RELATIONSHIP BETWEEN FOREIGN DIRECT INVESTMENT AND ECONOMIC GORWTH IN NEPAL

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LETTER OF RECOMMENDATION

This thesis entitled **RELATIONSHIP BETWEEN FOREIGN DIRECT INVESTMENT AND ECONOMIC GROWTH IN NEPAL**has been prepared byRamchandra Ghartiunder my supervision. I hereby, recommend this thesis for examination to the Thesis Committee as partial fulfillment of the requirements for the degree of Master of Arts in Economics. Therefore, I recommend this work for approval and acceptance.

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Prof. Dr Ram Prasad Gyanwaly

(Thesis Supervisor)

Date: 2079/12/20 BS

APPROVAL LETTER

We member of the thesis committee, evaluated the thesis entitled **RELATIONSHIP BETWEEN FOREIGN DIRECT INVESTMENT AND ECONOMIC GROWTH IN NEPAL** prepared by Ramchandra Ghartito the Central Department of Economics, Faculty of Humanities and Social Sciences in partial fulfillment of the requirements for the Master Degree in Economics have found satisfactory in scope and quality. Therefore, we accept this thesis as a part of the Degree.

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DECLARATION

I hereby declare that this MA Economic thesis entitled "**RELATIONSHIP BETWEEN FOREIGN DIRECT INVESTMENT AND ECONOMIC GORWTH IN NEPAL**" Submitted to the Central Department of Economic, Tribhuvan University is entirely my original work prepared under guidance and supervision of my supervisor **Prof. Dr Ram Prasad Gyanwaly**I have made due acknowledgements to all ideas and information borrowed from different source in course of preparing this thesis. The result of this thesis have not been presented or submitted anywhere else for the award of any degree or for any other purposes. I assure that no part of content of this thesis has been published in any from before. I shall be solely responsible if any evidence is found against my thesis.

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Ramchandra Gharti

ACKNOWLEDGEMENTS

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ABBREVIATIONS/ACRONYMS

ADB	Asian Development Bank
ADF	Augmented Dickey–Fuller
BIMSTEC	Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation
BIPPA	Bilateral Investment Promotion and Protection Agreement
CBS	Central Bureau of Statistics
CEDECON	Central Department of Economics
DoI	Department of Industry
ECT	Engle –Granger co- integration test
FDI	Foreign Direct Investment
FNCCI	Federation of Nepalese Chambers of Commerce and Industry
FTA	Free-Trade Agreement
GATS	General Agreement on Trade in Services
GDP	Gross Domestic Product
GNP	Gross National Product
HRD	Human Resource Development
IMF	International Monetary Fund
ICT	internet communication technology
LDCs	Least-Developed Countries
MFNs	Most Favored Nations
MNC	Multi-National Corporation
MoF	Ministry of Finance
MoI	Ministry of Industry, Commerce
NRB	Nepal Rastra Bank
OECD	Organization for Economic Cooperation and Development

OLS	Ordinary Least Square
Ph. D.	Doctor of Philosophy
RFDI	Real Foreign Direct Investment
RGCE	Real Government capital expenditure
RGDP	Real Gross Domestic Product
SAARC	South Asian Association for Regional Cooperation
SAFTA	South Asian Free Trade Area
TNC	Trans-national Corporation
TRIMS	Trade-Related Investment Measures
TU	Tribhuvan University
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNU/WIDER	United Nations University /World Institute for Development Economics Research
WTO	World Trade Organization

CHAPTER I

INTRODUCTION

1.1 Background of the Study

Foreign direct investment (FDI) in developing countries has a long history. It has fluctuated over time, as investors have responded to changes in the environment for investment, including government policies toward FDI and the broader economic policy framework. Hence, trends in FDI have reflected changes in policy stances by developing countries, from import substitution in the 1950s and 1960s through natural resource-led development in the 1970s, structural adjustment and transition to market economies in the 1980s, and an increased role for the private sector in the 1990s.

The IMF broadly defines FDI as the establishment of, or acquisition of, substantial ownership in an enterprise in a foreign country; and in a narrow sense, as enterprises in which nonresident holds 25 percent or more of the voting share capital. So the inflow of FDI is accepted as an indicator and major of the globalization. FDI occurs when an investor based in one country (the home country) acquires an asset in another country (the host country) with the intent to manage that asset (UNCTAD, 1999). FDI is considered as means of obtaining not only capital and technology but also scares management and skill, improved marketing 'know –how' and outlets for non-traditional experts of manufacture processed commodities and traded services (Chitrakar,1994).

According to World Investment Report (UNCTAD, 2018) global flows of FDI plummeted by 23 percent in 2017. FDI flows to developing economies remained stable at US$671 billion, seeing no recovery following the 10 percent drop in 2016. Flows to developing Asia also remained stable at US$476 billion. The region regained its position as the largest FDI recipient in the world. FDI in structurally weak economies remained fragile as illustrated by the fact that flows to the least developed countries (LDCs) fell by 17 percent to US$26 billion in 2017. This negative trend remains a matter of concern for policymakers in Least-Developed Countries (LDCs) where international investment is indispensable for sustainable industrial development.

Sharma, K.P(2009) FDI can serve as a principal complement to domestic investment and capacity building for the growth and development of the LDCs. The unique aspect of FDI is that it brings in a package of resources capital, technology, skills, management know-how and marketing capabilities together with production activities, to a host economy. While these resources and capabilities are utilized in the host-country affiliates and help optimize the profits for the investing transnational corporations (TNCs), they also have an array of direct and indirect impacts that can, under suitable conditions, be very beneficial to the host economy. They can produce not only products for domestic consumption or for export, income and employment but also linkages and spillovers that bolster the capabilities of domestic firms and human resources, contributing to capacity building and accelerated growth in the host economy.

Adhikari, R.(2013) Nepalese economy is subsistence economy and comparatively small size economy with the limited domestic market. The two major emerging economies of the world, China and India have offered significant and easy access to the largest markets in the region. Similarly, SAFTA, SAARC, and BIMSTEC have introduced as a platform for Nepalese Market in the world market. One of the major reason for the underdevelopment of this country is that Nepal lacks abundant capital to mobilize the existing resources of the country. The economic growth of the country depends upon the exploitation and proper utilization of existing resources through the mobilization of capital.

The current population growth of Nepal is 0.97 percent per annum, the gain achieved by development activities has been overshadowed by the growing population. Nearly 18.6 percent of the population is still living below the poverty line in the abject condition. The economic situation became fragile and vulnerable due to devastating Gorkha earthquake of 25 April 2015 and its subsequent aftershocks. Additionally, Nepal suffered from the blockades by India and the consequently significant impact was seen in the economy.

Ahmed, N. (2015) Production activities, especially in the service sector, had been severely disrupted by the earthquake mainly due to damage to physical infrastructure and distribution networks. In addition, banks and financial institutions were only partially operating, which restricted the credit supply to businesses and households. Travel and tourism were badly hit as the most key hotels were closed down due to

structural damages of Hotel buildings. Similarly, UNESCO world heritage sites, most touristic places were destroyed by an earthquake. It had not only hit on damage to physical infrastructure but also made a huge loss in the economy. As a fact, GDP sharply declined and triggered in low economic growth. Meanwhile, GDP growth rebounded strongly afterFY 2016 due to the accelerated expenditure on rehabilitation and reconstruction to fulfill the demand of construction materials.

Bista, R.B (2010) most economists accept that Foreign Direct Investment (FDI) is a major source of capital and indispensable to attainingthe economic goal for industrialization. Together, it is a medium to acquire knowledge, skill, and technologies to internationalize business and exploit natural resources. The increased mobility of Multi-National Companies (MNCs) and the elimination of entry barriers to global capital flows have encouraged to attract FDI in the country. To this effect, FDI has been a major economic policy issue for developing and undeveloped countries around the world.

FDI also stimulates domestic investment and facilitates improvements in human capital and institutions in the host countries. International trade is also known to be an instrument of economic growth. Trade facilitates more efficient production of goods and services by shifting production to countries that have a comparative advantage in producing them. FDI and trades contribute significantly towards advancing economic growth in developing countries like Nepal.

Gautam and prasain(2006)Nepal's foreign investment rules and regulations are based on the Foreign Investment and Technology Transfer Act, 1992 which was amended in 1996 in line with open and liberal economic policies. One of the major policies of the Three-Year Interim Plan (2007/8-2009/10) is the promotion of domestic and foreign investment for the development of the economic sector of the country. Again, in the case of Nepal, as a conflict-stricken economy, FDI is more sought since it has an even more instrumental role in buttressing the building-up process. Though many attempts were made in the past to boost FDI flows to the country, they did not have any noteworthy impact.

FDI has been considered to have the capacity to augment the domestic investment in the host economy to bring about more opportunities arising from better utilization of both human and material resources that have attracted the foreign investment in the

first place. In developing countries generally find themselves trapped in poverty which is entrenched by the inability to fully harness their endowed human and material resources regard the inflow of foreign direct investment as an important means of achieving economic development.

Nepal is rich in biodiversity and culture but economic growth of the country has not improved substantially over time to overtake population growth. Poverty gap was widening day by day due to the weak performance of planned development and its huge resource expenses. As a result of this, we could not achieve the desired level of development. Hence, adequate capital is a must to pave the way for the economic development of underdeveloped countries like Nepal. Therefore, foreign direct investment (FDI) is regarded as a tool, by which a country gets capital. FDI provides funds along with manpower, technology which encourages local enterprises to invest with a foreign partner.

1.2 Research Gap

The study has attempted to cover the gap of previous studies in terms of sample size and research methodology. Thus the study is different from earlier studies of Nepalese context. The study will be help full from it's contribution to fill the gap between the previous studies and also the finding of this study can add value to the existing body of the literature

1.3 Statement of the Problem

Nepal is a potentially attractive location for foreign investors, sandwiched between two emerging countries of the world with India in the south and China in the north, Nepal has free access to the Indian market, and tariffs on imported raw materials and components are lower here than South Asian countries. The varied climate, natural resources, and terrain provide a wealth of niche opportunities, many of which are barely being exploited at all. Nepal has attracted modest FDI in niche sectors such as tourism, energy, light manufacturing (apparel) and mineral deposits. Investment is mainly in low technology, labor-intensive production. The impact of FDI has also been modest in employment generation. While the FDI laws were liberalized in 1992, there are still obstacles that investors face. In the short term, Nepal can attract more FDI in niche sectors such as tourism and production of herbs with special investment packages. With all these possibilities, FDI has been declining and Nepal is not being able to attract minimum requirement.

There are some of the weaknesses such as weak financial sector and inefficient administrative functions, government's mandate and geographical constraint, unstable policies and insecurity among the bureaucrats, unclear investment policies, the current political instability, corruption and lack of corporate governance, etc. Besides the Maoist and other parties' frequent movement and banda was threat to bilateral and multilateral development projects The challenge for Nepal is to put in place investor-friendly business climate that willcomplement its small bureaucracy. This is a serious problem in attracting foreign investment.

Against these backdrops, it is a real challenge to Nepalese to accumulate capital resources domestically as no one deny the role of foreign investment in economic growth and development of the country. An assessment of the probable reasons for the declining FDI is thus recognized as he following problems:

i. What is the trend of Sector wiseforeign direct investment inflow and economic growth in Nepal?

ii. What is the linear relationship between FDI and economic growth of Nepal?

1.4 Objectives of the Study

The general objectives of the study is to analyze the relation between foreign direct investment and Economic growth of Nepal. Where the specific objectives of the study are given below.

i. To examine the trend and structure of foreign direct investment and Economic growth of Nepal.

ii. To analyze the relationship between foreign direct investment and Economic growth of Nepal.

1.5 Hypothesis of the study

Based on above objectives of the study, to answer the research question following hypothesis is tested.

1. Ho: There is no relation between foreign direct investment and economic growth.

2. H1: There is relation between foreign direct investment and economic growth.

1.6 Significance of the study

Nepal, a capital poor economy with low domestic saving rate. Where development expenditure, to a significant extent, are dependent on foreign aid, foreign direct investment. FDI is frequently viewed as instrumental in promoting industrial growth and foreign trade, particularly in developing countries. FDI maintains relatively open economic, stable macro-economic conditions and limited restrictions on foreign exchange transaction. Itfrequently stimulates competition, productivity, and innovation by local suppliers because local suppliers compete for lucrative contracts with the multi-national enterprise.

Furthermore, it generate income and employment opportunities resulting in higher wages, competitive price more revenue, skills, and technology transfer and increased foreign exchange earnings. It contributes to the development of a host country by increasing the country's investment level beyond what would be permitted by domestic saving alone. Similarly, enhance entrepreneurial capability when foreign firms bring with it some firm-specificknowledge in the form of technology, managerial expertise, and marketing know-how It also allows new local entrants to learn about export markets, provide training if workers and stimulates competition with local firms.

FDI can stimulate economic growth by raising productivity and forcing efficient use of resources through the linkage with foreign trade flows and positive externalities to the industrial sector. FDI can fulfill the gap of financial resources, accumulate physical and human capital; contribute employment and supply of goods, create spillover effects, enhance skills and technology. Moreover, it is also a source of foreign exchange through the equity capital and exports of goods and services.

The recently published data and information about FDI in Nepal are used as most of the contents of the thesis is based on the secondary data. Limited time and budgetary resources are the main constraints for collecting data. From the experience of students, the researcher found several problems while collecting primary data from the concerned government authorities, related industries, and individual company. Since they were not cooperative to provide the required information. Moreover, due to the confidentiality provision, the concerned authorities and individual company do not disclose all the information.

1.7 limitations of the study

This study is carried purely for the academic purpose. The limitations of the study in terms of data and statistical tool can be listed as follows.

- Secondary data are used for analysis and result interpretations, so the accuracy of the finding depends on the reliability of the available information.

- The study covers the collection of data only a period of 25 years from FY 1995/96 to 2022/21 due to moderate time series sample.

1.8 Organization of the Study

The first chapter is about the introduction which includesthe background of the study, statement of the problem, objectives of the study, Hypothesis testing, significance of the study, limitations of the study. The second chapter comprises of Literature Review which deals with the review of available literature related to the thesis title. In this chapter,the empirical review has been done. It includes a review of books, journals, master theses, etc.

The chapter third introduces the research methodology for the analysis regarding the objective of the study including the econometric models that have been used. It includes theoretical concept, research design, nature and sources of data, and methods of data analysis. The chapter four analyzes the presentation of data collected from the Economic Surveys, Nepal Rastra Bank, Department of Industry. Finally, chapter five includessummarizes the main finding, conclusion and recommendation which is obtained from the study and research and offers suggestionsand recommendations for further improvements.

CHAPTER II

REVIEW OF LITERATURE

Foreign direct investment can be distinguished as market seeking and resource seeking. Market-seeking the purpose of FDI is to ensure access to the market for their products and services in the destination countries while resource seeking FDI is made to ensure more reliable supplies of natural resources (Scholars such as Jones,1998). However, the contribution of FDI to economic growth is debatable. Neoclassical economists (such as Solow) argue that FDI will only be growth advancing if it affects technology positively and permanently. Accordingly, they argue that FDI affects economic growth in the short term, on condition that the decrease in the marginal productivity of capital, the host economy converges to steady state and FDI had no permanent impact on the economic growth of the host economy.

Contrary to the neoclassical economists, the endogenous growth model argues that FDI is considered to be an important source of human capital, technological diffusion, new management practices, marketing knowledge and organization which can effects growth endogenously. The new growth theory also highlights that it is the knowledge transfer through FDI to the developing countries that are important.

The theoretical link between FDI and economic growth can be also found in modernization and dependency theory. According to modernization theory, FDI could serve as an engine to economic growth by contributing to capital accumulation and by increasing total factor productivity (Mamun &Nath, 2005). Quite the opposite, the dependency theory suggests that if a nation depends on foreign investment, then its economic growth would face a negative impact. This is because FDI creates monopolies in the industrial sector, which consequently results in under-utilization of domestic resources (Adams, 2009). Consequently, lead to an implication that the economy is mainly dominated by foreign investors and does not experience growth. Therefore, the multiplier effect is weak and leads to stagnant growth in developing countries.

2.1 International Context

Balasubramanyam et al. (1996) emphasized the importance of providing the right economic environment to ensure that FDI is beneficial to the economy. They

foundthat countries with a neutral trade regime, where artificial incentives favor neither export-oriented nor domestic market-oriented industries, fare better than countries where a specific industry is favored. This is because, in a neutral regime, firms' decisions are 24 governed by market forces rather than by artificial incentives. Furthermore, a liberal regime also allows for competition between domestic and foreign firms and these, in turn, provide innovation and learning that contribute to economic growth.

Ahmed (1975) explored that FDI plays an important role in the process of industrialization and economic growth in developing countries. Most of the countries in the world have recognized that FDI by TNCs contributes in many ways to the process of growth. Since the 1980s, this has led to a dramatic shift in the attitude of developing countries towards FDI.

Flexner (2000) examined the effect of FDI on per capita GDP growth over the period 1990-1998 and finds that FDI has a statistically significant impact. Hansen and Rand (2006) analyze the causal relationship between FDI and GDP in a sample of 31 developing countries. Using estimators for heterogeneous panel data, they find a unidirectional causality from FDI to GDP implying that FDI causes growth.

Lensink and Marrissey (2001) estimated the standard model using cross-section, panel data, and instrumental variable techniques and find that FDI has a positive effect on growth whereas volatility of FDI has a negative impact. They also find that the evidence for a positive effect of FDI does not depend on which other explanatory variables are included, although the significance of the estimated coefficient does vary according to the specification used.

Ram and Zhang (2002) used data for the 1990s from a large cross-section of countries and found a positive impact ofFDI on growth. The belief that FDI provides extra benefits to the economy is, however, not universally shared.

Carkovic and Levine (2002) used macro-level data, found little support for the importance of FDI in stimulating growth. They argue that previous studies that show the benefits of FDI on economic growth have not fully taken into account the endogeneity problem. Countries with good economic performance tend to attract more FDI making FDI endogenous in a growth model. Therefore, if the endogeneity problem is not taken into account, it is unclear whether FDI drives economic growth

or vice versa. Once the endogeneity problem is accounted for, they conclude, growth drives FDI and not vice versa. This result has been supported by other studies as well.

Kumer (2002) argued that FDI has emerged as the most important source of external resource flows to developing countries over the 1990s and has become a significant part of capital formation in these countries despite the fact that their share in global distribution of FDI continues to remain small or in some cases it even shows a decline.

Alfaro (2003) expressed that the growth benefits of FDI vary greatly across primary, secondary (manufacturing), and tertiary sectors. An empirical analysis using crosscountry data with 47 countries for the period 1980-1999 suggests that total FDI exerts an ambiguous effect on growth.

Nunnenkamp and Spatz (2003) used data on United States FDI stock abroad and find that the link between FDI and economic growth is quite weak. On a slightly brighter note, they discover a stronger relationship between the two in countries with more favorable socioeconomic characteristics, such as better institutions, more educated workforce and openness to trade. In general, however, they are quite skeptical about the benefits of FDI. They argue that it is easier to attract FDI than to derive benefits from it.

Hermes and Lensink (2003) examined the role of financial systems in 67 countries and conclude that the development of the financial system is an important factor for FDI to have a positive impact on growth. According to these authors, 37 of the 67 countries had developed financial system in order to let FDI contribute positively to economic growth.

Athukorala (2003) suggested that the relationship between FDI and GDP using time series data from the Sri Lankan economy. His econometric result shows that FDI inflows do not exert an independent influence on economic growth. Moreover, the direction of causation is not from FDI to growth but rather from growth to FDI. Bhattia, et al. (2005) examine the relationship between FDI and economic growth for twenty OECD countries over the period 1981-2000 by using an econometric methodology and their empirical findings clearly suggest that FDI does not have a statistically significant effect on economic growth for those investigated OECD Countries.

Chowdhury and Mavrotas (2003) examined the causal relationship between FDI and economic growth for Chile, Malaysia and Thailand using time series data covering the period 1969-2000 and their empirical findings clearly suggest that GDP causes FDI in the case of Chile and not vice-versa, while for both Malaysia and Thailand, there is a strong evidence of a bi-directional causality between the two variables.

Dritsaki et al. (2004) investigated the relationship between trade, FDI and economic growth for Greece over the period 1960-2002. Using cointegration analysis, their study suggests that there is a long run equilibrium relationship between FDI and growth. They also use the Granger causality test and the results show that there is a causal relationship between the variables. Hermes and Lensink (2003) examined the role of financial systems in 67 countries and conclude that the development of the financial system is an important factor for FDI to have a positive impact on growth. According to these authors, 37 of the 67 countries had developed financial system in order to let FDI contribute positively to economic growth

Bhattacharaya (2004) estimated that a ten percent increase in FDI results in a 3.7 percent increase in the GDP of Bangladesh. Further calculations then show that a one percent reduction in poverty would require an annual growth in FDI of thirteen percent. Hence, augmentation of FDI inflow and ensuring its greater effectiveness in poverty reduction remains a key task of the Bangladesh government as poverty reduction has been an important economic goal in the country.

Mian and Alam (2006) found that FDI remains a determinant of economic growth in Bangladesh. But government ineffectiveness in controlling corruption, improving political stability and establishing rule of law, and failure to increase physical and institutional policy infrastructure are the main reasons for a restrained FDI flows to Bangladesh.

Khawar (2007) studied the impact of contemporaneous foreign direct investment on growth in the period 1970-92 using ordinary least squares (OLS). The study found that foreign direct investment is significantly and positively correlated with growth as well as domestic investment. The population growth rate, initial GDP and political instability variables were negatively correlated with growth, consistent with the findings in much of the empirical growth literature. The human capital measure was not significant in the analysis.

Wang (2009) suggested the heterogeneous effects of sectoral FDI on the host country's economic growth. Using data from 12 Asian economies over the period 1987-1997, Wang shows that FDI in the manufacturing sector has a significant and positive effect on economic growth, whereas FDI in non-manufacturing sectors does not play a significant role in growth.

Busse and Groizard (2006) found that FDI does not affect economic growth in a very highly regulated country. However, it seems that there can be a wide range of regulatory regimes under which FDI can still prove beneficial. This is encouraging as it suggests most countries, even those with a rather restrictive regulatory environment, can benefit from FDI.

Prasad et al. (2007) revealed that there is a positive correlation between the current account balance and economic growth among non-industrialized countries, implying that reduced reliance on foreign capital is associated with higher growth. This result is weaker when they use panel data rather than cross-sectional averages over long periods of time, but in no case do they find any evidence that an increase in foreign capital inflows directly boosts growth.

Jayaraman and Singh (2007) explored the relationship between FDI and growth of Fiji was investigated through a multivariate modeling strategy. The ADF test showed results that all the variables, real GDP, real FDI inflows and employment were of order one. The bounds testing approach to co-integration depicted two cointegration relationships among the variables when the endogenous variables were formal sector employment and GDP.

Based on this, the ARDL estimator showed that both FDI and GDP have a statistically positive and significant impact on the employment of Fiji. The Granger causality testing procedure was carried out which found unidirectional causality running from FDI to GDP in the short run and a unidirectional causality running from FDI to employment in the long run. The study recommended that apart from continuing its current proactive policies to attract FDI inflows, Fiji should also retain these inflows by maintaining an appropriate political environment which includes political stability.

Chakraborty (2008) highlighted industry-specific FDI and output data to Granger causality tests within a panel co-integration framework that FDI stocks and output are mutually reinforcing in the manufacturing sector, whereas a causal relationship is

absent in the primary sector. They found only transitory effects of FDI on output in the services sector. However, FDI in the services sector appears to have promoted growth in the manufacturing sector through cross-section spillovers.

Kyuntae and Hokyung (2008) examined the impact of foreign direct investment on the economic growth of Ireland. The study applied the bound testing approach to co-integration for the data covered the period from 1975 to 2006. The result indicates that foreign capital (FDI) is statistically significant in both the long-run and the short-run having positive effects on economic growth in Ireland. The causality analysis also suggests that there is a bi-directional Granger causality between GDP and FDI, and thus, conclude that the FDI led growth hypothesis is valid for the Irish economy.

Riziv and Nishat (2009) observed that the policy implication is that whatever other benefits may accrue from FDI it should not be expected to create employment opportunity in any of the three countries (Pakistan, India, and China) directly and FDI enhancement policies must be supplemented by the other measure to stimulate employment growth. Our estimation of the impulse response shows that the growth elasticity of employment on average in the three countries is extremely low and employment enhancing policies must be priorities. Employment growth will not occur in these three countries as a spontaneous consequence of the growth in GDP. As rising formal sector unemployment, especially of technical and professional manpower, is becoming an increasingly important problem in all these countries.

Azman-Saini, Baharumshah, and Law (2010) concluded that FDI, by itself, does not have positive effects on economic growth. Rather, the positive effects of FDI are observed if economic freedom is taken into account, specifically market regulation. In their analysis, they used GMM panel estimators, which were applied to panel dynamic models. In the estimated equation, they used FDI, economic freedom indicators and control variables to explain economic growth. Based on a panel of 57 developing countries over the period from 1980 to 1999.

Christian (2011) investigated the impact of foreign direct investment on Nigeria's economic growth using a time series data running from 1980 to 2009. The study applied Johansen Co-integration technique and Vector Error Correction methodology in which FDI is disaggregated into various components namely: agriculture, mining, manufacturing and petroleum, and telecom sectors. The researcher concluded that the

impact of the disaggregated FDI on the economic growth of Nigeria is very little with the exception of the telecoms sector which had a good and promising future, especially in the long-run.

Ahmad (2012) explained the importance of foreign direct investment in Pakistan. The impact of foreign direct investment on employment creation in the country is checked in the present study. For this objective, four variables including unemployment rate, FDI, remittances, and literacy rate is used. It is found that all these variables are stationary at the 1st difference. Therefore, the Johansen technique for Co-integration is used to check the long run relationship among the stated variables. The results confirm the long run relationship among variables. Ordinary Least Square (OLS) method is used

Hassen and Ochianis (2012) analyzed the relationship between foreign direct investment and economic growth in Tunisia using a co-integration approach. A time series analysis over the period 1975 to 2009 is used for the analysis using a co-integration Error Correction Model. The research result suggests that FDI could help boost the process of long-term economic growth.

Seetanah and Khadaro (2015) suggested the relationship between foreign direct investment and growth: new evidence from Sub-Saharan Africa countries. The paper investigated the impact of foreign direct investment on economic growth for a panel of 39 Sub-Saharan African countries for the period $1980 - 2000$. Results from the analysis suggest that FDI is an important element in explaining the economic performance of Sub-saharan African countries, though to a lesser extent as compared to the other types of capital. Moreover, the study confirms the presence of important endogeneity in FDI growth relationship as FDI is not only seen to lead growth but to follow growth as well.

WB (2017) investigated the impact of foreign direct investment and trade on economic growth based on cross-sectional data of a sample of 66 developing countries over three decades. The result indicates that FDI interacts positively with trade and stimulates domestic investment. Sound macroeconomic policies and institutional stability are necessary pre-conditions for FDI -driven growth to materialize.

2.2 National Context

Chitrakaar (1994) made an extensive study on FDI in Nepal with cross country references of the SAARC region. This study based on primary as well as secondary sources, he analyzes the trend and form of foreign investment, its determinants, facilities, and incentives offered to attract it and causes of sluggish and disappointing flow of it in Nepal. He found that the flow of foreign investment in Nepal is less impressive than that of neighboring countries despite the adoption of more liberal policies and promised facilities and incentives.

Pyakuryal (1995) analyzed the effect of economic liberalization in attracting foreign investment in Nepal. The study is sole with the aim to assess the impact of economic liberalization on various sectors of the economy, based on data of secondary source published by different government agencies.

Poudyal (1999) stated that FDI would enter Nepal only if the investors were ensuring for maximum profit. Nepal a low-cost economy by dint of abundant labor and low wage rate are a strength for attracting FDI. But the component of labor in the total cost is declining significantly with the increasingly larger use of high-tech components. Moreover, the unskilled nature of labor eliminates the advantages of low cost. Thus it is imperative to concentrate on producing skill and technical manpower by orienting the educational system and operating for a co-coordinated approach by the universities in line with the emerging demand of international business.

Dahal and Aryal (2004) explored the FDI inflow into Nepal in a comprehensive manner providing historical background, national objectives, legal framework, bottlenecks and potential areas of strength and Indian Joint Ventures (JVs) with the use of primary as well as secondary data sources. In a poverty-stricken economy like Nepal, where internal resources are extremely limited to supplement current expenditures causing increasing dependence on foreign aid (grants and loans). Against poor economic growth rate and escalating political conflict, the role of FDI is crucial not only to sustain development activities but also for poverty alleviation.

Pant and Sigdel (2004) examined some existing hurdles in attracting FDI in Nepal. This study used the annual data covering the period of 1988 to 2003. Authors used an economic model for analysis. They used control variables which include the growth rate of GDP, foreign direct investment, exchange rate, the growth rate of GNP and

Exports (E). The study found that attracting FDI is a difficult task particularly for small countries with limited resources and relatively undeveloped infrastructure such as Nepal. They suggested that to attracted FDI, Nepal has to make extra efforts to counterbalance the negative impact of the completion by implementing several policy measures. Moreover, Nepal should take into account the experiences of other developing countries while framing their policies.

FNCCI (2005) portrayed Nepal as a country to attract much less FDI inflow. This includes the data on joint ventures and presents the present situation of the economy as well as legal provisions and useful information to the foreign investors. This can be useful to prospective investors as they can discern about the overall investment climate in the country.

Gautam and Prasain (2006) accepted that the modern history of JV/MNCs in Nepal started at the beginning of the 1980s when the government allowed Foreign Direct Investment in large and medium-size industries. With the view to achieving high economic growth and to narrow the growing saving-investment gap the Foreign Investment and Technology Act was enacted in 1982. The key information interviewed perceives foreign investment as one of the ways to close the saving-investment gap in Nepal. They believe that FDI is desirable to reduce the burden of foreign debt and debt serving. In general, developing countries are expected to have at least five percent foreign investment as a proportion of total GDP. In Nepal, this proportion is less than one percent. China and India opened up its policy to attract FDI. China and India have huge potential markets compare to Nepal and their FDI policy is consider being more liberal. Their infrastructure is also better; their government is more stable and national security better. In addition, their labor is not very costly in comparison to their skill and productivity. In addition to closing the resources gap, foreign investment is needed in Nepal to generate more gainful employment, directly and indirectly, it helps to solve the growing unemployment situation in Nepal. However,the present status of JV/MNCs is not very encouraging in relation to employment generation, and there is no mechanism in place to monitor the number of people actually employed in JV/MNCs.

MoICS (2009) analyzed that India is the foremost country in terms of having FDI in Nepal, which is obviously due to its close proximity and traditional economic relation with Nepal and duty-free access of Nepalese products to India. The same is true in the case of China, although duty-free access to the Chinese market is not available to

Nepalese products. Similarly, in the case of other major countries, long diplomatic relations and people-to-people contacts have played a vital role in inviting foreign investments into Nepal.

Regmi (2009) found that FDI has significantly contributed to economic growth in Nepal by supplementing domestic savings and investment, by stimulating the purchase of essential imports for industrial growth, by maintaining a minimum level of expenditure on education and health services as well providing skill manpower, technical skills, and organizational ability.

Sharma (2009) stated that FDI provides a package which constitutes new technologies, management techniques, finance and market access for the production and movement of goods and services. However, it is not free from the discrepancy of a sound environment for the context of Nepal to nurture the FDI. Political, business, bureaucratic leaders are required to come closer and act in a business-friendly chorus.

Bista (2010) mentioned some condition of FDI in Nepal and they are: Most investment in Nepal is small and most investors are individual than companies as such. Most of those consulted by UNCTAD were, however, corporate investors. Some 40percent of the FDI in Nepal is Indian. This is, of course, to be expected, given the open border between Indian and Nepal and the historic links between the two countries.

Pokhrel (2010) found out that there exists a long term relationship between the variable and direction of causality runs from FDI to Gross Domestic Product Growth Rate in Nepal. The empirical analysis on the basis of Ordinary Least Square Method suggests that there is a weak positive relationship between the variables and Unit Root Test suggested that variables that used in this study are non-stationary in their levels. Similarly, Johansen Co-Integration test suggests that there is a long-run equilibrium relationship among these variable and Granger Causality Test suggest that causality runs from FDI to Gross Domestic Product Growth Rate after four years. On the basis of the above analysis, he concluded that Nepal's Gross Domestic Product growth Rate especially does not depend upon FDI.

Risal (2010) explained that Nepal has made a promising start in implementing market-oriented reform and promoting FDI, but it has a long way to go in reaping the benefits from integration into the global economy through FDI. Under the new policy

regime, foreign firms had played a significant role in some sectors like carpets and garment exports, but their exports were largely motivated by some incentives such as the Generalized System of Preferences and MFA quotas rather than the country's comparative advantage. Large numbers of foreign investment projects are also based on shaky foundations, motivated by import deflection opportunities created by vast tariff differentials between Nepal and India. The overwhelming majority of foreign firms are involved in import substitution activities characterized by high capital intensity. Consequently, the contribution of FDI to employment generation has been negligible.

It seems that FDI attracted to "easy profit" activities (import-substitution manufacturing as well as the quota-protected garment industry) has failed to make a significant contribution to productivity growth in the Nepalese manufacturing sector. The foreign firms are located in the Kathmandu Valley or in the Terai belt, while the geographic spread of the gains from the foreign investment has been rather skewed. Most participation of foreign firms in tourism–an activity where Nepal has huge potential–has not been much due to poor infrastructure, lack of efficient transport networks and frequently disturbing political movements like strikes and riots.

Dangal (2011) studied the need, nature, and extent of FDI in Nepal, observed the laws and policies and other general determinants of FDI including motivating factors affecting the decision to invest in Nepal, problem, and prospects of FDI in Nepal. Hisstudy supported by both primary and secondary sources revealed foreign investment scenario in Nepal has been dismal. Despite its free-market reforms and incentives, Nepal has attracted only a small portion of FDI flowing to south Asia. The analysis of the flow of FDI in the country reveals that it commenced flowing remarkably into Nepal from the time liberal policies in the matter of getting private domestic or foreign investors involved into the economic activities of a country.

Pokhrel (2011) examined that even though marginal effect seems to be not significant because of the presence of autocorrelation, but without the presence of auto-correlation FDI does not adequately describe the GDP. The strength of this study is that it does not show a way of identifying the linkage between FDI and GDP. The weakness of this study does not provide a representative picture of the overall situation of FDI and GDP in Nepal and it has used the data from 1983 to 2007 only.

Jha, Agrawal, Gupta, and Mishra (2012) studied six South Asian countries – India, Bangladesh, Nepal, Pakistan, and the Maldives were considered for their study of FDI's determinants. They have shown that trade openness, GDP and direct investment have a positive impact on FDI whereas Labor had a negative influence. The presence of cheaper labor in the South Asian makes it a very attractive destination for business process outsourcing and cost-effective mass manufacturing. The growth in FDI and increased direct investment helps to create an environment conducive to productive use of FDI. This encourages foreign investors to pump in more money as they feel that the infrastructure that they need to ensure a healthy return on investment will be in place.

Thapa (2013) stated with a growing number of foreign investors expressing interest in setting up cargo business in Nepal, the government is planning to introduce new criteria for the registration of the business by foreigners. According to the author, the Department of Industry (DoI) is preparing to fix an investment sealing of at least Rs. 50 million and impose a provision that requires foreigners to assure that they would bring in new technologies. The imposition of the new criteria, according to DoI officials, is essential as foreign investors are registering cargo business with nominal investment.

Adhikari (2013) stated that Nepal offers huge potential both on market seeking investors and resources seeking investors. Resource seeking investors can invest in Nepal to tap the immense hydropower potential and travel and tourism industries whereas market seeking investor can invest in other infrastructure projects such as road, rail, hospital, information and technology, and education sector. For this Nepal has to offer a hospitable investment climate.

Timilsina and Mahato (2014) explained that the foreign direct investment is a means of industrialization which would lead to diversifying the economy for a durable, social psychological and institutional framework to quote them, "foreign investment is considered important for the industrialization of Nepal. Some basic features associated with the direct foreign investment are that it will attract capital, technology, and expertise furthermore it will help to share risks, exploit resources presently and provide access to the export market, all these factors are either in short supply or absent in Nepal.

Nepalikuire (2015) revealedthat Nepal has made a promising start in implementing market-oriented reform and promoting FDI, but it has a long way to go in reaping the benefits from integration into the global economy through FDI. Under the new policy regime, foreign firms have played a role in carpets and garment exports, but their exports are largely motivated by the Generalized System of Preferences and MFA quotas rather than the country's comparative advantage. Large numbers of foreign investment projects are also based on shaky foundations, motivated by import deflection opportunities created by vast tariff differentials between Nepal and India (the major investor in Nepal). The overwhelming majority of foreign firms are involved in import-substitution activities characterized by high capital intensity. Consequently, the contribution of FDI to employment generation has been negligible.

It seems that FDI attracted to "easy profit" activities (import-substitution manufacturing as well as the quota-protected garment industry) has failed to make a significant contribution to productivity growth in the Nepalese manufacturing sector. The foreign firms are located in the Kathmandu Valley or in the Terai belt, while the geographic spread of the gains from the foreign investment has been rather skewed. Most participation of foreign firms in tourism–an activity where Nepal has huge potential–has not been much due to the lack of efficient transport networks and the civil war since 1995.

Regmi (2016) explained despite the various efforts made by the government, Nepal has some remarkable challenges. They include high transit costs caused by the country's landlocked position, underdeveloped infrastructures, technological backwardness, and requirements imposed by WTO. Some measures can be highly recommendable for FDI promotion in Nepal: create a conducive environment in politico-economic stability, HRD, good governance; more openness to trade; linkages between different sectors; and the paradigm shift from manufacturing to high-tech products. Despite the tremendous increment in the overall volume of FDI, its flow has not been smooth for LDCs including Nepal. To enhance the flow of productive capital, Nepal needs to continue her efforts to achieve a transparent, stable and predictable investment climate with proper contract enforcement and respect for property rights, fixed in sound economic policies and institutions.

Sharma (2017) found out that Nepal is an ideal destination for FDI owing to its rich natural endowment abundant and cheap labor force, huge market in neighboring

countries, growing internal market, a well-developed banking and non-banking financial institutions to cater investor's need for finance, fully convertible current account, preferential entry of products in India and investor-friendly government policy. Investment opportunities are open to almost every sector of the economy from tea to mining industries. Tourism is the biggest business in the world and there is hardly a country that does not seek either tourists or investment in tourism. Uniquely, Nepal offers some of the most spectacular tourist attractions in the world. Similarly, Nepal is the second richest country in water resources. Therefore, there is a greater prospect of attracting FDI for the proper exploitation of water resources, especially, for generating hydroelectricity. Likewise, mineral exploration and exploitation in some of the areas of the country offer promising prospects for FDI. The good prospect exists for the establishment of pharmaceutical industries, leather industries, and carpet industries, industries for readymade garments, tea industries and agro and forest-based industries with foreign collaboration in Nepal.

CHAPTER III
RESEARCH METHODOLOGY

3.1 Conceptual Framework

The conceptual framework of this study developed depending upon the theoretical and empirical review made in this study in earlier chapter. The conceptual framework shows the relationship between different variables which are used in this research paper. The relationship between different variables can be shown by following diagram.

Figure 3.1

Schematic Diagram of the Conceptual Framework
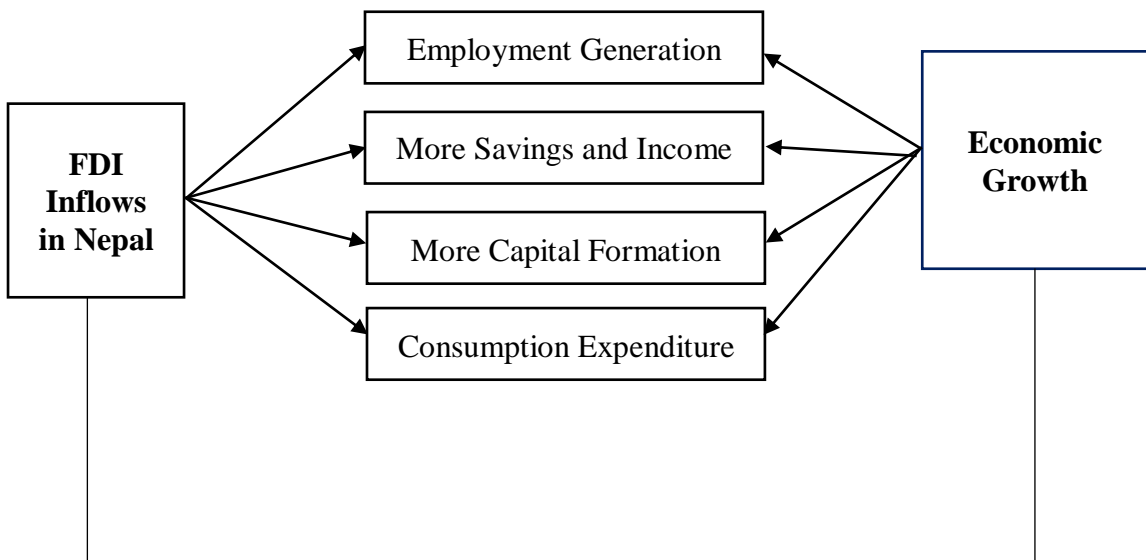
3.2 Research Design

The research design followed in the study is an explorative, descriptive and analytical framework to analyze the linear relationship between FDI inflows and Economic Growth in Nepal.

The conceptual framework of this study starts from the data collection to empirical analysis. The variables used in this study has been collected through different

government bodies. It is based on chronological order. After the arrangement of all data, the further process can be performed through the econometric tools.

It is clearly said that the entire research is started from the research problem raised. Setting objectives and hypothesis setting is the second processes. In the third, data collection processing steps are adapted. After testing the hypothesis, proper findings, conclusion, and recommendations are given to the related institutions. In the data collection process, there is applied secondary data. Econometric tools are used to identify the better results. Hypothesis testing is testing by separating the null and alternative hypothesis in this paper.

3.3 Sample Size

The sample size of the data are taken from FY 1994 to 2021. There are altogether 25 years observations data are collected from different government bodies like NRB,MOF,MOI and CBS Nepal.

The sample size is an important feature of any empirical study in which the goal is to make inferences about a population from a sample. In practice, the sample size used in on the expense of data collection, and the need to have sufficient statistical power. In complicated studies there may be several different sample sizes involved in the study: for example, in a stratified survey, there would be different sample sizes for each stratum. In a census, data are collected on the entire population, hence the sample size is equal to the population size. In experimental design, where a study may be divided into different treatment groups, there may be different sample sizes for each group.

This paper carries the sample size from FY 1994 to 2021 total observation is 25. The data are collected from the different government bodies and for example CBS, NRB and CBS etc.

3.4 Nature and Source of the Data

This research study is descriptive as well as analytical and statistical. The nature of date are time series form from fiscal year 1994 to 2021. The date like Approval FDI, Actual FDI, percentage change in GDP growth rate and FDI inflow, sector wise etc.

are taken from different government bodies like NRB, MOF, MOI and CBS etc. The data taken for the study has been transformed using logarithms methods as and when needed.

3.5 Description of the Variables

In the study, Gross Domestic Product (GDP), Foreign Direct Investment (FDI) and Gross Capital Formation (GCF), all variables are used in the real form. GDP is the proxy for economic growth. All the detail about the description of the Variables which are used in the study are represented as below in a table:

Table 3.1 Description of the Variables

Variables	Explanation
RGDP	'RGDP' is introduced as a real gross domestic product. After the inflation adjustment in the nominal GDP, RGDP is obtained. It is computed as follows: RGDP= (Nominal GDP /Deflator) *100.
RFDI	'RFDI' stands for real foreign direct investment. After the inflation adjustment in nominal FDI. It can be computed using the following formula. RFDI = (Nominal FDI/ Deflator)*100
RGCE	'RGCE' is introduced as real government expenditure. It is indicates the capital expenditure made by government in different sector of the economy.
Deflator	Deflator stands for. Among the 25 observations, 2000 is selected as the base year (2000=100). It is calculated as [Nominal GDP/ Real GDP] *100

Source: Authors own calculation

3.6 Methods of Data Collection

In economics, there is both (primary and secondary) methods are more popular for the collection of the data. In the primary data sampling and non-sampling or total enumeration, methods are used for the data collection and sampling methods are further takes two branches; one is the systematic sampling and another is the random -sampling. There are so many further divisions in the data collection process in the sampling method. In the same way, another method of data collection is a secondary method. In this method, the researcher takes the data from any authorized sources. It may be published or unpublished.

3.7 Model Specification

This study is based on the time series data from FY 1995 to 2021 and determines the impact of FDI on the economic growth of Nepal, it is carried out by linear empirical modeling. It may be a simple linear regression better known as ordinary least square. After the test of the basic asymptotic property of the time series data, further econometric model selection is applied. In this process, dependent variables are the real gross domestic product with the series of the independent variables are the real foreign direct investment and real gross capital formation. This kind of relationship can be expressed by the following economic modeling: RGDP = F (RFDI, RGCF).

3.7.1 Specification of model

A) Simple regression model

Considering the theoretical view and empirical review made in the literature review chapter, the regression model to fulfill the second objectives of this study, the regression equation is specified as:

$RGDP_t = C + \beta_1 FDI + \beta_2 RGE_t + e$ …………………….. (1)

Where,

RGDP = Real Gross Domestic Product

RFDI = Real Foreign Direct Investment

RGCF = Real Gross Capital Expenditure

C= Constant

β_1 and β_2 = Coefficients, and

e = Error term

B) Co-integration test

Economically speaking two variable will be co integrated if they have a long term or equilibrium relationship between them. (Gujarati, Porter, & Gunasekar , 2012). Co-integration test helps to identify to the linkage between two variable. Co-integration refers to the existence of a long run equilibrium relationship between the variable in which an economy system coverage over time (Bhusal, 2016) .

(B.1) Lag length determination

For the co integration test it is require to determine appropriate lag length. For this study Schwartz Information Criterion SIC criterion is used. This criterion suggest that the lower the value the better the model.

After co-integration test the study has performed the VECM for long run and short run relationship between variable.

C) Autocorrelation Test

Autocorrelation or serial correlation refers to the case in which the error term in one time period is correlated with the error term in any other time period. Classical linear regression assumes that such correlation does not exist. As a result of a crucial limitation of Durbin-Watson (DW) statistic, that it becomes invalid when applied to a regression equation which includes a lagged dependent variable among its regression and cannot test for higher order autocorrelation, the Breusch-Godfrey (LM) test was employed.

D) Heteroscedasticity Test

Heteroscedasticity occurs when the variance of the error term is not constant. The study employed White's General heteroscedasticity Test. (Gujarati & Gunasekar ,

2007) that the general test of heteroscedasticity proposed by White does not rely on the normality assumption and is easy to implement.

D.1) Engle - Granger Co-integration Test

Regression of FDI and Economic growth equation (2.c) takes place even in the presence of unit root test when relevant variables are checked for stationary using the unit root test. It stills provides the combined effect of two non- stationary variables. But, in this situation, spurious regression is estimated. So, unit root test on the residuals (ε_t) is applied to check the stationary. For the estimation of the error terms, Engle and Granger (1987) calculated critical values are used to estimate the stationary of the error terms Engle-Granger co-integration test. (Engle & Granger, 1987) Suggested this test consist of estimating the co-integration regression by OLS, obtaining the residual ε_t and applying the unit root test for ε_t According to this test, following hypothesis is tested:

Null Hypothesis (H_0): ε_t has unit root at level i.e. ε_t is non-stationary at level

Alternative Hypothesis (H_1): ε_t has no unit root at level i.e. ε_t is stationary at level

If the Augmented Dickey - Fuller test statistic is greater than Engle-Granger critical value then the null hypothesis is rejected that means ε_t is stationary at level. If ε_t is stationary at level that state the variable are co-integrated and exist a long-runrelationship between them .Similarly this also assure the correct forecasting of the model when ε_t is stationary at level .

To test the Engle - Granger co integration from equation 2.c.1 Error Correction term is calculated as given below:

$$\text{ECT}_t = \varepsilon_t = \text{LnRGDP}_t - (\alpha + \beta_1 \text{LnFDI}_t, + \beta_2 \text{LnGCE}_t)\dots\dots\dots\dots\dots\dots\dots\dots \quad (2)$$

After calculating the value of ECT for different period then the study check the stationary of ECT. If the error correlation term is stationary at level then the variable in equation 2.c are co-integrated i.e. there exist a long run relationship among them. The stationary test of ECT is also used to test whether the longrun model is spuriousor not. If R- squared value is greater than Durbin-Watson statistics, this is the symptoms of spurious regression. But the model is not spurious when the residual is stationary at level even R-squared is greater than Durbin- Watson statistics.

C) Error Correction Model (ECM)

Error Correction Model is used to find out short run dynamics of the model if the variable are I(1) and there exists a co-integration relationship. This model is usedfor estimate the speed of adjustment short-run disequilibrium to long- run equilibrium. The co-integration test show static equilibrium by long run equilibrium. In short run institutional and structural changes may occurs which create difficulties to explain long run dynamics. Therefore, it must be checked the short run relationship and short run dynamics. According to "Granger Representation Theorem" if two time series variables are co-integrated then relationship between two variables can be examined as an Error Correction Model(ECM). The ECM model is given below

$$D(LnRGDP_t) = \alpha + \beta_1 D(LnFDI_t) +$$

$$\beta_2 D(LnGCE_t) + V \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots.(3)$$

Where,

$D(LnRGDP_t)$ =   first difference natural log of Real gross domestic product

$D(LnFDI_t)$ =   first difference natural log of foreign direct investment

$D(LnRGCE_t)$ =   first difference natural log of Real government capital expenditure

                     E = Error term

                     A= Constant

                     V= White noise error term

β_1 and B_2 are the short run coefficients.

ECT_{t-1} is one period lag residual of equation 2.c . The coefficient of ECT_{t-1} provides the speed of adjustment which should be negative and significant.

CHAPTER IV

RESULT AND ANALYSIS

4. Trend and Structure of foreign direct investment in Nepal

This chapter is mainly related with trend and structure of foreign direct investment FDI and economic growth in Nepal. That has been analyzed in to sector,year and country wise categorization of FDI inflow and economic growth from fiscal year 1995/96 to 2020/21.

FDI and economic growth trend seems to be more fluctuating during the last 25 years. As political stability and peace are the sine quo non for attracting greater volume of FDI in Nepal. Nepalese economy has suffered from serious problems like political instability and structural constraints. Present scenario reveals that Nepal has not been able to attract describable size of FDI inflow in the country. Statistics shows that FDI in Nepal is relatively on small proportion compared to other south Asian countries. Available data for FDI reflects that 206 foreign direct investment projects are approved in Nepal. Where the total foreigndirect investment marked as 265 million at the end of 2020/21. The joint venture of india, chaina, usa japan, German, south korea are prominent in the structure of FDI. China joint ventures account for 12 percent of the total foreign direct investment.

Nepal is rich country in the sense of Natural and human resources but these resources have not been optimally utilized. Foreign investment and technology transfer is essential for leading the national economic system toward the attainment of self-dependency and making it a robust firm dynamic and competitive through the optimum utilizationof available natural resources.

The foreign direct investment helps bring capital, modern technology and managerial and technical skill, access to international market and promotes competitive business culture. Such improved business culture contributes significantly to the economic development of the nation through the expansion of industrial development and internal revenue base.

4.1 Trend of foreign direct investment and Economic growth

FDI is taken as the sources of economics development and modernization. The following table shows the percentage change in foreign direct investment and percentage change in Gross domestic product in Nepal from fiscal year 1995/96 to 2020/21.

Table 4.1 percentage change in GDP and FDI inflow in Nepal

Fiscal year	Percentage change in Economic growth	Percentage change in actual FDI in Nepal
1995/96	3.47	17.5
1996/97	5.33	67.7
1997/98	5.05	34.2
1998/99	3.02	34.7
1999/00	4.41	16.4
2000/01	6.20	-1.1
2001/02	4.80	-23.3
2002/03	0.12	53.6
2003/04	3.95	-
2004/05	4.68	8.3
2005/06	3.48	-18.0
2006/07	3.36	11.4
2007/08	3.41	3.0
2008/09	6.10	29.2
2009/10	4.53	31.3
2010/11	4.82	64.0
2011/12	3.42	128.8
2012/13	4.67	45.8
2013/14	3.53	15.9
2014/15	6.01	6.5
2015/16	3.98	38.8
2016/17	0.43	88.8
2017/18	8.98	31.4
2018/19	7.62	51.3
2019/20	6.66	51.1
2020/21	-2.37	60.6

Sources: (MOF Nepal 2021)

Table 4.1asserts the percentage (%) change in GDP growth rate is the percentage (%) change in Net FDI inflow is presented from fiscal 2005/06 to 2021. In 2005 the GDP

Growth rate is 3.48 and FDI inflow is -18.0 %. The highest economic growth rate is 8.98 % in 2017 and lowest economic growth rate is -2.37 % in 2020. The highest FDI inflow is 128.8 % in the fiscal year 2011 and lowest FDI inflow is -18.0 % in 2005. In fiscal year 2017 to 2019 there is positive relation between Net FDI inflow and Economic growth rate. In last two year the net FDI inflow is increasing but the GDP growth rate is decreases.

Figure 4.1. Graphical presentation of GDP Growth rate and (%) Change in FDI inflow
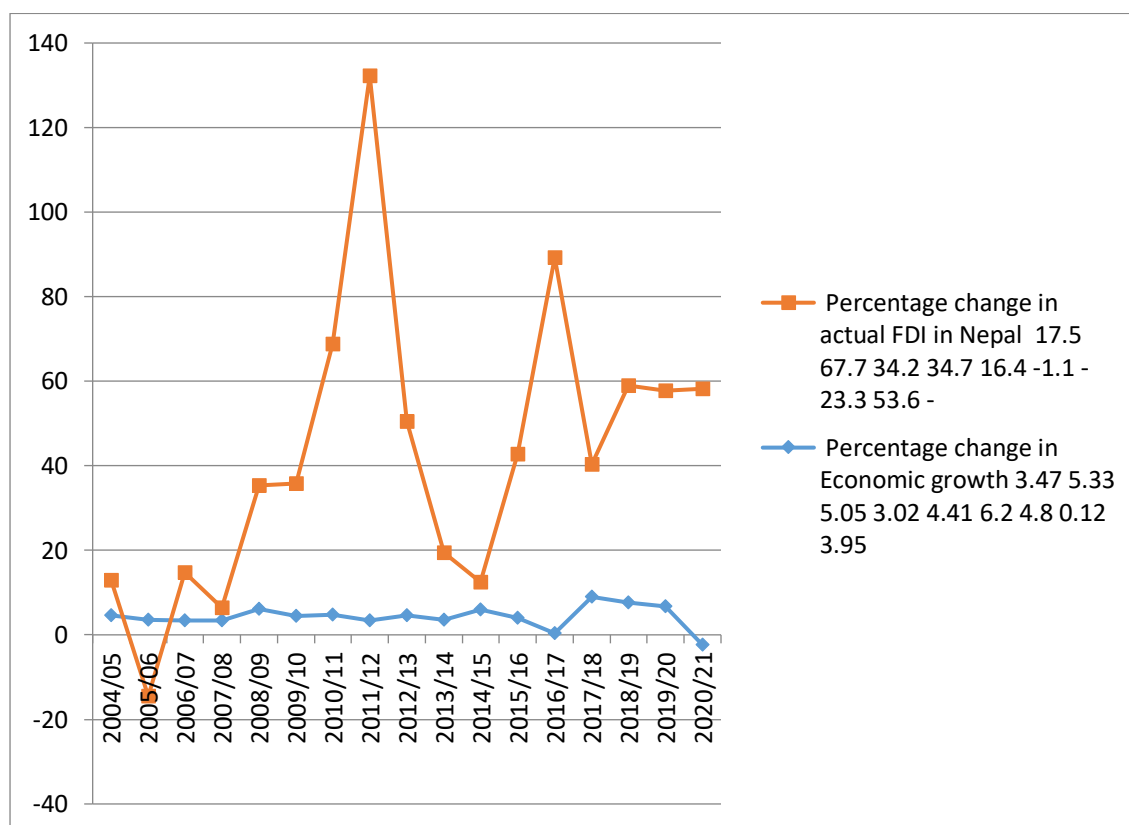
Note.The percentage (%) change in GDP growth rate is the percentage (%) change in Net FDI inflow is presented from fiscal 2005/06 to 2021. In 2005 the GDP Growth rate is 3.48 and FDI inflow is -18.0 %. The highest economic growth rate is 8.98 % in 2017 and lowest economic growth rate is -2.37 % in 2020. The highest FDI inflow is 128.8 % in the fiscal year 2011 and lowest FDI inflow is -18.0 % in 2005. In fiscal year 2017 to 2019 there is positive relation between Net FDI inflow and Economic growth rate. In last two year the net FDI inflow is increasing but the GDP growth rate is decreases.

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4.2 Year wise Approval and Actual FDI inflow in Nepal.

Foreign direct investment FDI is an important sources of finance for many countries including Nepal butt the trend and structure of year wise flow of foreign direct investment in Nepal is erratic and unpredictable. The approval and Actual foreign direct investment in Nepal is presented by following table

Table 4.2 year wise Approval and Actual FDI inflow in Nepal

Fiscal year	Approval FDI	Actual FDI
1995/96	2219.9	388.0
1996/97	2395.5	1621.0
1997/98	2000.3	685.0
1998/99	1666.4	578.0
1999/00	1417.6	233.0
2000/01	3002.6	-33.0
2001/02	1209.7	-282.3
2002/03	1793.8	961.4
2003/04	2764.8	-
2004/05	1635.8	136.0
2005/06	2606.3	-469.4
2006/07	3186.0	362.3
2007/08	9812.6	293.9
2008/09	6255.1	1829.2
2009/10	9100.0	2852.0
2010/11	10053.2	6437.1
2011/12	7138.3	9195.4
2012/13	19818.7	9081.9
2013/14	20132.4	3194.6
2014/15	67455.0	4382.6
2015/16	15254.3	5920.9
2016/17	15206.5	13503.9
2017/18	55760.5	17504.6
2018/19	25484.4	13065.2
2019/20	37805.8	19478.7
2020/21	32172.8	19512.7

Sources NRB/MOICES (2021)

Table 4.2 presents the approval and Actual Net foreign direct investment since 2005 to 2021. In fiscal year 2005/06 the approval FDI is 2606.3 million and actual Net FDI is -469.7 million. The approval and actual foreign direct investment is increasing up to the fiscal year 2007/08. In Fiscal year 2014/15 the approval FDI is 67455.0 million and Actual net FDI is 4832.6million.Which is the greatest amount of approval FDI inflow in the history of Nepal. Since the fiscal year 2014/15 to 2016/17 the approval and actual FDI was decreasing. The approval and actual FDI is not satisfactory in fiscal year 2020/21 as compare to the previous year.

Figure4.2. Graphical presentation of Approval and Actual FDI in Nepal.

Figure 4.2 explores the approval FDI and Actual FDI flow in Nepal from fiscal year 2005/2006 to 2020/21. The series 1 shows the approval and series 2 shows actual FDI in Nepal.
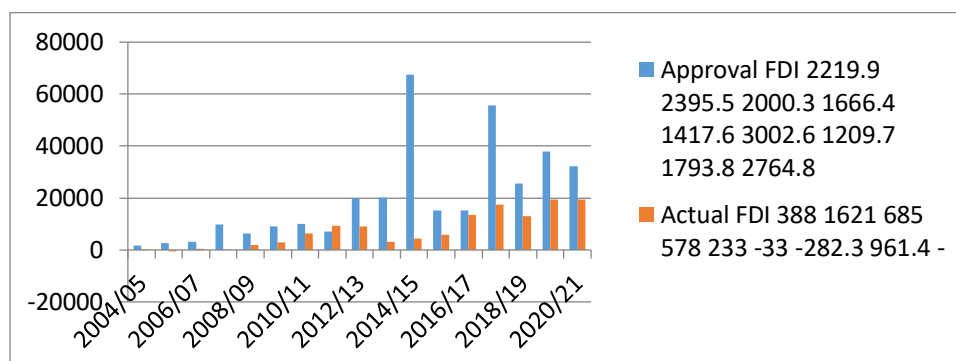
Figure 4.2 shows the trend of approval and actual FDI inflow in Nepal are presented. In fiscal 2005/06 the approval FDI 2606.3 million and actual FDI is -469.7.So there is huge gap between approval and actual FDI inflow in Nepal. In fiscal year 2011/12 the Actual FDI is greater than approval FDI. In average about 36.5% of Approval FDI is invested in different sector of the economy.

4.3 Sector wise foreign direct investment in fiscal year 2078/79

The foreign direct investment is the key factors for the economic development of the country like Nepal. The foreign direct investment is increasing year after year in different sector of the economy. Some major sectors are listed below with the help of table.

Table 4.3 sector wise foreign direct investment in Nepal

Sector of the economy	No. of projects
Agro and forest based	4
Energy based	1
ICT based	6
Information	4
Manufacture	37
Minerals	**0**
Service	73
Tourism	81
Total	206

Sources MOI 2078/79

Table 4.3 shows sector wise number of projects and FDI inflow in fiscal year 2078/79. The FDI inflow is higher in tourism and service sector where 81 projects are running in tourism and 73 projects are running in service sector. In total 206 projects, the FDI inflow is not satisfactory in agro and forest based industry, energy and ICT based sectors.

Figure 4.3. Sector wise FDI inflow in Nepal

The sector wise FDI inflow and the numbers of projects which are operating in Nepal are presented with the help of simple bar-graph.
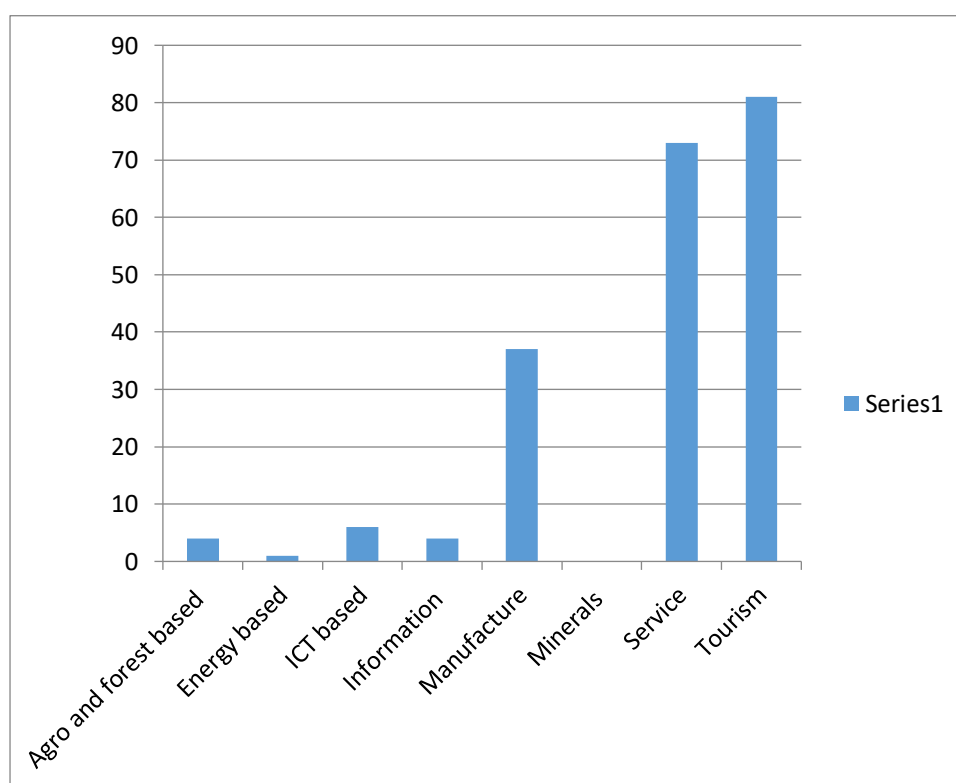
Figure 4.3.The simple bar graph shows the tourism, service and manufacture sector are the probably sector which attracts more foreign direct investment. There are 81 projects are operating and 73 projects are operating in service sectors. The least numbers of projects are operating in agro and forest based, energy and ICT based and no one project is operates in mineralssector.

4.4 country wise foreign direct investment in fiscal year 2078/79

Foreign direct investment is a category of cross-border investment. Nepal has received FDI from different countries in fiscal year 2078/079.

Table 4.4 county wise FDI inflow in Nepal

Country	Amount in (Rs crore)
China	1970
India	991
USA	154
South-korea	128
Japan	33
UK	77
Switzerland	30
Canada	33
Singapore	75
British vergin Tapu	111

Sources MOF 2022

Table 4.4 explore about the country wise flow of FDI in Nepal in fiscal year 2078/079. China is the largest foreign direct investor with NRP 1970 crore and followed by India NRP 991 crore, USA is 154 and south-korea is 128 crore respectively. It shows higher FDI inflow in Nepal from Asian continent than other continent.

Figure 4.3. The graphical presentation of country-wise FDIinflow in Nepal
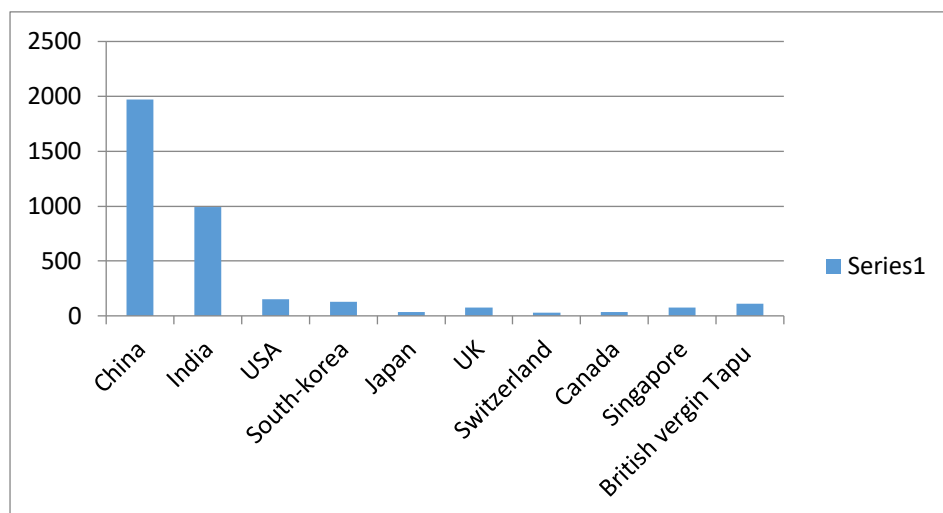
The Figure4.3, simple bar graph shows country-wise FDI inflow in fiscal year 2078/079. Where china is the largest foreign direct investor with NRP 1970 crore and India stands at second position with NRP 991 crore. The USA is third highest investor country in Nepal. The data shows that the inflow of foreign direct investment in Nepal is higher form Asian country in compare to other nation.

4.5 FDI inflow in Nepal from south Asian countries in 2020/21

Nepal is one of the member of SAARC. Where there are eight member countries. The reason behind establishment of SAARC is to establish mutual relationship between south Asian countries and financial co-operation. The FDI inflow in Nepal from south Asian countries are presented below.

Table 4.5 FDI inflow from south Asian countries

Country	Amount in (US$ Billion)
Afghanistan	0.02
Bangladesh	2.9
Bhutan	0.0
India	44.7
Maldives	0.4
Pakistan	2.1
Sri-lanka	0.6

Sources CBS Nepal 2021

The table 4.5 shows south Asian countriesand FDI inflow in Nepal. Where India is the largest foreign direct investor country with NRP 44.7 Billion. Bangladesh stands at second position with NRP 2.9 Billion. Bhutan is not interested to invest in Nepal in the form foreign direct investment.

5.1.The graphical presentation of south Asian countriesFDI in Nepal

Nepal is situated between two biggest country India and china. The south Asian countries and their FDI inflow in different sector of the economy are presented with the help of pie-chart.

Figure 4.4 Graphical presentation of FDI inflow in Nepal from south Asian countries
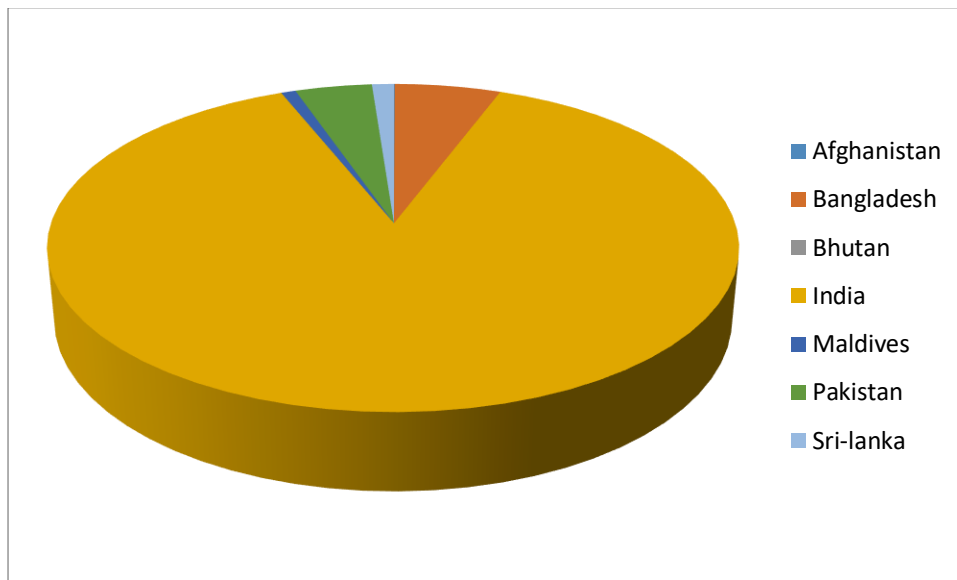
The figure 4.4, pie-chart shows India is the largest foreign direct investor with NRP 44.7 Billon which is shown by yellow shaded part. Bangladesh total FDI inflow in Nepal is NRP 4.4 Billion and Pakistan stands at third position with NRP 2.1 Billion.

The lowest FDI inflow from Maldives, Afghanistan etc.

CHAPTER -V

RELATIONSHIP BETWEEN RGDP AND FDI IN NEPAL

5.1 Descriptive Statistics of the variables

The descriptive statistics of real gross domestic product (RGDP), Foreign direct investment (FDI)   Real government expenditure RGCE include mean, median, maximum value, minimum value, standard deviation, skewness etc. are presented in following table.

Table 5.1 Descriptive Statistics of the variables

	RGDP	FDI	RGCE
Mean	411135.3	669168.4	53.22378
Median	366224.7	280513.0	57.02000
Maximum	949885.8	3458793	112.8800
Minimum	143079.6	16601.00	10.55000
Standard Deviation	228022.4	889055.7	32.29987
Skewness	0.659096	1.629933	0.095763
Kurtosis	2.368299	4.729584	1.741178
Jarque-Bera	4.006272	25.53410	3.039964
Probability	0.134912	0.000003	0.218716
Sum	1850108	30112573	2395.070
Observations	25	25	25

Table 5.1 shows the description of statistics of the variable. The sample mean of FDI is 669168.4 and median is 280513.0. FDI standard deviation is 889055.7 which show the deviation from sample mean.

The sample mean of RGDP is 411135.3 and median is 366224.7. RGDP standard deviation is 228022.4 which show the deviation from sample mean. The maximum

and minimum value of RGDP is 3582138 and 2064.400 respectively RGDP has positive skewness and leptokurtic kurtosis. Jarque-Bera probality tells that the variable has not have normal distribution. From Jarque-Bera probability value only RGDP and RGCE data are normally distributed.

Descriptive statistic of variable shows that some variable data are normally distributed and some are not. So, using this data in regression can falsified the result. For solving this problem natural log of the data are used in this study.

5.2 Stationary Test

Before run the Engle-Granger co-integration model in order to check the co-integration between real GDP and FDI, it requires checking whether the used data for regression analysis are stationary or not. If the data are not stationary, then first of all it is necessary to convert into stationary. The stationary of time series data means that the mean, variance, and auto covariance (at various lag) remain the same at each point of time (i.e.they are time invariant).

Augmented Dickey Fuller (ADF) test is run for check Stationary test in this study. The detail model for unit root test is explained in methodology chapter. Each variable is tested in both form intercept and intercept with trend which are presented in Table 4.3.The test is done simply by using econometric software EViews.10.

Table 5.2 Augmented Dickey Fuller Tests for Unit Root

Variables	Level Form		First Difference (Δ in log)		Remarks
	Intercept	Trend and Intercept	Intercept	Trend and Intercept	
LnRGDP	0.9636 (0.99)	-3.1825 (0.14)	-7.4697 (0.00)*	-7.6005 (0.00)*	I (1)
LnRFDI	0.164485 (0.96)	-2.187053 (0.48)	-7.32282 (0.00)*	-7.239424 (0.00)*	I (1)
LnRGCE	-1.5126 (0.51)	-0.6606 (0.96)	-5.1350 (0.00)*	-5.1414 (0.00)*	I (1)

Source: Author's Calculation through EViews.10 .

Note: * shows 1% level of significance; ** shows 5% level of significance and numeric value in the parenthesis expresses p-values. The p-values are based on MacKinnon (1996) one-sided p-values.

Table shows the result of the ADF test statistics of concerned variable used in the study. All the variables are non-stationary at the level but stationary at first difference. The Augmented Dickey Fuller tests shows all the variables are stationary at the 1% level of significance at first difference. Thus, it is concluded that all variables are integrated of order 1, i.e. I(1). .Since all variable are stationary at first difference so this study apply Engle Granger approach to test the long run co-integration of the variable.

5.3 Engle-Granger Co-integration Test and Error Correction Model

According to Engle-Granger co-integration test, the long run co-integration of the variables can be tested by testing the stationary of the residual term error correlation term in the long run model. The study tries to find relation between FDI and RGDP .The long run models has derived by using OLS method as below.

Table 5.3 Long run model result by using OLS Method

Dependent Variable: LNGDP				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LFDI	0.1250*	0.03485	3.5890	0.0014
LnRGCE	0.2000*	0.00245	3.6678	0.0012
C	10.8771	0.35141	30.7160	0.0000
R-squared	= 0.900763	F-statistic	=	113.4617
Adjusted R-squared	= 0.89285	Prob(F-statistic)	=	0.000000
Sum squared residual	= 0.3160	Durbin-Watson stat	=	1.8725

Source : Authors own calculation through EViews.10

Note: */**/*** denotes statistically significant at 1 percent, 5 percent, 10 percent

Table 5.3 show the long run model and the coefficient are called long run coefficient. To test the long run coefficient among the variable it is necessary to stationary of

residual term. For that we have to check stationary of residual term. If the residual of the long run model is stationary at level then the variable are co-integrated and exist long run relationship. So the model is not a spurious model. The stationary test of residual is checked by ADF. The ADF test result of residual term is given as below in table 5.4.

Table 5.4 ADF test result of residual of first model

Null Hypothesis: ECT has a unit root			
Exogenous: None			
F		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.407393	0.0000
Test critical value	1% level	-2.618579	
	5% level	-1.948495	
	10% level	-1.612135	
*MacKinnon (1996) one-sided p-values.			

Source: Authors calculation through EViews-10.

Table 5.4 show that the result of ADF test of residual. From the table value of Augmented Dickey-Fuller test statistics 5.381876 is greater than critical value of Engle-Granger co-integration value 4.700 at 5% percent level of significance (See Appendix VII). So the null hypothesis that the ECT has unit root is rejected i.e. ECT is stationarity at level. Thus the residual term is stationary at level form it is conclude that there exist the co-integration among the variable and the long run model will not be spurious

Table 5.3 shows the long run model and the coefficient gives the long run coefficient. The result of long run model shows that LnRGCE and LnFDI have significant positive role in increasing real gross domestic product of Nepal.

The long run model suggest that Foreign direct investment has positive significant relation with RDGP. The coefficient is statistically significant at 1% level of significance. The result shows that one percent unit increase in FDI increases the GDP by 0.12 percent at other thing remaining the same. .

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The elasticity Coefficient value of LnRGCE is significant at one percent level of significance. The result shows that increase in RGCE by 1 percent unit increases the GDP by 0.20 percent at other thing remaining the same.

The value of R-squared is 0.90076. Which indicate that 90.07 percent of total variation in RGDP is explained by explanatory variables and 9.93 percent is due to error. Similarly, the probability value of F-statistics is less than 1 percent which shows that there is overall significant of long run model.

The Durbin-Watson test statistics is 1.570807. By using this value it is difficult to conclude about the autocorrelation. So this study used Breusch- Godfrey Serial Correlation LM test to test the serial correlation. The result of serial correlation shows that the observed R-squared is 2.069460 with probability Chi-squared 0.3553 This probability is more than five percent so the null hypothesis that there is no serial correlation cannot be rejected. Hence the long run OLS model is free from autocorrelation. The CUSUM test and CUSUM squared test also shows that the model is between 5 percent level of significance (Appendix-VIII).

The result of Error Correction Model of first model is presented in table 5.5

Table 5.5 Regression Result of Short-run Error Correction Model (using RGDP)

Dependent Variable: D(LnGDP)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.037873	0.005000	7.575276	0.0000
D(LnFDI)	0.007449**	0.006699	1.111905	0.0977
D(LnRGCE)	0.027559	0.020951	1.315434	0.2013
ECT(-1)	-0.007942	0.050049	-0.158675	0.8753
R-squared =	0.9294	F-statistic	=	1.3468
Adjusted R-squared =	0.0384	Prob(F-statistic)	=	0.28
Sum squared residual =	0.01264	Durbin-Watson stat	=	1.750893

Source: Authors calculation through EViews-10

*Note: */**/*** denotes statistically significant at 1percent, 5 percent, 10 percent*

Table 5.5 is the short run error correction model and the coefficient of the short run model shows the short run elasticity of the variables with respect to RGDP. In short run FDI is the only factor to effect on RGDP.

RGCE is insignificant in short- run .The result shows that in short run there is effect of RGCE in RGDP in short- run.

Effect of FDI in RGDP in comparatively low in short run. One percent increase in FDI increase RGDP by 0.007 percent on other things remaining the same. This coefficient is 5 % percent level of significant.

The ECT(-1) coefficient is 0.8753 and it is statistically significant at one percent level . The coefficient of ECT(-1) shows the speed of adjustment to the equilibrium and the rule of thumb is that coefficient of it should be negative. The coefficient implies that 87.53 percent of the error being corrected every year. This result also implies that RGDP and other explanatory variable are converging in the long run.

R-squared value of the model is 0.9294 which indicate that in short run explanatory variable only explain 92.97 percent of the total variation in NCPI and remaining 8 percent is due to error. Likewise, the probability value of F- statistics is less then one percent that shows that there is overall significant of short run model.

 The Durbin-Watson statistics value is 1.750893 which state that there is no problem of serial correlation problem with this model also. So, ECM model is free from autocorrelation.

5.4 Residual Diagnostic Test

a.Heteroskedasticity Test:
 Breusch-Pagan-Godfrey test is used to test the heteroskedasticity by setting the following null hypothesis. The Breusch-Pagan-Godfrey test regressed the square residuals on the original regressors.

Table:5.6 Heteroskedasticity Test result of First model

Breusch-Pagan-Godfrey Test			
Null hypothesis: Residuals are not heteroskedasticity.			
F-statistic	1.199993	Prob. F(5,39)	0.3272
Obs R-squared	5.999968	Prob. Chi-Square(6)	0.3062

Source: Authors own calculation through EViews-10

Table 5.6 and from Appendix VII the probability value of F-statistic, and Observed R-squared is more than 5 percent. It means that the null hypothesis is not rejected. Thus, it can be concluded that the all three models equation is free from heteroscedasticity.

b. Serial CorrelationTest:

Breusch-Godfrey Serial Correlation LM test has been applied to test serial correlation by using the following null hypothesis.

Table 5.7 Serial Correlation Test of first model

Breusch-Godfrey Serial Correlation LM Test			
Null hypothesis: There is no serial correlation			
F-statistic	0.891789	Prob. F(2,37)	0.4185
Obs*R-squared	2.069460	Prob. Chi-Square(2)	0.3553

Source: Authors own calculation through EViews-10

Table 5.7 and Appendix VII the p-value of both F-statistic and Observed R-squared with degree of freedom two is higher than 5 percent level of significance .Then, it can be concluded that all three model is free from serial correlation problems.

5.5 Discussion

This research is different from previous study in terms of research design and methodology. In which different related data related to research topic are used from different government bodies. It not only shows the trend and pattern of FDI inflow in Nepal it also analyse the short-run and long-run impact of FDI in economic growth. To show the relationship between FDI and economic growth different econometric model are used.

The ADF test shows all the variables are satisfactory at the 1 % level of significance at first difference. Thus it is concluded that all the variables are co-integrated of order 1. Engle- Granger co-integration test is used to show the long-run relationship between FDI and GDP. Where effects of FDI in RGDP is higher in long-run compare to short-run. In long-run the coefficient of FDI is 0.12 on the other side in short-run the coefficient is 0.007.

CHAPTER - VI
SUMMARY, FINDING, CONCLUSION AND RECOMMENDATION

6.1 Summary

Literature review of different theory international literature and national literature shows the sign of relation between FDI and RGDP. This study try to fill the gap between previous study recommendations. Data from FY 1994 to FY 2021 is collected from secondary source mainly from NRB, World Bank data set and MoF publication. Graphical representation of FDI and RGDP point out the relation between variables. For finding the relation between FDI and RGDP ordinary least square multiple regression model is used. RGDP is taken as dependent variable and foreign direct investment as core independent variable. For true estimation of RGDP other control variable are included into the model.

ADF test shows the stationrity of the data at their first difference and Engle -Granger Co-integration give the long run relation between FDI and RGDP. The residual term has also stationary and different residual test verify the long run model. In long run FDI has impact on RGDP but its impact is comparatively low in short run. Open economy and trade dependent with India may be reason for that.

For short run analysis Error Correction Model is used. The model result suggest that FDI has impact on RGDP. From doing so it can be said that FDI play important role in determine RGDP in long and short run.

6.2 Finding

The major finding of the study are listed as given below:

1. The ADF test shows that all variable are stationary only after the first difference i.e. all variable used in this study are I(1).
2. The Engle-Granger co-integration indicate that variable used in this study are co-integrated and long run OLS model is free from spurious regression.

3. The study shows the significant relation between FDI and RGDP in long run but not significant in short run. The long run model shows that FDI has positive significant effect in RGDP in long run. One percent unit increase in FDI lead to 0.12 percent increases in RGDP at other thing remaining the same.

4. The result of ECM model of first model indicate that in short run, FDI hasinsignificant positive relation with RGDP in short run. The coefficient of ECT (-1) is negative and significant at 1 percent level indicate that the FDI and other explanatory variable are converging into long-run equilibrium**.**

5. Effect of FDI in RGDP is higher in long-run compare to short-run. In long-run the coefficient of FDI is 0.12 on the other side in short run the coefficient is 0.007

6. Result of CUSUM test and CUSUM of squares also indicate the model is in the boundary line of 5 percent level significance.

6.3 Conclusion

Foreign direct investment (FDI) in developing countries has a long history. It has fluctuated over time, as investors have responded to changes in the environment for investment, including government policies toward FDI and the broader economic policy framework. Hence, trends in FDI have reflected changes in policy stances by developing countries, from import substitution in the 1950s and 1960s through natural resource-led development in the 1970s, structural adjustment and transition to market economies in the 1980s, and an increased role for the private sector in the 1990s.

FDI can stimulate economic growth by raising productivity and forcing efficient use of resources through the linkage with foreign trade flows and positive externalities to the industrial sector. FDI can fulfill the gap of financial resources, accumulate physical and human capital; contribute employment and supply of goods, create spillover effects, enhance skills and technology. Moreover, it is also a source of foreign exchange through the equity capital and exports of goods and services.

it is a real challenge to Nepalese to accumulate capital resources domestically as no one deny the role of foreign investment in economic growth and development of the country.

6.4 Recommendation

From the above finding and conclusion of the study, this study recommended the following points:

1. Since FDI has important impact on GDP so government should formulate investment friendly policies.
2. Policy makers should focus on building policies that helps to promote FDI inflow. Government need to create policy environment conductive for FDI inflows to contribute towards enhancing the performances of the host country.

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Appendix I

Raw Data

Fiscal year	Fiscal year	RGDP	FDI	RGCE
1993/94	2050/51	779807	1,378.76	21,188.2
1994/95	2051/52	806854	477.59	19,794.9
1995/96	2052/53	849921	2,219.86	24,980.5
1996/97	2053/54	894635	2,395.54	26,542.6
1997/98	2054/55	920956	2,000.28	28,943.9
1998/99	2055/56	962249	1,666.42	22,992.1
1999/00	2056/57	1021095	1,417.61	25,480.7
2000/01	2057/58	1078567	3,002.56	28,307.2
2001/02	2058/59	1079863	1,209.65	24,773.4
2002/03	2059/60	1122465	1,793.77	22,356.1
2003/04	2060/61	1175025	2,764.80	23,095.6
2004/05	2061/62	1215905	1,635.77	27,340.8
2005/06	2062/63	1256815	2,606.31	29,606.6
2006/07	2063/64	1299693	3,185.98	39,729.9
2007/08	2064/65	1379034	9,812.60	53,516.1
2008/09	2065/66	1441548	6,255.09	73088.9
2009/10	2066/67	1510979	9,100.00	40509.8
2010/11	2067/68	1559223	10,053.21	47327.7
2011/12	2068/69	1632040	7,138.31	51390.7
2012/13	2069/70	1689572	19,818.73	54598.4
2013/14	2070/71	1791141	20,132.42	66694.7
2014/15	2071/72	1862357	67,455.04	88754.7
2015/16	2072/73	1870424	15,254.33	122350.4
2016/17	2073/74	2038337	15,206.46	208749.4
2017/18	2074/75	2193706	55,760.48	270713.7
2018/19	2075/76	2339743	25,484.44	241562.5
2019/20	2076/77	2284300	37,805.83	189140.1
2020/21	2077/78	2381313	32,172.82	228836.1

Data Sources : NRB Data set (2021)

Appendix II
Data in Nominal Form

LNRGDP	LNFDI	LNCPIN	LNRGCE
13.57	7.23	3.14	9.96
13.60	6.17	3.22	9.89
13.65	7.71	3.29	10.13
13.70	7.78	3.37	10.19
13.73	7.60	3.45	10.27
13.78	7.42	3.56	10.04
13.84	7.26	3.59	10.15
13.89	8.01	3.62	10.25
13.89	7.10	3.65	10.12
13.93	7.49	3.69	10.01
13.98	7.92	3.73	10.05
14.01	7.40	3.77	10.22
14.04	7.87	3.85	10.30
14.08	8.07	3.91	10.59
14.14	9.19	3.97	10.89
14.18	8.74	4.09	11.20
14.23	9.12	4.18	10.61
14.26	9.22	4.27	10.76
14.31	8.87	4.35	10.85
14.34	9.89	4.45	10.91
14.40	9.91	4.54	11.11
14.44	11.12	4.61	11.39
14.44	9.63	4.70	11.71
14.53	9.63	4.74	12.25
14.60	10.93	4.78	12.51
14.67	10.15	4.83	12.39
14.64	10.54	4.89	12.15
14.68	10.38	4.92	12.34

Data Sources : NRB Data set (2021)

Appendix-IV

Dependent Variable: D(RGDP)

Method: Least Squares

Date: 03/18/23   Time: 21:13

Sample (adjusted): 1995 2021

Included observations: 27 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.037873	0.005000	7.575276	0.0000
D(RFDI)	0.007449	0.006699	1.111905	0.0977
D(RGCE)	0.027559	0.020951	1.315434	0.2013
ECM	-0.007942	0.050049	-0.158675	0.8753

R-squared	0.929425	Mean dependent var		0.041111
Adjusted R-squared	0.038480	S.D. dependent var		0.023912
S.E. of regression	0.023448	Akaike info criterion		-4.532140
Sum squared resid	0.012645	Schwarz criterion		-4.340164
Log likelihood	65.18389	Hannan-Quinn criter.		-4.475055
F-statistic	1.346842	Durbin-Watson stat		2.558201
Prob(F-statistic)	0.283796			

Appendix-III
CUSUM And CUSUM Squared Test Result
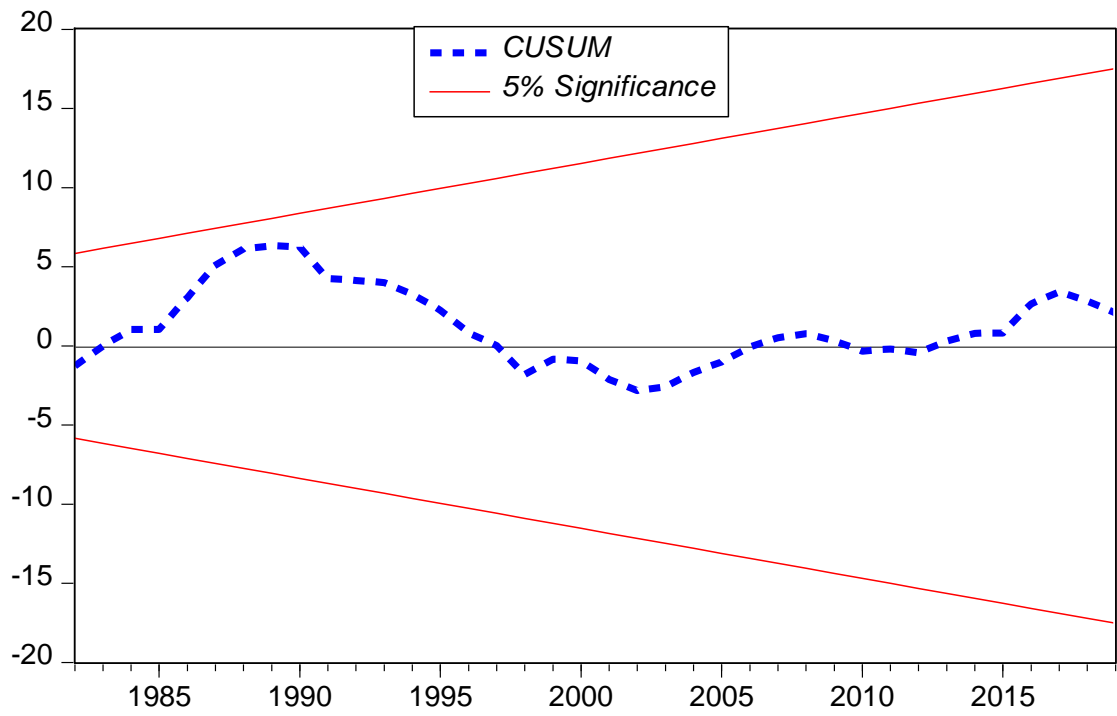
Sources : Author owns calculation

Appendix-IV

Critical Value						
T	1%	5%	10%	1%	5%	10%
	Two Variables			**Three Variables**		
50	−4.123	−3.461	−3.130	−4.592	−3.915	−3.578
100	−4.008	−3.398	−3.087	−4.441	−3.828	−3.514
200	−3.954	−3.368	−3.067	−4.368	−3.785	−3.483
500	−3.921	−3.350	−3.054	−4.326	−3.760	−3.464
	Four Variables			**Five Variables**		
50	−5.017	−4.324	−3.979	−5.416	−4.700	−4.348
100	−4.827	−4.210	−3.895	−5.184	−4.557	−4.240
200	−4.737	−4.154	−3.853	−5.070	−4.487	−4.186
500	−4.684	−4.122	−3.828	−5.003	−4.446	−4.154

The critical values are for cointegrating relations (with a constant in the cointegrating vector) estimated using the Engle–Granger methodology.

Source: Critical values are interpolated using the response surface in MacKinnon (1991).