



Contributions of FDI, Import and Export in Economic Growth

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Abstract

Background: A nation's economic output, measured by Gross Domestic Product (GDP), is influenced by a complex interplay of factors, including foreign direct investment (FDI), inflation, and international trade (imports and exports). For a developing, landlocked nation like Nepal, understanding the precise relationship between these variables is crucial for formulating effective economic policy and responding to external shocks. While FDI is often seen as a key driver of growth through capital infusion and technology transfer, its actual impact, alongside trade, requires empirical verification in the Nepalese context.

Objective: This study aims to investigate the contributions of FDI, imports, and exports to Nepal's economic growth. Its specific objectives are to examine the effect of foreign direct investment on economic growth and to analyze the interrelationships between inflation, exports, imports, and GDP.

Methods: This research employs an analytical design using secondary annual time series data from 1970 to 2020, sourced from the Nepal Rastra Bank (NRB) and the World Bank. The relationship between the dependent variable (GDP growth rate) and independent variables (FDI, Inflation, Exports, Imports) was analyzed using Ordinary Least Squares (OLS) regression estimation via E-Views software.

Findings: The regression results indicated a mixed relationship. A positive and statistically significant relationship was found between imports and GDP. Conversely, exports showed a significant but inverse relationship with GDP, with a 1% change in exports associated with a 6.36% reduction in GDP. The relationship between FDI and GDP was positive but not statistically significant. The model explained a high proportion of the variation in GDP ($R^2 = 91\%$). However, the nonstationary nature of the variables and a low Durbin-Watson statistic (1.34) suggest potential bias in the regression, indicating possible spurious results.



Conclusion: The study concludes that the relationships between key economic variables and growth in Nepal are complex and not always aligned with theoretical expectations. While imports appear to be positively associated with growth, the negative correlation with exports is counterintuitive and warrants further investigation. The findings suggest that a singular focus on attracting FDI or boosting exports may not be sufficient for ensuring economic growth.

Implication: The results highlight the need for Nepalese policymakers to adopt a nuanced and multifaceted approach to economic management. Rather than relying on a single set of indicators, policies should be based on a comprehensive assessment of the interconnections between FDI, trade, and inflation. This research provides a basis for officials to better design targeted policies to enhance economic resilience and foster sustainable growth.

Keywords: Export, FDI, GDP, Import, Inflation, Nepal.

Introduction

A nation's gross domestic product (GDP) is a measure of its economic output. Numerous crucial factors affect how economies function, such as population, the political climate, foreign direct investment, inflation, import and export of goods and services, market openness, supply and demand for products and services, and others. Economic growth is influenced by natural causes such as diversification, the environment, and sustainable development.

A nation's capacity to experience rapid economic growth is significantly influenced by foreign direct investment (FDI). Foreign direct investment (FDI) is the flow of both financial and nonfinancial resources into the country of origin. It is a way to obtain trustworthy, long-term funding for business operations through international channels. Foreign direct investment (FDI) occurs when a foreign company buys a majority stake in a local business. Through FDI, foreign businesses actively take part in ongoing activities in the host nation. This implies that they bring more than just financial support; they also bring technology, knowledge, and skills. Regarding the precise connection between monetary inflation and financial performance, there is limited consensus. There is still much to learn about the mechanism by which monetary inflation affects financial behavior. A few people are not the only ones affected by rising prices associated with monetary inflation; total financial performance is also affected.

Both China and India have emerged as top FDI (foreign direct investment) destinations in recent years. FDI may increase economic growth, provide new job opportunities, and transfer technology and management skills. In many nations, including India, the role of foreign direct investment (FDI) in the process of growth has been a hot topic. Multinational corporations, or MNCs, have emerged as significant players in the framework of globalization since the 1980s. Globally, governments in both developed and developing nations have been luring multinational corporations to invest in their respective nations. In an open economy, a nation's growth in total factor productivity is influenced by both its internal R&D efforts and its external R&D investment and technological diffusion. Relying too much on time-consuming and expensive independent innovation models is not recommended from the standpoint of the



nation's present technological catch-up plan. Therefore, China should introduce capital goods, intermediate products, and other high-tech products into developed nations through import and export commerce as well as foreign direct investment. The influence mechanism of FDI and import-export trade on TFP growth is thus examined in this study from two angles: FDI and import-export trade.

Foreign investment in developing countries leads, first and foremost, to increased employment. Any nation's economic progress is significantly influenced by foreign direct investment. When a country's growth rate is slow, FDI inflows are low (Riedel, 1987). Inflation is a contentious issue because it is a direct effect of the country's economic success. The dependent variable in this study is gross domestic product. There are two types of inflation: demand-pull inflation and cost-push inflation. When there is an increase in total demand and a scarcity of supply, prices rise as a result of demand pull inflation.

Statement of the problem

The primary issue that this study seeks to address is whether foreign direct investment affects economic growth, and if so, what kind of relationship should exist between it and GDP, inflation, exports and imports of goods and services, and Inflation.

Objectives of the study

The objective of the study are as follows:

- i. To examine the effect of foreign direct investment on economic growth.
- ii. To examine the connection and casualties between inflation (INF), export of goods and services (EX), import of goods and services (IM) and gross domestic product (GDP).

Research Questions

This study attempts to answer the following research questions:

- i. What is the effect of foreign direct investment on economic growth?
- ii. How is inflation, import and export of goods and services and Gross Domestic Product interrelated?

Literature Review

Without capital formation, economic expansion is not even imaginable. Remittances and foreign direct investment are the two main sources of cash generation in developing nations like Nepal. The economies of the sending and investing nations may both grow and be supported by FDI. Developing countries have backed FDI as a method to finance new infrastructure and provide jobs for locals. Remittances from abroad, government development aid, and foreign direct investment are the key drivers of growth in poor countries (Alfieri & Havinga, 2006).

In essence, a nation's development is influenced by its rate of economic growth. Economic expansion is therefore seen as a crucial part of long-term development. Indonesia's economic growth varies and exhibits generally erratic trends. An administration that masks both internal and external economic and political volatility is necessary for a nation. A number of policies can aid in bringing the situation under control so that it is more beneficial. A nation's



economy has been significantly impacted by the government (Economic Growth - Econlib, n.d.).

To grow, an economy needs a robust finance sector. The promotion of efficient resource allocation and the provision of more thorough information on projects that may be financially successful are the results of financial development. In other words, as financial institutions have expanded, the price of information collecting has come down while the efficiency of transactions and contracts has increased. Expanding financial access also instills dynamic efficiency in the system by causing structural change through innovation and bringing welfare benefits to the entire economy (Guru & Yadav, 2019).

Economic development is the process of social and economic change. This procedure often follows a well-organized flow and exhibits characteristics of different nations (Thirlwall 1999). Every country strives for urgent economic advancement despite several challenges such as stale social and economic conditions (Todaro 1997).

Many nations have struggled with the negative consequences of internal and external forces and have been unable to determine their growth path due to bad socioeconomic rigidities and economic weakness. Foreign trade is thought to be a key element in fostering economic growth. The majority of nations participate in international trade to boost employment, savings, gains in foreign exchange, and investment productivity. The main way that developing nations can gain from globalization is through trade. Imports boost domestic markets' rivalry and variety, which is good for consumers (Hussain 1996).

Businesses profit from international trade because it increases productivity and gives them access to more modern capital inputs like tools and equipment. International trade promotes the redeployment of labor and capital to more productive industries. In example, it has made it easier for some manufacturing and service businesses to continue moving from developed to developing countries, creating new growth prospects (WDR 1999/2000). According to the World Development Report (1999/2000), the share attributed to developing nations increased from 23 to 29 percent during the 1990s, growing twice as quickly as the global GDP.

One of the key reasons for Nepal's inadequate industrial base is that it is a landlocked nation, which is related to an increase in raw material and equipment exports and imports. The 25% unexpected rise in information and communication technology between 1994 and 1997 has given emerging countries new opportunities. Its trade with other nations has also been impeded by its expansive border with India and its lacking shipping facilities. The only economically feasible alternative for any commercial traffic is India because it is almost impossible to transit through China. In reality, Nepal is more reliant on a single country for transportation services than any other country (apart from Bhutan) (Poudyal 1998).

In reference to local studies, Huang Xianhai and Zhang Yunfan (2005) looked at the effects of FDI and import and export trade on TFP growth and found that both could increase TFP and had symbiotic and complementary characteristics. However, FDI affects TFP more than both imports and exports put together.



The majority of prior transit and trade agreements between these two nations demonstrate that Nepal's assistance in providing incentives to Indian commodities inside Nepalese territory in exchange for transit services was almost always given by India. Due to its economic dependence on India, Nepal has the smallest window of opportunity for international trade, with only one partner remaining in the possibilities based on comparative advantage. Naturally, neither foreign trade nor the economy cannot be expected to increase much under such conditions.

According to Danish Ramzan and Adiq Kausar Kiani (2012), foreign direct investment (FDI) has a significant role in fostering the economic development of host nations. They emphasize its contributions to international trade, capital formation, technology transfer, and human resource development. According to the study's findings, economic liberalization tends to promote consumer welfare by lowering producer surplus, raising price-cost margins, and decreasing industry concentration. In line with theoretical predictions, the Error Correction Method (ECM) results also demonstrate a substantial correlation between growth and trade openness and foreign direct investment.

Nepal had anticipated that economic reforms would enhance firms' productivity by attracting both foreign direct investment (FDI) and portfolio investment (PI), facilitating the transfer of technology and knowledge, and fostering fair and competitive financial and product markets. The reforms were also expected to support import substitution, promote export-oriented industries, improve technological efficiency, create large-scale employment, and boost industrial production and productivity (MoI, 1996). In practice, however, the outcomes fell short of these expectations. First, the reforms did not succeed in convincing multinational corporations (MNCs) to invest significantly in Nepal, with FDI inflows remaining below 1 percent well under the South Asian average. Second, the inflows that did occur were not directed toward the priority sectors as hoped. According to MoF (2018), some effectiveness was observed in attracting FDI into areas of comparative advantage, particularly hydropower, manufacturing, tourism, and services. Overall, the results of the reforms diverged considerably from Nepal's initial expectations.

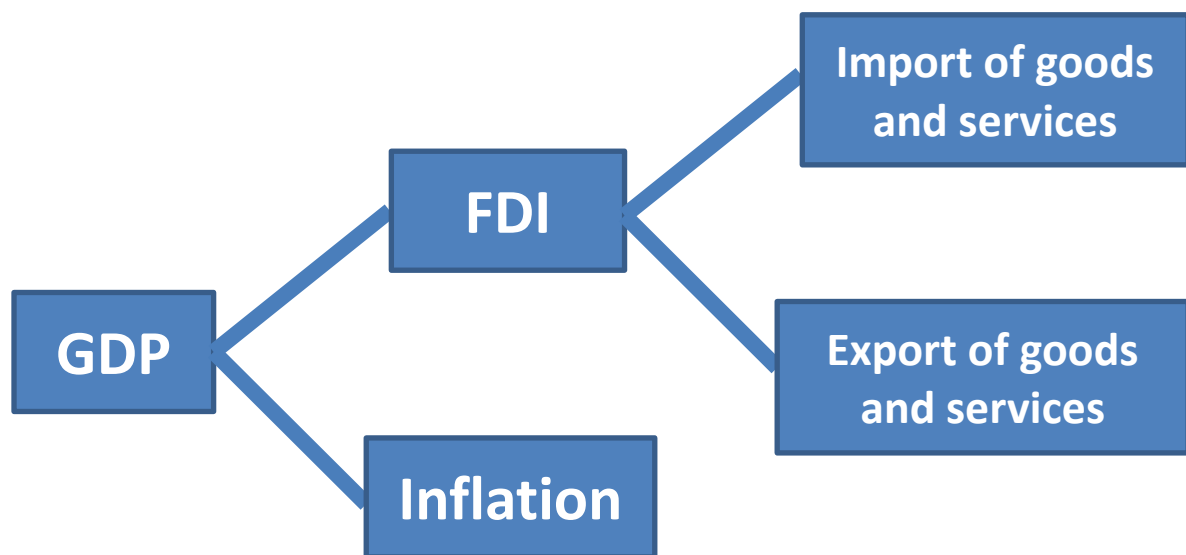
Although FDI is expected to have a positive effect on TFG, it is a profit-driven investment. Wang et al. (2022) and Ayenew and Wang (2022) emphasize the positive dynamic relationship between economic growth and foreign direct investment. According to Simionescu and Naros (2019), foreign direct investment (FDI) can improve the economy and the quality of human capital. Torieb (2015) asserts that investment is a driving force behind human development. Alfarro (2017) gave a comprehensive description of how foreign direct investment (FDI) can increase economic growth by supplying capital, advanced technology, and improved managerial skills. Similarly, export growth, job creation, technology transfer, and human capital development are listed as benefits of foreign direct investment (FDI) by Makiela and Ouattara (2018). Economic growth is influenced by both industrial growth and the industrialization process.

The study concluded that secondary annual time series data from 1990 to 2020, sourced from the Central Bank of Nepal (NRB), should be used to design and adopt the following frameworks to examine the relationship among the variables gross domestic product, foreign direct investment, inflation rate, import and export of goods and services of Nepal. After going over the earlier relevant research in the established theory and review of literature chapter, this was completed.

This section aims at describing the Gross domestic product (GDP)

Figure 1

Conceptual Framework



Dependent variable

Gross Domestic Product (GDP): The gross domestic product, or GDP, is the total market value of all currently manufactured final goods and services from every producing unit within the territorial authority of a country over a specific period of time. Put another way, the gross domestic product, or GDP, is the total amount of completed products and services produced in a certain region during a specified period of time. Only goods and services meant for additional processing and manufacturing are included in the monetary Gross Domestic Product (GDP). GDP is a common measure of an economy's health since it tracks production activities.

The study has taken the Growth rate of GDP as the dependent variable.

Independent Variables

A. Foreign direct investments (FDI): Joint ventures, portfolio investments, concessions, and other forms of foreign investments, such as mergers, acquisitions, and greenfield and brownfield investments, are a few examples.

B. Inflation (INF): A rise in the price of most daily or frequently used goods and services, including food, clothing, housing, entertainment, transportation, consumer staples, and so on, is referred to as inflation. Using a basket of goods and services, inflation is calculated

by monitoring the average price increase over time. Deflation is the opposite, less common decline in this basket's price index. Inflation is the decrease in the purchasing power of a unit of a nation's currency. A percentage is used to express inflation.

C. Export of goods and services (EX): Exchanges of products and services are included in the transactions between citizens and non-residents. Export increases GDP and demonstrates the presence of local businesses abroad.

D. Import of goods and services (IM): It comprises of exchanging goods and services in business transactions with both residents and tourists. Because export reduces the benefits of export and increases a country's reliance on imports, export has a negative impact on GDP growth.

Method of Analysis

The relationship between Nepal's GDP (the dependent variable), foreign direct investments, imports and exports of goods and services, and inflation (the independent variables) was analyzed during the entire period of the study (from 2090 to 2020). The NRB was used to get the statistics information. E-Views software is employed for model comparison and analysis.

Nature and sources of Data

The information used in this article was taken from the NRB, the World Bank, and their published materials, as well as from several issues of the Economic Survey issued by the Ministry of Finance and other research papers.

Tools and Method of Data Analysis

The study of the data in the paper was descriptive and analytical. Mean and standard deviation will be employed in descriptive research, and the OLS method will be used in analytical research to assess the dependent and control variables. The study looked at the factors influencing GDP and utilized E-Views software to analyze the data.

Model Specification

A simple model for the determinant of the gross domestic product becomes

$$\text{GDP} = F(\text{FDI}, \text{INF}, \text{EXP}, \text{IMP}) \dots\dots\dots (i)$$

The OLS model that represents the model is presented in the equation as

$$\text{GDP} = a + b_1 \text{FDI} + b_2 \text{INF} + b_3 \text{EX} + b_4 \text{IM} + e \dots\dots\dots (ii)$$

Where;

GDP = Growth rate of GDP

FDI = Foreign Direct Investment

INF = Rate of Inflation

EX = Export of goods and service

IM = Import of goods and services

a = Constant

e = Error term

b_1, b_2, b_3 = constant parameter

Analysis of Data and Presentation

Descriptive Statistics

The results of the descriptive statistics performed prior to the inflowing time series analysis are displayed in the following table.

Table: 1.1

Statistical analyses of selected variables

	GDP	FDI	INF	EX	IM
Mean	1.72	40298277	8.30	14.56	32.28
Median	1.59	14778086	7.27	12.85	32.57
Maximum	3.06	1.96	26.39	26.32	41.46
Minimum	8.25	-6647984	3.07	6.80	21.66
Std. Dev.	6.56	55376010	5.07	6.02	4.51
Skewness	0.52	1.45	1.82	0.48	-0.24
Kurtosis	2.20	4.29	6.60	1.89	3.04
Jarque-Bera	2.22	13.08	34.02	2.75	0.30
Probability	0.32	0.00	0.00	0.25	0.86
Sum	5.34	1.25	257.49	451.40	1000.78
Sum Sq. Dev.	1.29	9.20	772.96	1090.5	611.49
Observations	31	31	31	31	31

Source: *Authors' calculation through E-views*

The 31 observational years covered by the data are 1970 to 2020. The GDP average is 1.72, with a standard deviation of 6.56, as per the descriptive data. Additionally, 40298277, 14.561, and 32.28336, respectively, are the means for FDI, EX, and IM4. This shows that GDP is more reliable than other factors, with import to export being the least reliable. GDP also has a positive skew compared to other factors.

Table: 1.2

Statistical analysis of selected variables

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FDI	26.84	11.36	2.36	0.02
INF	-1.89	80687905	-2.34	0.02
EX	-6.36	88616373	-7.17	0.00
IM	6.33	1.13	5.60	0.00
C	6.52	3.58	1.82	0.07



R-squared	0.91	Mean dependent var	1.72
Adjusted R-squared	0.90	S.D. dependent var	6.56
S.E. of regression	2.05	Akaike info criterion	45.86
Sum squared resid	1.09	Schwarz criterion	46.09
Log likelihood	-705.94	Hannan-Quinn criter.	45.9
F-statistic	70.26	Durbin-Watson stat	1.34
Prob(F-statistic)	0.00		

Source: *Authors' calculation through E-views*

Results and Interpretation

The results of the ordinary least square estimation show a positive and statistically significant relationship between imports and exports, in contrast to the non-significant association between FDI and GDP. GDP and export of goods and services are inversely connected, which means that a change in export of 1% causes a reduction in GDP of -6.36%. R-squared is equal to 91%, which indicates that changes in all independent variables combined explain 91% of the variation in GDP. The nonstationary nature of the variable that biases the OLS estimation and the low Durbin Watson value, however, may be indicators of incorrect regression.

Conclusion

In conclusion, academics can assert that FDI and GDP are causally related in both directions. Additionally, both FDI and GDP are impacted by inflation. Finally, compared to the insignificant association between foreign direct investment and GDP, there is a positive and statistically significant relationship between import and export. A consistent set of indicators on the status of the economy cannot be built using a single set of economic indicators. When selecting these indications, the authors' subjective assessment is employed, and their interdependence as well as the potential for duplicity are taken into account. Economic officials may find the research findings useful in determining how best to respond to external shocks and crises, enabling them to concentrate their efforts more precisely on economic growth and the general betterment of the Nepalese economy.



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