to find the connection between the variables.

2.2.1 Nexus Between External Debt and Export Performance

External debt is the component of a nation's debt borrowed from foreign creditors such as commercial banks, global financial institutions or governments. The borrowing nation is usually required to repay the loans received as well as the interest in the currency in which they acquired the loan. The inability of a country to raise adequate funds to meet its expenditure or basic needs leaves it to seek monetary assistance from foreign countries or institutions. Public debt provides the resources to meet the expected current and capital expenditure that is supposed to increase the money circulation in the economy. Thus, external debt is an important tool for governments to fund public spending, especially when it is difficult to raise taxes. But borrowing more without a proper investment plan can lead to a heavy debt burden and interest payments, which can have many unintended effects on the economy. External debt, therefore, can be an economic stimulus but when its accumulation reaches a very significant the burden could undermine the government's ability to pursue more productive investment programs in infrastructure, education and public health. This study incorporates the classical theory of public debt and its criticisms to underline the link between external debt and export performance. Adam Smith introduced the

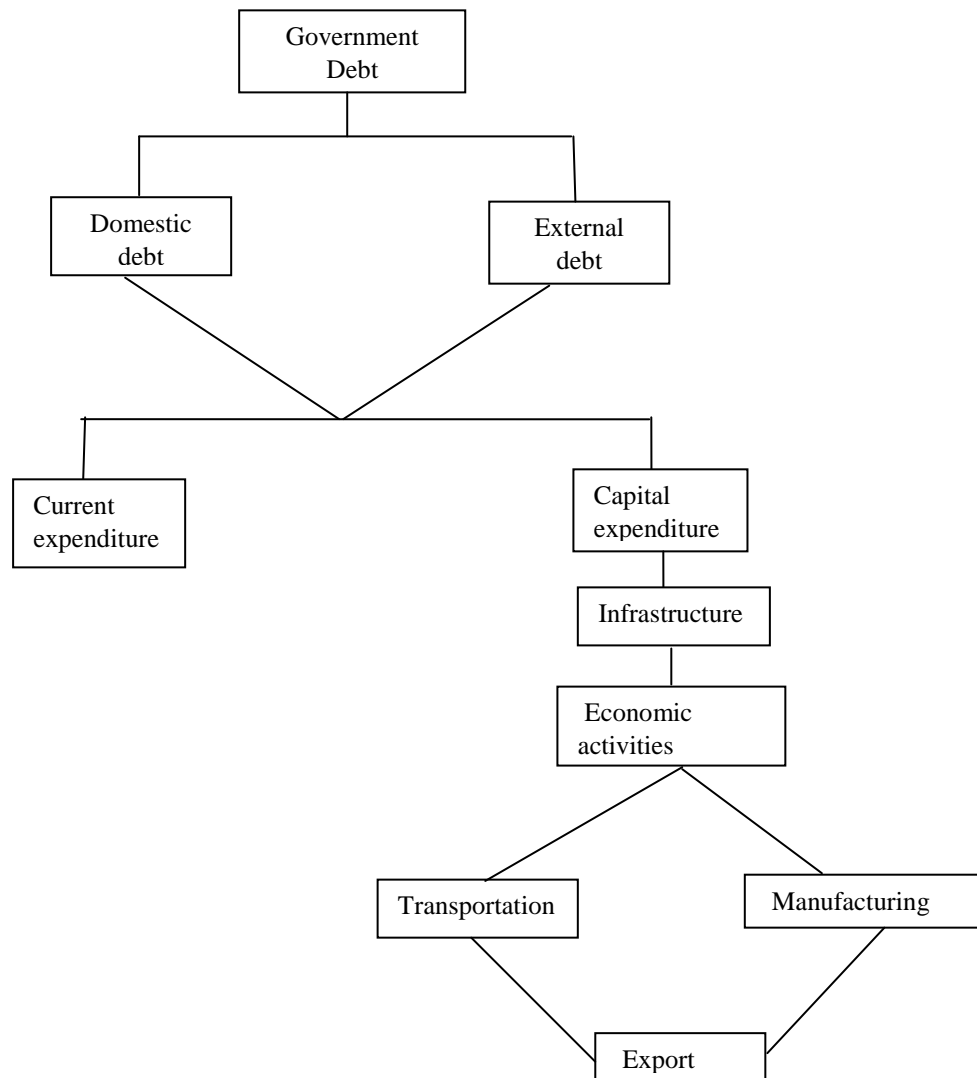
classical theory of public debt in the 18th century. The theory draws a clear distinction between individual borrowing and government borrowing. Individual borrowing is for productive purposes, whereas government borrowing is for unproductive expenses. The theory is based on a number of assumptions, including the existence of full employment in the economy, perfect competition and factor mobility in the market, and the absence of the need for government intervention. Additionally, the theory assumes that the supply of money is fixed and any funds transferred to the government come at the expense of the private sector. According to this theory, public borrowing does not create new capital.

This theory faces criticism primarily on two fronts. Firstly, it is argued that not all government spending is unproductive, and therefore public borrowing may not always be a burden on the economy. Secondly, the traditional view on the transfer of debt is incorrect. The actual burden is borne during the period in which public spending occurs because resources are not solely taken away from private use and directed towards public projects during that time. There is no fundamental burden on future generations. In fact, they not only inherit the liabilities of paying interest and principal from the current generation but also inherit assets in the form of the right to receive interest and principal. Conversely, the Keynesian view is that government borrowing serves to encourage the economy in the short term, and a reasonable level of public debt is beneficial for the economy.

Based on the above theories of public debt a figure is presented to show the connection of debt to export in Figure 2.1. It presents the link between government debt and export. The government takes domestic and external debt to fulfill the budget deficit and perform other duties. Current expenditure is short-term spending on goods and services that is fully expensed in the fiscal period in which it is incurred. Current expenditure creates economic activities that motivate the economy for further production that goes for exportable areas. They are in contrast to capital expenditures, which refer to spending on long-term assets that are capitalized and amortized over their useful life. It also goes for infrastructure development like roads and buildings for industries and so on. They are productive investments to generate long-term benefits. If investments are made in industries and manufacturing, it leads to an increase in productivity that led to growth in the export value of goods and services. For example, capital spending on infrastructure projects can improve a country's

transportation and communication networks, making it easier for businesses to export their goods and services.

Figure 2.1 Connection between Debt and Export



Source: Own computation from different kinds of literature

2.2.2 Nexus Between FDI Inflows and Export Performance

The relationship between FDI and exports has been examined by the theories of international trade and FDI. According to the theory of internationalization, it is argued FDI is an alternative mode for exporting. A multinational corporation, as a first step, enters into foreign markets by exporting its product. Then, based on the outcome, it may set up its production facilities in the foreign market—via FDI—and start serving the local customers from these facilities (Kuntluru et al., 2012). This

thesis study follows the following theories to examine the relationship between FDI and export.

The Heckscher-Ohlin theory explains that countries have different factor endowments, which is why some countries are better suited to engage in international trade than others. The theory assumes that technologies are identical across all countries and that trade patterns are solely determined by differences in the two main factor endowments: labor and capital. According to the theory, countries will export goods that make intensive use of their locally abundant factors. Therefore, in a free trade scenario, countries that have an abundance of capital will produce more capital-intensive goods, while countries with an abundance of labor will produce more labor-intensive goods.

Likewise, Vernon's product life cycle theory is a significant theory of foreign direct investment (FDI) that emphasizes the role of innovation and economies of scale in determining trade patterns. The theory posits that FDI is a stage in the life cycle of a new product, from its invention to maturity. According to the theory, technology goes through four stages of production: innovation, growth, maturity and decline. In the third stage of maturity, innovating firms begin to produce in foreign countries to reduce costs and protect themselves from imitating competitors, exporting some of the production to their home country. In the final stage, the product and technology become standardized and accessible to local imitators, leading to an increase in exports from the host countries. The theory highlights how market-seeking and cost reduction motives of companies drive FDI and explains how multinational companies take advantage of countries with varying levels of development. Additionally, Vernon's theory perceives foreign direct investment as a defensive strategy of firms to protect their existing market position (Dunning & Lundan, 2008).

Mundell (1957) based on the Heckscher-Ohlin-Samuelson (H-O-S) model, highlights that comparative advantage is the driving force behind trade. When factor mobility is not allowed, trade occurs until factor prices equalize in both countries. However, when capital can move freely between countries, the difference in factor prices decreases, and comparative costs diminish. As a result, trade declines and FDI becomes a substitute for trade. This view assumes that FDI is only made in sectors where the host country has a comparative disadvantage and serves only to supply the domestic market. Thus, FDI replaces imports with domestic production. The

conclusion that both trade in goods and factors are substitutes is derived from the H-O factor endowment theory, which is based on perfect competition, identical production functions and no transportation costs. FDI brings new technology, capital equipment and managerial expertise into the host country, improving the productivity and competitiveness of indigenous firms and increasing their exports.

Kojima (1985) applied the Vernon model at the industry level and found that when a FDI is made in a sector where the country of origin has a comparative disadvantage and the host country has a comparative advantage, this type of investment creates trade, leading to an increase in the host country's exports. This suggests that FDI can contribute to the development of the host country's comparative advantage. Similarly, Brainard (1993) postulated a positive relationship between FDI and trade, based on the proximity advantage. This advantage arises from the benefits of having a local presence, including better knowledge of local markets, reduced transportation costs and improved communication channels. Thus, both Kojima and Brainard support the idea that FDI can be a positive force for trade and economic development.

2.2.3 Nexus Between Financial Development and Export Performance

The first studies on the connection between financial development and international trade emphasis generally on a theoretical basis. This study considers the finance trade theory to establish a relationship between financial development and export.

Finance trade theory refers to the study of the relationship between international trade and financial flows, particularly the impact of financial factors on trade patterns and economic growth. It recognizes that international trade is not only driven by comparative advantages in the production of goods and services but also by differences in access to capital and credit markets, exchange rates, interest rates and other financial factors. The theory suggests that financial liberalization and the integration of financial markets can increase trade and economic growth by providing firms with better access to financing, reducing transaction costs and facilitating international investment. However, it also acknowledges the risks and challenges associated with financial globalization, such as financial instability, currency crises and capital flight. Financial development can be seen as a factor that enhances firms' inclination to engage in international trade. However, at the micro level, there is no consensus on how a country's financial system affects firms with varying

characteristics. Nevertheless, some research suggests that larger, more productive, capital-intensive, and higher-paying firms are more likely to participate in foreign trade (Alvarez & López, 2005; Kasahara & Rodrigue, 2008; Lopez & Yadav, 2010). Meanwhile, Love (2003) argued a developed financial system reduces credit constraints. Becker and Greenberg (2005) also pointed out a positive relationship between higher financial development and higher exports.

Kumarasamy and Singh (2018a) argued that a country's level of financial intermediation plays a crucial role in determining its specialization in industries that require external finance. Specifically, countries with well-developed financial systems tend to specialize in industries that rely heavily on external finance, while countries with less developed financial sectors tend to specialize in industries that require less external finance. Therefore, financial development can be seen as a key factor explaining the differences in trade patterns across countries. It is expected that there is a strong relationship between a country's financial development and the export performance of firms. Advanced financial development can reduce financial constraints and make firms more willing to engage in exporting. While previous studies have examined the impact of firm-specific financial constraints on export profitability, the effect of financial development in promoting export behavior has been overlooked.

2.3 Empirical Review

The empirical review involves a systematic review and synthesis of existing empirical studies on the topics to identify trends, patterns and gaps in the research. It aims to provide a comprehensive analysis of the empirical evidence. This thesis uses the following empirical pieces of evidence to show the connection of the variables to contribute to the literature.

2.3.1 External Debt and Export

Most of the studies have been made to analyze the relationship between external debt and the economic growth of the economy. It is important to link the growth of debt with export performance. So, this study analyzes the impact of external debt from the debt-to-export growth perspective. Jayaraman and Lau (2009) by using the data for six Pacific Island countries from 1988 to 2004, suggested that there is a strong positive relationship between external debt to GDP in the short run.

Poirson et al. (2004) investigated the channels through which debt affects growth, using a large panel dataset of 61 developing countries over the period 1969–98. Results showed the negative impact of high debt on growth operates both through a strong negative effect on physical capital accumulation and total factor productivity growth and doubling debt reduced output growth by about one percentage point and reduce both per capita physical capital and total factor productivity growth by somewhat less than that.

Rother and Westphal (2010) investigated the average impact of government debt on per-capita GDP growth in 12 euro countries over about 40 years starting in 1970. It found a non-linear impact of debt on growth with a turning point – beyond which the government debt-to-GDP ratio hurts long-term growth – at about 90–100% of GDP. The channels found to have a non-linear impact on the economic growth rate are private savings, public investment and total factor productivity.

Akram (2011) investigated how investment is influenced by government debt. The data from 1972-2009 was used for the analysis with Autoregressive Distributed Lag (ARDL) technique. It explored a negative relationship between foreign debt and investment per capita GDP. Hussain et al. (2016) emphasized that trade openness and exports are the best sources for financing developing countries rather than relying on external debt.

Shamim et al. (2017a) studied the impact of external debt on the export performance of Pakistan from 1972 to 2014. According to the co-integration analysis, there is a significant negative relationship between export performance and external debt and a unidirectional relationship between external debt and exports. The error correction model results pointed out an inconsequential relationship in the short-run within the variables. Awan and Qasim (2020) suggested that Pakistan must reduce its external debt level and generate resources through tax revenue, exports, efficiency and productivity.

Cheruiyot and Ombaba (2020) studied the effect of foreign public debt on the export earnings of flower firms in Kenya to evaluate the connection between foreign debt rate fluctuation and the export earnings of flower firms. The regression results showed that public debt has a strong positive and statistically significant on the export earnings of flower firms. The study recommended to maintaining an optimal level of

public debt in the country. Bhatta and Mishra (2020) investigated the relationship between economic growth and several other factors such as investment, trade openness, population growth, domestic savings and government debt in the context of Nepal from 1976 to 2019 by applying ARDL-bound test. The result showed the short-run and the long-run impact of debt on economic growth and confirmed that the optimum public debt to GDP ratio in Nepal is 33 percent. The policy recommended for the government of Nepal was to ensure public debt management in line with the growth-maximizing debt threshold.

2.3.2 FDI Inflows and Export

There are conflicting views on the relationship between FDI and the export performance of countries. There is a widely shared view that FDI promotes exports of host countries via the transfer of technology, linkage to new and foreign markets, provision of training for the local workforce and upgrading of managerial skills. Various studies observed positive and negative impacts of FDI on export performance based on the results. Such as Buckley et al. (2002) argued that the extent to which FDI contributes to growth depends on the economic and social conditions in the recipient country. They found that countries with a high rate of savings, open trade systems and high technical levels would more benefit from the increase of FDI in the economies. However, Duasa (2007) examined the causality between FDI and output growth and found that there is no burly evidence of a causal relationship between FDI and economic growth in Malaysia.

Wen (2005) analyzed the effects of FDIs on regional export and regional income growth varied across East, Central and West China since the second half of the 1990s. He found that geographical advantage in export attracts FDI inflow and FDI promotes export in East China whereas a negative impact of FDI inflow was observed in Central China on regional export orientation.

Prasanna (2010a) studied to explore the impact of FDI inflows on the export performance of India and the study found that the impact of FDI inflows on export performance is significantly positive. The study suggested for the policy regarding domestic efforts to enhance manufacturing exports needs reassessment in line with the FDI policy framework to reap maximum and long-term benefits. Tekin (2012) explored the possibility of Granger causality among real GDP, real exports, and

inward FDI in Least Developed Countries between 1970 and 2009. The researchers used a panel-data approach developed by Kónya (2006), which involves Wald tests with country-specific bootstrap critical values. The findings showed the FDI-Growth nexus indicating FDI Granger-causes GDP in Benin and Togo and GDP Granger causes FDI in Burkina Faso, Gambia, Madagascar and Malawi. When examining the export-FDI relationship, the researchers discovered that FDI causes real exports in Benin, Chad, Haiti, Mauritania, Niger, Togo and Yemen, while real exports cause FDI in Haiti, Madagascar, Mauritania, Malawi, Rwanda, Senegal and Zambia.

Sultanuzzaman et al. (2018) examined the long-run and short-run relationship between FDI inflows, exports and economic growth in Sri Lanka over 1980–2016 using the ARDL testing approach and revealed that FDI inflows have a positive and significant relationship with economic growth in the long-run and short-run. Whereas, Gebremariam and Ying (2022) studied the relationship between FDI and export performance in Ethiopia by using annual time series data from 1992 to 2018 and applied the ARDL model. The relationship between FDI and export performance was insignificant.

Thapa (2022) analyzed the impact of FDI on employment generation in the industrial sector of Nepal for the period of 1990-2020. For analyzing the impact of FDI, econometric analysis like Ordinary Least Square(OLS), unit root, co-integration, vector autoregressive model and Granger causality was undertaken. The result of the co-integration test showed no co-integration between foreign direct investment and employment generation in Nepal. The result of the causality test showed no bidirectional causality between these variables.

2.3.3 Financial Development and Export

A sound financial system is the backbone of any country. It is the set of financial institutions, financial instruments, and financial markets. Numerous studies have dealt with different aspects of the relationship between financial development and economic growth at both the theoretical and empirical levels. The role of financial development in export performance is not much discussed in the literature. The literature gives a perception that financial development promotes trade in the economy, contributes to increasing economic activities, and creates a trade-friendly environment. The logic shows that financial development first facilitates trade

accelerating the economic activities in the economy, such as creating employment and smoothing public and private expenditure, via which it promotes economic growth and financial development motivates export performance supplying the required capital for the production activities that stimulate exports and by there the economic growth (Paudel & Alharthi, 2021). Financial development contributes to export performance only if the supplied funds are used for production activities.

Beck (2002) analyzed the role of financial development in international manufacturing trade. The study focused on the role of financial intermediaries in facilitating large-scale, high-return projects and showed that economies with better-developed financial sectors have a comparative advantage in manufacturing industries. Using a 30-year panel for 65 countries for country-specific effects the possible reverse causality showed that financial development exerts a large causal impact on the level of both exports and the trade balance of manufactured goods. Berman and Hericourt (2010) found that financial development disproportionately increases the probability of the export decision of more productive firms.

Ghimire et al. (2016) examined the role of the financial sector in the export performance of 121 aid-recipient developing countries and states the role of financial development in creating employment and promoting export performance, which would help to productivity gain and export diversification that would lead towards the economic diversification.

Coban (2015) investigated the causal relationship between financial development and export performance of firms in the manufacturing sector in Turkey over the 1991-2012. After constructing the banking sector and stock market financial development indexes, the empirical evidence showed the development of the stock market plays a supportive role in increasing export performance for all groups. The empirical evidence demonstrated the importance of policy reforms in the financial sector the international trade.

Kumarasamy and Singh (2018b) included 16 Asian countries to analyze the factors responsible for firms' decisions on export market entry and analyzed the role of access to finance and financial development. The estimation results suggested that firms' age, size, productivity and foreign ownership are important internal attributes affecting firms' decision to export. Results also suggested that firms should operate

away from the capital or major cities to solve export market entry difficulty. The results indicated that better access to formal or bank finance improves firms' chances of entering the export market.

Fang et al. (2020) covering the panel data from 31 provinces and municipalities of China for the period of 2002–2008, analyzed that financial development is an important factor to upgrade the technical sophistication required for the export trade. More recently, Akoto and Adjasi (2020) found that financial development has contributed to export diversification in Sub-Saharan Africa.

Shahin et al. (2022) examined the impact of financial sector development and Internet use on export value for 30 Chinese provinces from 2000 to 2018 using the Panel-corrected standard error estimation method and Gaussian process regression machine-learning model. The result showed that internet use increases China's exports in high-middle developed provinces. They also found that the machine-learning model is more robust in predicting export growth in China based on financial development and Internet use, which shows that population, Internet use, GDP, and financial development are the most important factors to predict export growth in China.

By analyzing the various literature, it is observed that financial development may facilitate trade by accelerating economic activities in the economy, such as by creating employment and smoothing public-private expenditure by supplying the required capital for production.

2.4 Methodological Review

The methodological review concentrates on research methods rather than the research itself. It provides a framework of research approaches and data collection and analysis techniques. This thesis would be reviewing the methods/approaches followed in different studies, and discussing the variables. The review's focus would not be on the findings of the studies. "Methodological reviews can be performed to examine any methodological issues relating to the design, conduct and review of research studies and also evidence syntheses" (Munn et al., 2018).

The gravity model is one of the most frequently used models for empirical studies on international trade. Most traditional international trade theories do not consider the distance effect as a resistant factor. It was first presented in 1962 by Jan Tinbergen, who proposed that the size of bilateral trade flows between any two countries can be

approximated by employing the 'gravity equation', which is derived from Newton's theory of gravitation. Linnemann (1966) extended the equation by Tinbergen to bilateral trade and introduced the population size of countries i and j and the artificial trade resistance factor, (P_{ij}) , to account for tariffs, quotas, and technical restrictions that limit trade. Gravity's main comparative advantage lies in its ability to use real data to assess the sensitivity of trade flows concerning policy factors that interest in trade (Anukoonwattaka, 2016).

According to the gravity model, countries are trading according to their proximity and also according to the size of their GDP. Negative influence is played by trade barriers and positive by common traditions and a common political background. Big countries trade a lot with each other, e.g., the USA and Canada on the same continent or the USA and Germany on different continents. Smaller countries, like Nepal, do not have such an impact on the scale of world trade. The size of exports /imports is influenced by the fact of whether or not they are part of some trading block, e.g., the SAFTA/SAARC in South Asia. A Country's FDI is expected to have a positive influence on the world trade of a particular country. Of the many studies, this study section focuses on the studies which used the gravity framework.

The International Trade Centre (2003) developed an augmented gravity model for calculating trade potentials for developing countries and economies in transition called Trade Sim. The model estimated 36 exporting countries (developing economies) towards 58 importing countries using the Mac Map database. Variables used are language diversity, literacy rates, FDI stock, a bilateral market access measure (average applied tariffs, specific duties, tariff quotas, and anti-dumping duties), conflict intensity and telecommunications infrastructure.

Carrerre (2006) used a gravity model of trade to assess ex-post regional trade agreements including 130 countries with panel data over the period 1962–1996. The paper examined the trade creation and trade diversion effects. The results showed that regional agreements have generated a significant increase in trade between member countries of Europe.

Hatab et al. (2010) studied to identify the determinants of Sudanese agricultural exports using a sample of 31 trading partners from 1995-2011. The gravity modeling results showed that the importer's GDP and population size positively and

significantly impact agricultural exports. The results also point out that both domestic and trading partner infrastructures play positive and significant roles in enhancing export performance. The impact of geographical distance was found to be negative.

Greene (2013) applied an augmented gravity model of international trade and a two-step regression procedure to empirically estimate the impact of India's market access policies on U.S. exports of advanced technology goods based on panel data with a fixed-effect model for the time 1990 to 2011. The result showed that per-capita income, trade freedom, importers' physical land area, India's stage of economic development, common culture, trading with island partners, and common membership in a free trade agreement as significant determinants of U.S. exports and transaction costs (distance) showed a significant but negative impact on the U.S. exports of advanced technology goods.

Nishitatenno (2015) used the augmented gravity model analysis to determine the network effects on auto parts exports from six major automobile-producing countries. The findings showed that overseas production by subsidiary plants increases exports from the home country, except for Japan.

Retnosaria and Jayadi (2020) analyzed the influence of GDP, population, distance, index of economic size, and exchange rate on Indonesian exports with Asian countries and seven trading partners. The study used the Generalized Method of Moment (GMM) method and found that Indonesian GDP, the GDP of trading partner countries, the population of trading partner countries, and the similarity index of the economic size of the two countries had a positive and significant effect on Indonesian exports, while the variable distance between the two countries and currency exchange rate against the currency trading partner countries hurt Indonesia's exports for the period 2008 to 2017.

2.4.1 The Gravity Studies from Nepal

Many scholars in Nepal have investigated the issues of various features of international trade using the gravity model, in particular. Here are some studies from Nepal that uses the gravity model of trade to analyze the determinants of trade.

Acharya (2013) conducted a study on the factors influencing Nepal's trade using an expanded gravity model. The study analyzed panel data from 21 major trade partners of Nepal between 2005 to 2010. The results indicated that the export and import of

Nepal were significantly influenced by the real GDP of its trading partners and the distance between them. A higher distance between countries resulted in lower trade. Additionally, the population of Nepal and its trading partners had a negative relationship. The analysis of country-specific fixed effects demonstrated, time invariant factors also played a significant role in determining Nepal's trade balance.

Prasai (2014) conducted using pooled OLS to analyze the trade pattern of Nepal. The aim of the study was to identify any structural shifts in the economy after the liberalization period. The gravity model was used and a comprehensive panel dataset was collected for 29 years, covering Nepal's 94 trading partners. The findings showed that economic size had a positive impact, while distance had a negative impact, but no significant structural break was observed. The author recommended that Nepal should diversify its trade in general and establish a trade agreement with China specifically to reap the benefits of trade.

Chaudhary et al. (2018) examined the influence of trade gravity variables on the bilateral trade of Nepal using panel data with its 26 major trading partner countries from 1990 to 2016. The estimated results revealed that the income of the countries, exchange rate and the distance between the countries has a significant impact on the trade pattern of Nepal with her trading partners. The paper suggested that the trade policy should not ignore the importance of the level of development.

Paudel (2019) conducted a study on Nepal's export performance from 2005-2018, using a typical gravity modeling technique and analyzing data based on the Standard International Trade Classification (SITC) with 5-digit codes. The findings showed that liberalization and partner countries' GDP positively impacted Nepal's export growth, while distance between partner countries had a negative relationship with exports. The study suggests that concentrating on high-value products with low weight could potentially eliminate transportation costs.

2.5 Research Gap

As per my knowledge and understanding no study has systematically analyzed the impact of external debt on export performance using a gravity model of trade. The study of external debt, FDI inflows and financial development on export is a need for a more nuanced analysis.. While previous research has generally found a negative correlation between high levels of external debt and export growth and a positive 21

relation between FDI and export, the specific mechanisms behind this relationship are not well understood. Therefore, a more detailed and comprehensive analysis is needed to better understand the impact between external debt and FDI inflows on export performance as well as to identify potential policy interventions that can help countries manage their debt burdens, attract FDI and support sustainable export growth.

Previous studies have suggested that financial development can play an important role in promoting export growth by providing firms with access to credit, reducing transaction costs and facilitating international trade, there is still much that is not fully understood about this relationship in Nepal.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Introduction

The methodology of any research is important because it gives researchers the work plan and allows them to understand the research problem accurately. It also helps to solve research problems by working systematically. To meet the objectives of this thesis, this chapter presents the extensive discussion of the methodology.

3.2 Research Design

Research design guides the process of conducting research, it outlines how to go about collecting data, measuring and data analysis (Upagade & Shende, 2012). Based on the objectives of this study, I adopt two approaches for one specific objective. First, based on the first objective, I present the trends and patterns of the relevant variables. Second, I employ the gravity modeling approach to achieve the second objective, such as to examine the relationship between external debt, FDI, financial development and export in Nepal. In this regard, this study is based on panel data. Nevertheless, the analysis is supported by a descriptive analysis of the variables used in the models.

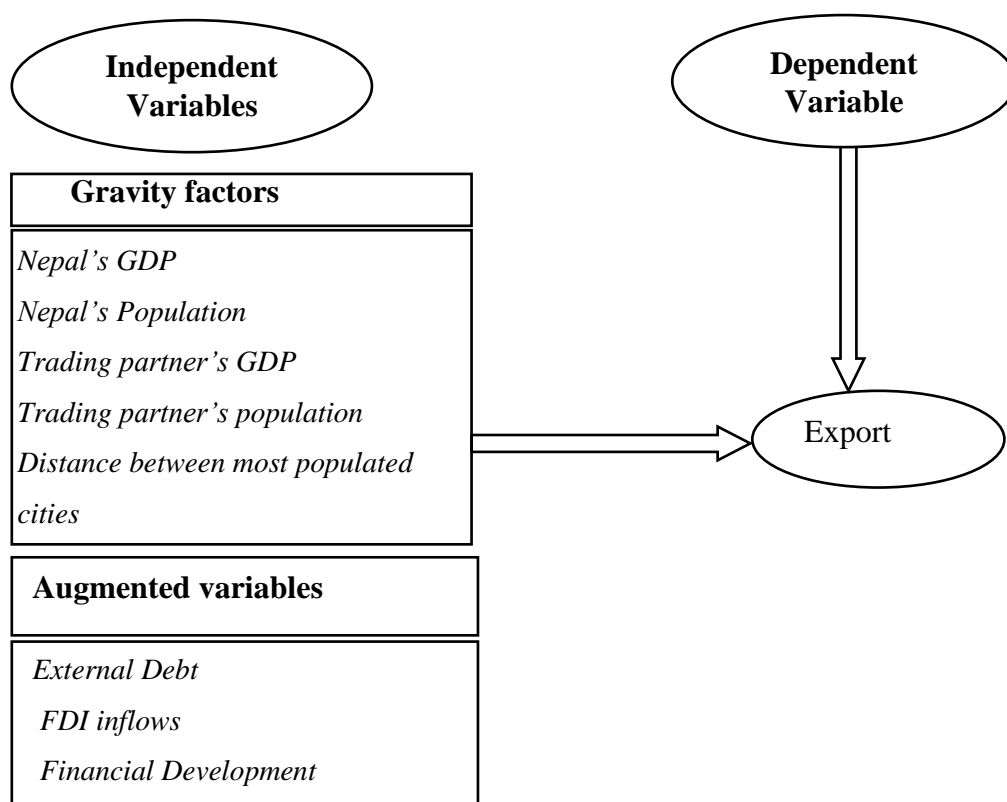
3.3 Conceptual Framework

According to Mugenda and Mugenda (2003) conceptual framework helps the reader quickly see the proposed relationship between the variables in the study. Based on the objective of the study, the following conceptual model is framed. As previously discussed in the related literature review parts, export has been affected by the following factors.

Figure 3.1 shows the conceptual framework of the variables of this study. According to Quazi (2007), variables are referred to as the building blocks of theory. By using the variables based on the gravity model, export is supposed to be affected by the GDP of the origin country, the population of the origin country, the trading partner's GDP, the trading partner's population and the distance between the most populated cities of the countries. The augmented independent variables are external debt, FDI inflows and financial development for the model. The conceptual framework

comprises eight explanatory variables which may have an impact on the export performance of Nepal.

Figure 3.1 Conceptual Framework



Source: Own formulation from different kind of literature

The figure exposes export as a dependent variable and is supposed to be affected by our independent variables which are external debt, FDI inflows and financial development and the gravity factors including GDP and population of Nepal, GDP and population of trading partners' and the distance between most populated cities from Nepal to importing(partner) countries.

3.4 Study Period

To analyze the relationship between the above-mentioned variables the sampling period of this study is spread over from 2007 to 2019 covering 13 years. This period is chosen on the chief consideration of data availability.

3.5 Sources of Data

Sources of data of different variables used in this thesis is presented in table 3.1. The unit measurement of variables is also presented.

Table 3.1 Sources and Unit of Data

Variables	Unit	Sources
Export	In thousands	World Bank, WDI
External debt	In thousands	World Bank, WDI
FDI inflows	In thousands	World Bank, WDI
Financial development	Index	UNCTAD
GDP of Nepal and partners	In thousands	CEPII
Population of Nepal and partners	In thousands	CEPII
Distance	Kilometers	CEPII

3.6 Tools of Analysis

Highly sophisticated statistical and econometric tools are applied to analyze the variables and study the relationship between variables.

3.7 Model Specification

Before estimating the models, they must be completely specified. Specifying an econometric equation consists of three parts: choosing the correct explanatory variables, the correct functional form and the correct form of the error term.

In terms of model specification, the said research specifies an equation. The equation is used to explain the relationship between dependent and explanatory variables. The study purposes following the gravity model to explore the relationship between dependent and independent variables. The following model, guided by Tinbergen (1962) and augmented to support my research objectives, is specified to examine the impact of external debt, FDI inflows and financial development index on export of Nepal. Differentiating logs of each variable except the financial development index have been taken to make the study easier.

Gravity models are very common in studying bilateral trade and FDI. Examples of studies that used the gravity specification to model bilateral trade and FDI include, Grubert and Mutti (1991) and Brainard (1997). In this thesis, exports are assumed to be correlated to the GDP and population of Nepal, involved countries' GDP, population, distance and the augmented independent variables.

This section discusses the macroeconomic behavior of Nepal’s export flow to its trading partners employing the augmented gravity model using panel data of 13 cross-sections for the period from 2007 to 2019. The panel estimation technique is used to investigate the impact of selected explanatory variables on bilateral export flow. The standard gravity equation argues that the bilateral export flow is positively determined by the size of the economy and negatively by bilateral distance. The standard gravity model is presented.

Model 1: The Gravity model

$$LEXP_{ij,t} = \beta_0 + \beta_1 LPOP_{i,t} + \beta_2 LTPPOP_{j,t} + \beta_3 LGDP_{i,t} + \beta_4 LTPGDP_{j,t} + \beta_5 LDIST_{ij,t} + \varepsilon_{ij,t} \dots \dots \dots (1)$$

Where $LEXP_{ij,t}$ is the natural logarithm of Nepal’s total Exports to country j measured in thousands at the t year refers to 2007-2019 where j refers to Nepal’s trading partners. This represents the total export from Nepal to its 25 high-exporting individual trading partners annually. β_0 is constant intercepts and $\beta_1, \beta_2, \dots \dots \beta_5$ are coefficients of independent variables, $LPOP$ is the natural log of the population of Nepal, $LTPPOP$ is the natural log of the Population of Nepal’s trading partners, $LGDP$ is the natural log of Nepal’s GDP in US\$, $LTPGDP$ is the natural log of the GDP of the trading partners of Nepal measured in US\$, $LDIST$ is the natural log of the distance between the most populated cities of Nepal and trading partners measured in kilometers, which represent the distance associated with the trade costs directly and expected to have a negative relationship with export. The last term of equation (1) is the error term. The error component structure has been presented in Equation 2.

$$\varepsilon_{ij,t} = \mu_{ij,t} + \theta_t + \varphi_{ij,t} \dots \dots \dots (2)$$

Where, $\mu_{ij,t}$ is a fixed effect that might be correlated with explanatory variables, θ_t captures the time-specific effects common to all cross-section units, and $\varphi_{ij,t}$ is an error term uncorrelated across cross-section units and overtime periods. The model is estimated using the Fixed Effect (FE) and Random Effect (RE) estimation methods, considering that the partner countries may have specific fixed effect as discussed in Borenstein et al. (2010)

Model 2: Augmented Gravity Models

$$\text{LEXP}_{ij,t} = \beta_0 + \beta_1 \text{LEXD}_{i,t} + \beta_2 \text{LPOP}_{i,t} + \beta_3 \text{LTPPOP}_{j,t} + \beta_4 \text{LGDP}_{i,t} + \beta_5 \text{LTPGDP}_{j,t} + \beta_6 \text{LDIST}_{ij,t} + \varepsilon_{ij,t} \dots \dots \dots (2)$$

LEXD is the natural log value of external debt stock measured in thousands in US\$. It is the total external debt stocks that Nepal borrows from international organizations, countries and societies.

$$\text{LEXP}_{ij,t} = \beta_0 + \beta_1 \text{LFDI}_{i,t} + \beta_2 \text{LPOP}_{i,t} + \beta_3 \text{LTPPOP}_{j,t} + \beta_4 \text{LGDP}_{i,t} + \beta_5 \text{LTPGDP}_{j,t} + \beta_6 \text{LDIST}_{ij,t} + \varepsilon_{ij,t} \dots \dots \dots (3)$$

Where, LFDI_{i,t} is the log of foreign direct investment inflow with one year lag in time. It is measured in thousands of USD. The one-year lag is taken assuming that building a production and preparation work before actual operation and export take time.

$$\text{LEXP}_{ij,t} = \beta_0 + \beta_1 \text{FD}_{i,t} + \beta_2 \text{LPOP}_{i,t} + \beta_3 \text{LTPPOP}_{j,t} + \beta_4 \text{LGDP}_{i,t} + \beta_5 \text{LTPGDP}_{j,t} + \beta_6 \text{LDIST}_{ij,t} + \varepsilon_{ij,t} \dots \dots \dots (4)$$

FD is the proxy for financial development. This covers the scenario of financial markets, financial institutions and financial instruments. Financial development like other indexes measures the efficiency, size and depth of financial markets, financial institutions and financial instruments.

3.8 Selected Variables

The selected variables of this study and their log symbols with expected signs are presented in this section.

i. Exports

Exports refer to the total value of goods and services provided by a country to other countries. This includes the value of merchandise, freight, insurance, transportation, travel, royalties, license fees and other services such as communication, construction, financial, information, business, personal and government services. Due to the increasingly competitive and dynamic customer-oriented environment, the success of a country's export performance remains a crucial question and has garnered significant interest among researchers. Therefore, in this study the dependent variable is export and the aim is to examine the factors that affect Nepal's export performance

using gravity variables and a few augmented variables to identify any previously untapped influences of these variables.

ii. External Debt

External debt is a type of borrowing that a country undertakes from foreign lenders and it can be repaid in goods, services or currency. In Nepal, the government's debt-to-GDP ratio is around 40%, meaning that the country owes a significant amount of money to external lenders. The payment of both the principal and the interest on external debt must be made in the same currency as the loan was borrowed. This study examines the total external debt stocks in order to evaluate the effectiveness of external debt in promoting Nepal's key issue of export promotion. The inclusion of this variable allows for an investigation into the extent to which external debt can be utilized to support Nepal's efforts to increase its exports.

iii. Foreign Direct Investment Inflow

Foreign direct investment (FDI) refers to an investment made by a foreign entity that involves a controlling ownership in one country and an entity based in Nepal. FDI is expected to play a crucial role in the industrial diversification, employment creation, export development and growth of Nepal's economy. It may also help the country to move away from its dependence on agriculture and backwardness towards a modern, dynamic, and technologically advanced economy with higher capital income and greater equity. However, the impact of FDI inflow on export has not been consistently proven by previous studies. Therefore, the inclusion of the FDI inflow variable in the analysis aims to determine the status of FDI in Nepal and to check whether it is productive for export or primarily focused on domestic supply.

iv. Financial Development

Financial development refers to the progress of financial institutions, markets and regulations that enable transactions to be conducted through credit extensions while mitigating the costs incurred in the financial system. The financial development index comprises three aspects of financial development: financial markets, financial institutions and financial instruments. The index was developed by the IMF by creating nine indices, including financial development, financial institutions (depth, access, and efficiency) and financial markets (depth, access and efficiency) which summarize the development of financial institutions and markets in terms of their

depth, access, and efficiency. These indices are then aggregated into an overall index of financial development. The financial development index has been included in this study to investigate the impact of finance-related activities on addressing the trade deficit of Nepal.

v. Gross Domestic Product(GDP)

The economic size of both Nepal and its trading partner countries is typically measured by their respective GDPs. According to the standard gravity model, a larger economic size has a positive influence on trade between countries. This is because the export of a country is determined by the difference between its domestic supply and demand, which in turn affects its exports. An increase in the GDP of an exporting country generally leads to an increase in its output capacity, resulting in a surplus for exports. Similarly, growth in the GDP of an importing country makes imports more affordable for its economy. Hence, both the GDPs of Nepal and its trading partners are expected to contribute to the expansion of Nepal's exports.

vi. Population

The population of both countries (Nepal and its trading partner countries) measures the respective economic size of the countries. It is believed that a higher population in the origin country leads to higher production and helps with export. When the population of exporting countries increases the capacity of exporting countries to produce more output also increases and hence there exists a surplus for exports. In the meantime, the growth of importing countries' populations, increases their economies for imports. However, if the population of the importing country increases there may also be the chance to increase their productivity which may reduce their import necessities.

vii. Distance

In their study, Ram and Prasad (2007) explained the inclusion of distance in the gravity model due to the reason that distance serves as a proxy for transportation costs, transaction costs and the time elapsed during shipments and cultural distances. Distance between exporting and importing countries is the basic variable of the gravity model. Countries located far from exporting countries are expected to trade less as compared to those located closer to exporting countries, implying that the variable distance is expected to hurt the country's exports. Because of its

timeinvariant nature, the distance variable causes a problem when the time dimension is entered into the analysis. To overcome this kind of problem and to make distance a varying variation-invariant weighted distance is used in the study.

Table 3.2 Description of Variables

Dependent variable	Log symbol of values	Expected sign
Export of goods and services	LEXP	
Independent variables		
External debt	LEXD	+
Foreign direct investment inflow	LFDI	+
Financial development	FD	+
Gross domestic product of Nepal	LGDP	+
Gross domestic product of trading partners	LTPGDP	+/-
Population of Nepal	LPOP	+
Population of trading partners	LTPPOP	+/-
Distance	LDIST	-

Source: Own estimation

Table 3.2 shows the log symbol of variables and their expected sign for the gravity model results. Export is a dependent variable, other explanatory variables and independent variables external debt, FDI inflows and financial development are all presented in the log form. External debt, FDI inflows, financial development, GDP and population of Nepal are expected to give a positive impact on the export performance of Nepal. Whereas, distance is supposed to give a negative impact, the GDP and population of trading partners are expected to have both negative and positive impacts. An increasing population of trading countries can work in two ways, one, population increases consumption so export may increase of Nepal, and two, more population means more manpower and more production and this may lead to the increase in the production in their own country so exports of Nepal declines.

CHAPTER IV

RESULTS AND DISCUSSION

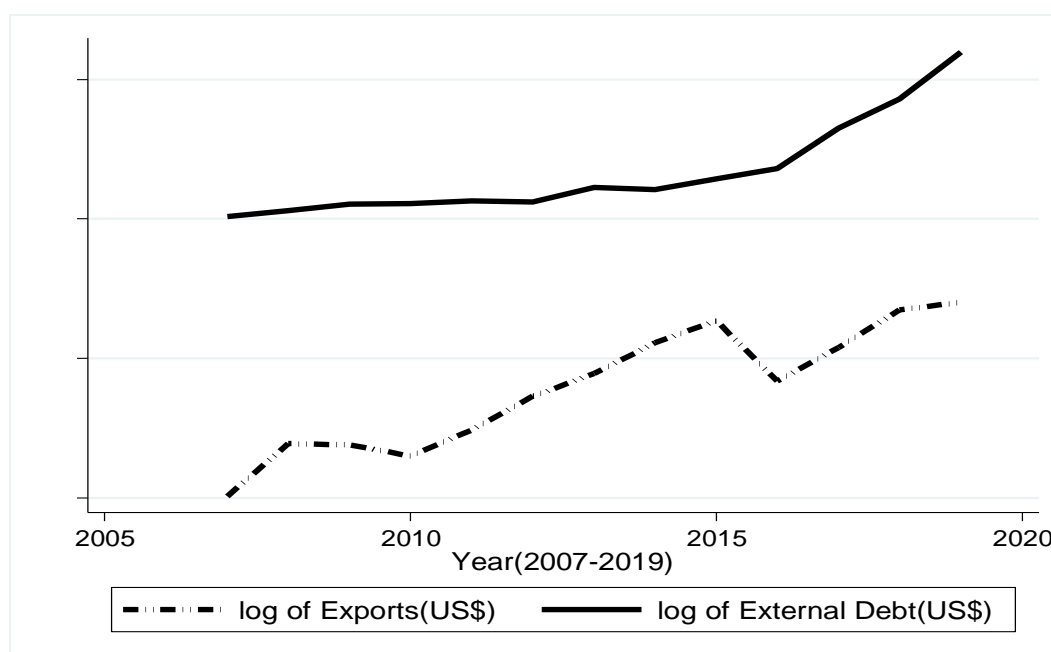
4.1 Introduction

To match the objectives, this thesis has adopted two approaches, first to explain the trends and patterns of variables and second to show the impact of external debt, FDI inflows and financial development on the export of Nepal. This chapter deals to fulfill these two objectives. The trends and patterns of variables, descriptive statistics of the dependent and independent variables and the result after employing the gravity model of trade has been presented in this section.

4.2 Trends and Patterns of Exports, External Debts, FDI Inflows and Financial Development

This section shows the trends and patterns of exports, external debt, FDI inflows and financial development in case of a small country, Nepal. For this purpose, these variables are recorded over the period of 13 years from 2007-2019. The variables, external debt, FDI inflows and exports are measured in thousands (US\$) whereas, financial development is the composite index of financial markets and financial institutions of Nepal.

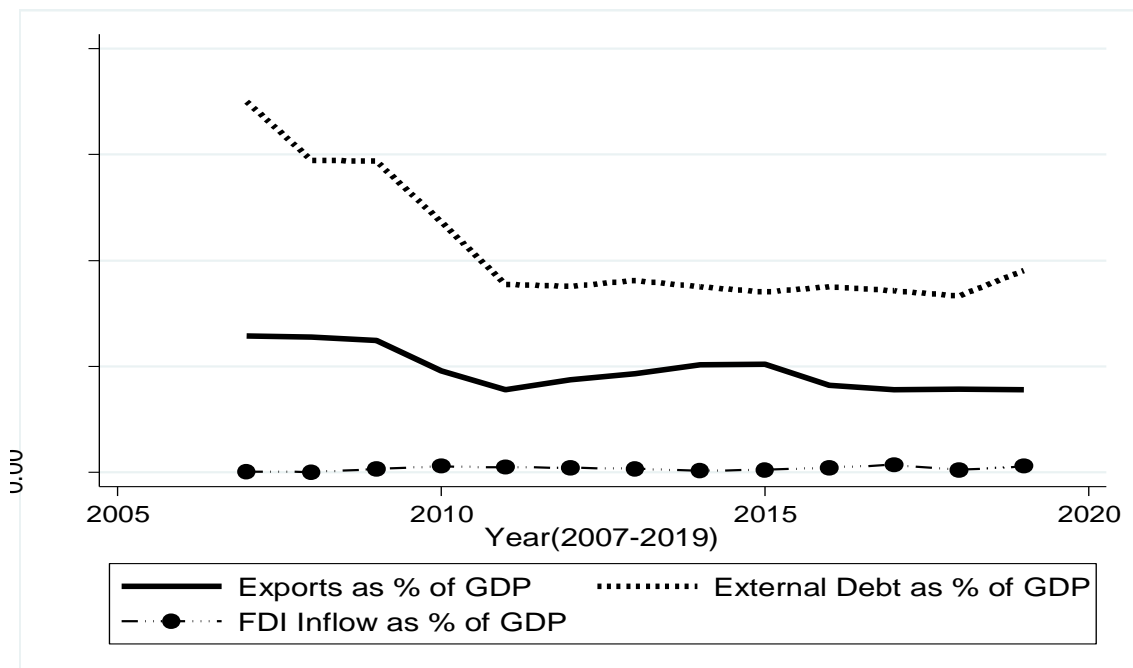
Figure 4.1 Trends of Exports and External Debt



Source: World development indicator database.

Figure 4.2 shows the natural log values of Nepal’s export and external debt stocks both measured in the United States Dollar (USD) from 2007 to 2019 in thousands. Figure shows a stronger inclining trend for Nepal’s external debt stocks. Where the fluctuations are high for the exports of Nepal, it is not much fluctuate for the case of external debt stocks in Nepal. Nepal takes large amount of external debt from IMF and World Bank. Countries like India and Japan are at the top when talk about countrywise share. The external debt stock is always high than the exports for the study period. Figure shows an inclining trend for exports after the year 2016 which was a sharp decline in the year 2015. One of the reasons may be the massive earthquake that hit in the year 2015.

Figure 4.2 Share of Exports, External Debt and FDI Inflows in GDP Measured in Percent



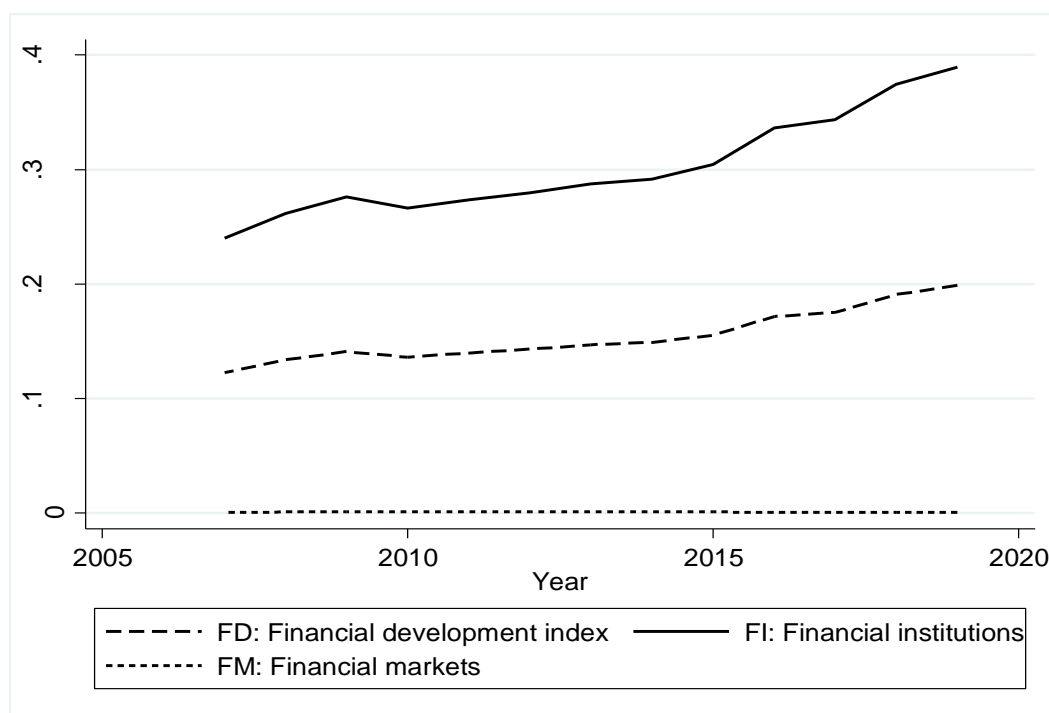
Source: World development indicator and UNCTAD (2019) database.

Figure 4.2 presents the share of external debt, FDI inflows and exports in GDP measured in percent for the same period. It shows the fluctuating trend of the share of both exports and external debt over the period and the increasing trend of FDI inflows. The share of external debt was at an all-time high in 2007 which was 36 percent of GDP. The external debt share in GDP is leading with the widening gap with the exports. It is seen that the exports and external debt ratio are almost going in

the same direction. The share of exports in GDP went up to the lowest of five percent in 2012 and the highest in 2007.

In General, the figure indicates that in all stages of the study period, foreign investment as a percentage share of GDP is around zero percent and registered its highest value over the past 13 years 0.68% in the year 2017. Possible explanations for the trends of low foreign investment inflows in Nepal are mostly explained by none economic factors such as natural calamities and political unrest. The never-ending inclination towards zero in FDI inflow could be also explained by the negative impact of the political unrest due to huge disagreements between political parties following the election and parliament. The decline in 2007/08 reflects the global financial crisis worldwide. It is believed that the crisis also affected the Nepalese economy.

Figure 4.3 Trends of Financial Development Index, Financial Markets and Financial Institutions in Nepal



Source: IMF(2022)

Figure 4.3 shows that Nepal’s financial development is largely dominated by financial institutions. The financial market has very less impact on the development of the financial system of the country. It presents the financial development index and two important components of financial development, which are financial institutions and financial markets which were developed by Svirydzhenka (2016). She has analyzed the

overall financial development issues and relevant variables to use the principal component analysis for financial institution depth, financial institution access, and financial institution efficiency to get financial institution and financial market scores to obtain a single index for financial development. The figure shows that the financial market has had an increasing trend over the period and that has led to maintaining the slow but positive trend of financial development. The financial market situation seems a nearly stagnant position with some fluctuations. So, it can be said that financial development in Nepal is largely dominated by financial institutions rather than the financial markets. Hence, the development of financial markets is the most.

4.3 Descriptive Statistics of Variables

The descriptive summary of all the variables of the study is presented in table 4.1.

Table 4.1 Descriptive Statistics of Variables

Variables	Observation	Mean	SD	Min	Max
LEXP	325	14.49	0.21	14.09	14.79
LEXD	325	15.26	0.17	15.1	15.68
LFDI _{t-1}	300	10.63	1.4	6.9	12.19
FD	325	0.153	0.0228	0.12	0.19
LPOP	325	10.22	0.033	10.16	10.27
LGDP	325	16.75	0.309	16.15	17.27
LTPGDP	325	20.52	1.78	13.99	23.78
LTPPOP	325	10.48	1.72	6.52	14.15
LDIST	325	8.43	0.82	6.08	9.4

Source: Authors' estimation

Table 4.1 shows the descriptive statistics of variables. The descriptive summary of all the variables in log form except for financial development is presented. The financial development is in index form so, it is not necessary to take a log form of it.

4.4 Empirical Results

The results after employing the gravity model of trade to find the impact of external debt, FDI inflows and financial development of Nepal is presented in this section. The

tables report the estimates of external debt, FDI inflows, financial development index and five gravity regressions using the panel data on total exports of Nepal to its destination countries throughout the world from 2007 to 2019. The model used both fixed effect and random effect models for the confirmation of robust results.

4.4.1 Gravity Variables on Export

In the tables given, Column I shows the Fixed Effects (FE) results whereas the Random Effects (RE) models are presented in Column II. To compare the gravity factors of trade, tables report the estimated coefficients after estimating the basic gravity model on export. Where, export is the function of the GDP and population of the origin country, Nepal, the population and GDP of 25 major partner countries and the distance between the most populated cities. The result indicates few variables are highly significant and the R-squares indicate that the model explains much of the variation in the respective dependent variable, export.

Table 4.2 Results of Gravity Variables on Exports

<u>Dependent Variable: Exports USD log (LEXP)</u>	FE	RE
Population of Nepal-log(LPOP)	2.139*** (0.022)	2.160*** (0.001)
Population-trading partners-log(LTPPOP)	0.062 (0.058)	-0.001* (0.001)
GDP of Nepal-log US\$(LGDP)	0.424*** (0.005)	0.436*** (0.000)
GDP-trading partners-logUS\$(LTPGDP)	0.019 (0.016)	0.001* (0.002)
Distance-log-km(LDIST)	(dropped)	-0.002* (0.002)
Number of observations	325	325
Number of groups	25	25
F stat(FE)	15,789	
R-squared	0.875	
Correlation(FE)	-0.557	

Note: ***, ** and * indicate that the statistics are significant at 1%, 5% and 10% level of significance. The figures in the parenthesis are the standard error.

The income variable of Nepal which is GDP (LGDP) is strongly significant and positive in both FE and RE estimation, showing that an increase in the GDP of Nepal increases the export from Nepal. Result shows that one percent increase in GDP of Nepal leads increase the exports by 0.42% on average. More importantly, it has played important to become a critical driven factor for Nepalese exports. There is a shred of empirical evidence that countries with higher GDP tend to have higher trade volumes which is why richer countries trade more. However, the result confirmed that Nepal's export is not much affected by the GDP of importing countries showing one percent increase in GDP of Nepal's top 25 trading partners leads to increase in export of Nepal by 0.002% approximately.

The variable population of Nepal (LPOP) shows a strong positive significant sign in both RE and FE models. While the population of trading partners (LTPPOP) just shows a significant sign in the RE model with a negative sign and a lower coefficient value, indicating that the population of trading partners doesn't affect much to the export pattern of Nepal but Nepal's population remains as the core driving factor. It shows one percent increase in the population of Nepal leads to a 2.1% increase in the export volume of Nepal.

As expected the estimated coefficient of distance (LDIST) to exports is significant at 10% at RE estimation while this variable is omitted from the FE model due to collinearity. The negative coefficient of this variable indicates that the distance between Nepal and its trading partners affects Nepalese exports negatively. This implies that the farther the destination countries are from Nepal's most populated city, the smaller the exports to these countries. This is because transportation costs are expected to increase with the increase in geographical distance between two countries. From the estimated results, holding other things unchanged, it is evident that a one kilometer difference in distance will reduce Nepalese exports by 0.002%.

4.4.2 External Debt and FDI Inflows on Exports

The result of the gravity model along with augmented variables, external debt and foreign direct investment inflows on the export performance of Nepal has been shown in table 4.3. Fixed effects and random effects are shown in the respective four columns for each variable. LEXD shows the result for external debt stocks on export of Nepal where LFDI shows the result for the foreign direct investment inflow on

export of Nepal. The one-year lag in FDI inflow has been taken assuming the time lag for building and starting the operation.

Table 4.3 Results of External Debt and FDI Inflows on Exports

<u>Dependent Variable: Exports USD log(LEXP)</u>	FE	RE	FE	RE
External Debt-log(LEXD)	0.233*** (0.005)	0.231*** (0.000)		
Population of Nepal-log(LPOP)	2.591*** (0.025)	2.591*** (0.001)	2.066*** (0.033)	2.060*** (0.002)
Population-trading partners-log(LTPPOP)	0.015 (0.031)	-0.002* (0.001)	-0.029 (0.049)	-0.004** (0.002)
GDP of Nepal-log US\$(LGDP)	0.276*** (0.006)	0.289*** (0.001)	0.581*** (0.005)	0.595*** (0.001)
GDP-trading partners-log US\$(LTPGDP)	0.032* (0.016)	0.002 (0.002)	0.067** (0.028)	0.005* (0.002)
Distance-log-km(LDIST)	(dropped)	-0.003 (0.002)	(dropped)	-0.006* (0.003)
FDI -lag log US\$(LFDI)			-0.038*** (0.001)	-0.037*** (0.000)
Number of observations	325	325	300	300
Number of groups	25	25	25	25
F stat(FE)	13685		4,508	
R -squared	0.884		0.858	
correlation(FE)	-0.361		-0.438	

Note: ***, ** and * indicate that the statistics are significant at 1%, 5% and 10% level of significance. The figures in the parenthesis are the standard error.

The result for the external debt (LEXD) shows that it has a strong positive association with export performance in Nepal. It is significant at a 1% level with a coefficient of 0.23. This indicates that a one percent increase in the stock of external debt leads to a 0.23 percent increase in the export of Nepal holding other variables constant in the model. External debt is significant in both FE and RE estimation. The reason behind the positive relationship can be described by the effective use of external debt for production and trade.

The classical theory of debt assumes that there is no need for government and government debt. The theory further assumes any amount that is transferred to the

government will be at the cost of the private. Contrary to these assumptions, the result of this study shows that external debt contributes to the export performance in Nepal by supplying the required capital through infrastructure and industries in the economy. The result also contradicts Shamim et al. (2017b) who showed a significant but negative relationship between external debt and export in Pakistan. One of the major reasons for this relationship is explained by IMF conditionality for the debt.

However, the result of the FDI inflows on export is quite different. The result shows that the inward FDI in Nepal is not export-oriented. The result is negatively significant at a 1% level in both FE and RE estimations. One percent increase in FDI inflow leads to a 0.03% decline in export performance with one year lag on FDI when holding other variables constant in the model.

The result contradicts with many theories and literatures including product life cycle theory which shows foreign direct investment (FDI) emphasizes the role of innovation and economies of scale in determining trade patterns. While, Prasanna (2010b) argued that foreign ownership promotes the export of least-developed and developing economies, Gebreyesus and Kebede (2017) indicated the negative relation between FDI inflows and export is because of ineffective incentives and facilitation of inefficiency to administer the FDI. The main issues with administering incentives are either incentives were not fully operational or exporters felt that incentives were not sufficient to motivate exports. The negative relationship could also be associated with how fast FDI could get to operations and export. The concern can also be expressed that FDIs in Nepal lead to a transfer of technologies at a low level, replace and discourage domestic investments and primarily target Nepal's domestic market without necessarily increasing exports.

4.4.3 Financial Development on Exports

The result of the financial development on the export performance of Nepal is presented in Table 4.4.

Fixed effects and random effects are shown in the respective two columns of the table. FD, financial development is the composite index that comprises nine indices including the depth, access and efficiency of financial markets and depth, access and efficiency of financial institutions in Nepal. Financial instruments are included in financial institution.

Table 4.4 Results of Financial Development on Export of Nepal

<u>Dependent variable: Exports USD</u> <u>log(LEXP)</u>	(FE)	(RE)
Financial Dev Index(FD)	1.133*** (0.060)	1.112*** (0.003)
Population of Nepal-log(LPOP)	2.173*** (0.022)	2.183*** (0.001)
Population-trading partners-log(LTPPOP)	0.030 (0.045)	-0.002* (0.001)
GDP of Nepal-log US\$(LGDP)	0.345*** (0.006)	0.358*** (0.001)
GDP-trading partners-log US\$(LTPGDP)	0.028* (0.016)	0.002 (0.002)
Distance-log-km(LDIST)	(dropped)	-0.003* (0.002)
Number of observations	325	325
Number of groups	25	25
F stat(FE)	12,856	
R-squared	0.877	
correlation(FE)	-0.429	

Note: ***, ** and * indicate that the statistics are significant at 1%, 5% and 10% level of significance. The figures in the parenthesis are the standard error.

The result shows the analysis is consistent with a stream of the literature and supports the finance-trade theory, showing that financial development has a significant impact on the export performance of Nepal. The financial development index which covers financial markets and financial institutions has a positive association with export performance, indicating that one index point increase of the financial development index causes to increase in export performance on average by 1.33 percent. The result is consistent at 1% in both FE and RE estimation. The reason behind the positive impact is explained by the developed and accessible banking and financial access that have been designed to fulfill the requirements of small and medium businesses. These findings are consistent with study conducted by Paudel and Alharti (2021) who also found a positive and significant relationship between financial development and export performance of Nepal.

CHAPTER V

SUMMARY AND CONCLUSIONS

5.1 Introduction

This chapter is the last chapter of this study which sums up the whole thesis in a comprehensive manner. Accordingly, in the first part of this chapter, an overview of the thesis and its major findings are presented and finally the chapter ends up with recommendations for policy implications for policymakers and suggestions for future studies.

5.2 Summary

Nepal, an economy with a population of about 30 million is an economy with a GDP of \$36.29 billion in 2021. The country has been engaged in a series of economic transformation strategies after the ending of the Rana regime and Maoist insurgency. Nepal has abundant natural resources with aesthetic cultures and religions. Being the least developed country in South Asia, it lacks the capital to harness the available resources and to take benefit from them. Export performance measures the country's capacity to trade and produce and external debt has been regarded as a key factor for the expenditure and investment for growth and transformation. Nepal has vast potential in hydropower and agriculture with the benefit of cheap labor compared to other Asian countries. Despite the efforts made by the government, no specific turnover has been seen for the development of export in Nepal.

A gravity model of trade has been adopted to estimate the impact of external debt, foreign direct investment and financial development on the export of Nepal. This study also emphasized the gravity factors that influence Nepal's exports. The gravity factors that show a highly significant impact on Nepal's exports are the GDP and population of Nepal and the weighted distance between Nepal and partner countries. GDP is a positive and significant coefficient that is a proxy of the income or supply capacity. While the variable population is the proxy for working manpower in the country. The GDP of the trading partner countries shows very less significance in the FE estimation. While the population of trading partner denotes shows a negative and significant impact on RE estimation suggesting that if the working capital increases in the partner country, they import less. The result also implies that the government of Nepal and Nepalese exporting companies should focus on promoting manufacturing

exports to rich economies, which are located at close distances, including China. Since distance is taken as a proxy of transportation costs, it is necessary to find ways to reduce transportation costs such as improvement of transport infrastructure and logistics system.

In addition to this, the empirical result indicates that external debt has a strong significant and positive effect on the export performance of Nepal. The result doesn't intend to promote the foreign loan but to efficiently utilize them in a productive sector accepting terms and conditions. Foreign direct investment harms Nepal's exports indicating anti-export bias coming from protection, time and cost inefficiency that discourages exporters from Nepal. Looking at Nepal's specific case, large FDIs are involved in non-exporting sectors. For example, large foreign investments have been made in the hydroelectricity and construction industries which target the domestic market and are not export-oriented. The reason also be the weak capabilities that may lead only to a short-lived hump in export performance.

Financial Development (FD), another independent variable of this study shows a positive impact on the development of exports in both estimations. FD is a composite index to represent the overall financial development status of Nepal. The relationship is positive and statistically significant indicating overall financial development (FD) cause to grow the exports Nepalese export. This implies that the exportable sectors have gained, from the financial markets development in the country. All the proxies of financial development used in the model are indicated by a single index.

5.2 Conclusion

The general objective of this study was to find out the impact of external debt, FDI inflows and financial development on the export performance in Nepal. To know this, the study employed an explanatory research design and quantitative research approach with secondary panel data utilized from 2007 to 2019 (13 years). To estimate the degree and effects of each variable the gravity model of trade was used.

Nepal's export has great potential that has not been cultivated for global performance. We have the potential to domestically produce and be used in the production of goods, like agricultural, textile and garment products for both domestic consumption and export purpose. The export capacity of Nepal should be used by the Nepalese

government in transforming the country's traditional agriculturally based economic activity to industrialization lead rehearsal.

The empirical results are consistent with the predictions of the gravity model, and the coefficients for most of the variables are as expected, with some exceptions. Nepal exports labor-intensive goods and imports necessity goods. The positive and significant coefficients show that Nepal's trade is determined by comparative advantages with different economies.

The finding of the thesis shows that external debt and financial development play a positive and significant impact on the export performance of Nepal whereas, FDI inflows show a significant yet negative impact. The distance coefficient shows that Nepal's exports are concentrated with its nearer trading partners and Nepal's trade is highly concentrated with India, hence it suggests that Nepal should redirect its trading activities to China and other near countries to reduce excessive and risky dependence trade on India. Nepal could acquire a large international market for its exports by improving its trade relations.

The study suggests adopting strategies, such as building trade and manufacturing-focused infrastructure, initiate for bilateral trade agreements and tying up education with the national production system making it more export friendly.

5.3 Policy Recommendations

Based on this study's result and conclusion, the possible recommendations can be drawn as:

- a. Implement macroeconomic policy reforms: To improve Nepal's export performance, it is important to focus on both demand and supply factors, promoting GDP and investing on human capital.
- b. Reduce the impact of distance on competitiveness: The study found that Nepal's export performance decreased as the weighted distance between Nepal and its importing countries increased. This highlights the importance of reducing transportation costs to increase Nepal's market demand. Effective policies should be implemented to take advantage of Nepal's geographical location.

- c. Debt for trade policy: The trade-related debt policy should be considered while obtaining external debt that can improve the impact of external debt on Nepal's export performance.
- d. Proper knowledge and technology transfer: The study highlighted the significance of adequate knowledge and technology transfer in the FDI sector. The results indicate that establishing a connection between multinational corporations and local research institutions, such as public universities and institutes can serve as a robust channel for technology transfer to enhance the productivity and export orientation of FDI inflows. Furthermore, the government must address the structural issues faced by exporters and businesses.
- e. Create a favorable market environment: To improve Nepal's export performance, it is important to focus on creating a favorable market environment that includes improved legal and financial development as well as greater access to financial institutions and instruments such as stocks and bonds. This would particularly benefit small and medium-sized firms and industries. The positive effect of Nepal's financial development index on export performance highlights the need to closely examine this factor.

Further research can be conducted based on solving the limitations of this study. It can expand to more variables and increase the sample size by increasing either the number of trading partner countries or the number of periods to draw more accurate results.

REFERENCES

- Akoto, R. K., & Adjasi, C. (2020). Does financial development promote export diversification in Sub-saharan Africa? *Journal of Economic Research*, 25(2), 155-178.
- Akram, N. (2011). Impact of public debt on the economic growth of Pakistan. *The Pakistan Development Review*, 599-615.
- Alvarez, R., & Lopez, R. A. (2013). Financial development, exporting and firm heterogeneity in Chile. *Review of World Economics*, 149, 183-207. <https://doi.org/10.1007/s10290-012-0143-0>
- Arslan, U., Celikoz, Y. S., & Guzel, A. E. (2018). Causal relationship between foreign direct investment and export: The case of developing economies of Asia. *Asian Economic and Financial Review*, 8(4), 537-551.
- Awan, A. G., & Qasim, H. (2020). The impact of external debt on economic growth of Pakistan. *Global Journal of Management, Social Sciences and Humanities*, 6(1), 30-61.
- Anukoonwattaka, W. (2016). Introduction to the basic gravity model. In United Nations ESCAP:Capacity Building Workshop on Introduction to Gravity Modelling.
- Beck, T. (2003). Financial dependence and international trade. *Review of International Economics*, 11(2), 296-316. <https://doi.org/10.1111/1467-9396.00384>
- Becker, B., Chen, J., & Greenberg, D. (2005). Financial development, fixed Costs, and international trade. *The Review of Corporate Finance Studies*, 2(1), 1-28.
- Berman, N., & Hericourt, J. (2010). Financial factors and the margins of trade: Evidence from cross-country firm-level data. *Journal of Development Economics*, 93(2), 206-217.
- Bhatta, G. P., & Mishra, A. (2020). Estimating optimum growth-maximizing public debt threshold for Nepal. *NRB Economic Review*, 32(2), 1-28.
- Bhattarai, K. (2015). Public debt in Nepal: An Assessment. *Economic Journal of Development Issues*, 15(1), 50-59.

- Borenstein, M., Hedges, L. V., Higgins, J. P., & Rothstein, H. R. (2010). A basic introduction to fixed- effect and random- effects models for meta- analysis. *Research synthesis methods, 1*(2), 97-111. <https://doi.org/10.1002/jrsm.12>
- Brainard, S. L. (1997). An empirical assessment of the proximity-concentration tradeoff between multinational sales and trade. *American Economic Review, 87*(4), 520-544
- Buckley, P. J., Clegg, J., & Wang, C. (2002). The impact of inward FDI on the performance of Chinese manufacturing firms. *Journal of International Business Studies, 33*, 637-655. Available at. <https://link.springer.com/article/10.1057/palgrave.jibs.8491037>
- Carrere, C. (2006). Revisiting the effects of regional trade agreements on trade flows with proper specification of the gravity model. *European Economic Review, 50*(2), 223-247.
- Chaudhary, S. K., Xiumin, L., & Khan, M. K. (2018). The factors affecting Nepal's trade: gravity model analysis. *European Academic Research, 5*(12), 6766-6782.
- Cheruiyot R, J., & Ombaba, M. (2020). Examining the empirical effect of public debt on export earnings of flower firms in Kenya. *Journal of Business and Management, 34*-44.
- Coban, S. (2015). Does the financial development spur export performance? Evidence from Turkish firm-level data. *International Journal of Economics and Financial Issues, 5*(2), 434-440.
- Duasa, J. (2007). Malaysian foreign direct investment and growth: Does stability matter? *Journal of Economic Cooperation Among Islamic Countries, 28*(2).
- Dunning, J. H., & Lundan, S. M. (2008). *Multinational enterprises and the global economy*. Edward Elgar Publishing.
- Demirguc-Kunt, A., & Levine, R. (2018). *Finance and Growth*. Edward Elgar Publishing Limited.
- Fang, Z., Gao, X., & Sun, C. (2015). Do financial development, urbanization and trade affect environmental quality? Evidence from China. *Journal of Cleaner Production, 259*, 120892.

- Iyer(2010). The Determinants of firm-level export intensity in New Zealand agriculture and forestry. *Economic Analysis & Policy*, 40(1).
- Gebremariam, T. K., & Ying, S. (2022). The foreign direct investment-export performance an: An ARDL based empirical evidence from Ethiopia. *Cogent Economics and Finance*, 10(1).
- Gebreyesus, M., & Kebede, A. (2017). Ethiopia's export promotion and the misalignment of the tariff and exchange rate regimes (No. 019).
- Ghimire, S., Mukherjee, D., & Alvi, E. (2016). Aid-for-trade and export performance of developing countries. *Applied Econometrics and International Development*, 16(1), 23-34.
- Greene, W. (2013). Export potential for US advanced technology goods to India using a gravity model approach. *US International Trade Commission, Working Paper*, 3, 1-43.
- Grubert, H., & Mutti, J. (1991). Taxes, tariffs and transfer pricing in multinational corporate decision making. *The Review of Economics and Statistics*, 285-293.
- Hatab, A. A., Romstad, E., & Huo, X. (2010). Determinants of Egyptian agricultural exports: A gravity model approach. *Modern Economy*, 1(03), 134.
- Hussain, S. S., Sabri, P. S. U., Amjad, Z., & Tahir, A. G. (2016). Economic growth of Pakistan: Effects of foreign capital inflows. *Pakistan Vision*, 17(2).
- International Trade Centre(2003). Trade sim (second version), a gravity model for the calculation of trade potential for developing countries and economies in transition, UNCTAD, Market Analysis Section.
- Jayaraman, T. K., & Lau, E. (2009). Does external debt lead to economic growth in Pacific Island countries?. *Journal of Policy Modeling*, 31(2), 272-288.
- Kasahara, H., & Rodrigue, J. (2008). Does the use of imported intermediates increase productivity? Plant-level evidence. *Journal of Development Economics*, 87(1), 106-118.
- Kojima, K. (1985). Japanese and American direct investment in Asia: A comparative analysis. *Hitotsubashi Journal of Economics*, 1-35.

- Kumarasamy, D., & Singh, P. (2018). Access to finance, financial development and firm ability to export: Experience from Asia–pacific countries. *Asian Economic Journal*, 32(1), 15-38.
- Kuntluru, S., Muppani, V. R., & Khan, M. A. A. (2012). Foreign direct investment and export performance of pharmaceutical firms in India: An empirical approach. *International Journal of Economics and Finance*, 4(5).
- Konya, L. (2006). Exports and growth: Granger causality analysis on OECD countries with a panel data approach. *Economic Modelling*, 23(6), 978-992.
- Linnemann, H. (1966). *An econometric study of international trade flows* (No. 42). Amsterdam, North-Holland.
- Lopez, R. A., & Yadav, N. (2010). Imports of intermediate inputs and spillover effects: Evidence from Chilean plants. *The Journal of Development Studies*, 46(8), 1385-1403
- Love, I. (2003). Financial development and financing constraints: International evidence from the structural investment model. *The Review of Financial Studies*, 16(3), 765-791.
- Mugenda , O., & Mugenda , A. (2003). *Research methods: Quantitative and Qualitative methods*. Cambridge University Press.
- Munn, Z., Stern, C., Aromataris, E., Lockwood, C., & Jordan, Z. (2018). What kind of systematic review should I conduct? A proposed typology and guidance for systematic reviewers in the medical and health sciences. *BMC Medical Research Methodology*, 18(1), 1-9. Available at <https://bmcmmedresmethodol.biomedcentral.com/articles/10.1186/s12874-017-0468-4>
- Mundell, R. A. (1957). International trade and factor mobility. *The American Economic Review*, 47(3), 321-335.
- Nishitateno, S. (2015). Network effects on trade in intermediate goods: Evidence from the automobile industry. *The Japanese Economic Review*, 66(3), 354-370.
- Paudel, R. C. (2019). Exports performance of Nepal: what can be done?. *Applied Economics and Finance*, 6(5), 92-103.

- Paudel, R. C., & Alharthi, M. (2021). Role of financial development in the export performance of a landlocked developing country: The case of Nepal. *Cogent Economics and Finance*, 9(1).
- Poirson, H., Ricci, L. A., & Pattillo, C. A. (2004). What are the channels through which external debt affects growth? *IMF Working Papers*, 04(15), 1.
- Prasai, L. P. (2014). Foreign trade pattern of Nepal: Gravity model approach. *NRB Economic Review*, 26(1), 24-43.
- Prasanna, N. (2010). Impact of foreign direct investment on export performance in India. *Journal of Social Sciences*, 24(1), 65-71.
- Quazi, R. (2007). Investment climate and foreign direct investment: A study of selected countries in Latin America. *Global Journal of Business Research*.
- Ram, Y., & Prasad, B. C. (2007). Assessing Fiji's global trade potential using the gravity model approach. School of Economics, University of the South Pacific.
- Razmi, A. M., & Hernandez, G. (2011). Can Asia sustain an export-led growth strategy in the aftermath of the global crisis? An empirical exploration. *ADBI Working Paper 329*.
- Retnosaria V.A & Jayadi Akhmad(2020). Analysis of the determinants of Indonesia's exports with ASEAN countries and seven trading partner countries using the gravity model. *Cuadernos de Economía* 43, 391-400.
- Shamim, M. A., Jawaid, S. T., & Kamal, M. (2017). External debt and export performance in Pakistan: An empirical investigation. *IBT Journal of Business Studies (JBS)*, 2(2).
- Shetewy, N., Shahin, A. I., Omri, A., & Dai, K. (2022). Impact of financial development and internet use on export growth: New evidence from machine learning models. *Research in International Business and Finance*, 61, 101643.
- Sultanuzzaman, M. R., Fan, H., Akash, M., Wang, B., & Shakij, U. S. M. (2018). The role of FDI inflows and export on economic growth in Sri Lanka: An ARDL approach. *Cogent Economics and Finance*, 6(1), 1–17.

- Svirydzienka, K. (2016). *Introducing a New Broad-based Index of Financial Development*. International Monetary Fund.
- Tekin, R. B. (2012). Economic growth, exports and foreign direct investment in Least Developed Countries: A panel Granger causality analysis. *Economic modelling*, 29(3), 868-878.
- Thapa, K. K. (2022). An impact of foreign direct investment on employment generation in Nepalese economy. *Adhyayan Journal*, (9), 63-71.
- Tinbergen, J.(1962). *Shaping the World Economy: Suggestions for an international economic policy*. New York: Twentieth Century Fund.
- Upagade, V. and Shende, A. (2012). *Research Methodology*. (2nd ed). S. Chad and Company Ltd. Ram Nagar, New Delhi.
- Vernon, R. (1992). International investment and international trade in the product cycle. *International Economic policies and their theoretical foundations*, 415-435. Academic Press.
- Wen, M. (2005). Foreign direct investment, regional geographical and market conditions, and regional development: A panel study on China. *ANU Research Publication*.
- World Bank. (2022). External debt(% of GDP). Retrieved from World Development Indicators:<https://data.worldbank.org/indicator/NE.GDI.FTOT.ZS>
- World Bank. (2022). Export (% of GDP). Retrieved from World Development Indicators: <https://data.worldbank.org/indicator/NE.TRD.GNFS.ZS>
- United Nations Conference on Trade and Development (2020). *Foreign Direct Investment: Inward and Outward Flows and Stock, Annual*. Retrieved from UNCTADSTAT: (2020). United Nations Conference on Trade and Development.
- CEPII. 2021. The CEPII gravity dataset <http://www.cepii.fr/anglaisgraph/bdd/gravity.asp> (Accessed on 02/01/2023).

APPENDIX-I

List of top 25 importing markets and their most populated city, average (2009-2019)

S.N	Trading Partners	Most populated city
1.	India	Mumbai
2.	United States of America	New York
3.	Germany	Berlin
4.	United Kingdom	London
5.	Turkey	Istanbul
6.	France	Paris
7.	Australia	Sydney
8.	China	Shanghai
9.	Italy	Rome
10.	Canada	Toronto
11.	Japan	Tokyo
12.	Bhutan	Thimpu
13.	Bangladesh	Dhaka
14.	Netherlands	Amsterdam
15.	Denmark	Copenhagen
16.	Switzerland	Zurich
17.	United Arab Emirates	Dubai
18.	Belgium	Ghent
19.	Hongkong	Hongkong
20.	Austria	Vienna
21.	Korea Republic of	Seoul
22.	Sweden	Stockholm
23.	Russian Federation	Moscow
24.	Spain	Madrid
25.	Lebanon	Beirut

Source: ITC and CEPII

APPENDIX-II

External Debt, Exports, GDP, FDI inflow and financial development index of Nepal
(2007-2019)

Year	External debt	Exports	GDP	FDI inflow	FD Index
2007	3613195511	1327426850	10325618017	6000000	0.12
2008	3696697652	1602782690	12545438605	1000000	0.13
2009	3777036974	1596506180	12854985464	39000000	0.14
2010	3787483272	1533460340	16002656434	87000000	0.14
2011	3826237147	1684084660	21573862467	95000000	0.14
2012	3809914766	1899085040	21703106502	92000000	0.14
2013	4012919216	2059901680	22162208956	71000000	0.15
2014	3980972649	2301357060	22731602970	30000000	0.15
2015	4142916401	2488355030	24360795411	52000000	0.16
2016	4297388214	2005967750	24524098185	106000000	0.17
2017	4963402939	2263315210	28971589213	198000000	0.18
2018	5510938186	2587878000	33111525872	67000000	0.19
2019	6513481342	2659663940	34186190996	185000000	0.20

Source: UNCTAD, WDI and IMF

RESEARCH MATRIX

S.N	Objectives	Hypothesis	Specified variables	Tools of analysis	Specific model	Sources of data
1.	To analyze the trends and patterns of Nepal's exports, external debt, FDI inflows and financial development.		Exports, External debt, FDI inflow, Financial Dev. Index	Tables, Graphs, percentage, average, STATA		WDI, IMF, UNCTAD
2.	To examine the impact of external debt, FDI inflows and financial development on the export performance of Nepal.	H ₀₁ - There is no significant association between external debt, FDI inflows and financial dev. on export of Nepal.	Exports, External debt, FDI inflow, Financial dev. Index, GDP, Population and Distance	STATA, Excel	Gravity model of trade	WDI, IMF, UNCTAD and CEPII