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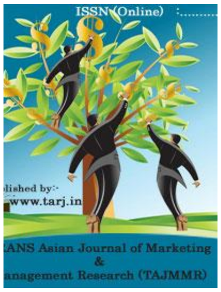


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# A COMPARATIVE STUDY OF CONTRIBUTION OF FDI AND DOMESTIC INDUSTRIAL INVESTMENT IN NEPALESE ECONOMY

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## ABSTRACT

*This study has been conducted for the comparative study of contribution of foreign direct investment and domestic investment in Nepalese economy. For this theoretical analysis, different research studies have studied to draw the fundamental issues of effect of FDI and domestic industrial investment in the economy. The simple linear regression model has been applied to measure the impact of FDI and domestic investment on GDP and industrial GDP as well as employment. The contribution of FDI and domestic industrial investment has been analyzed by taking the data of 20 years during the period of 2000/01-2019/20. There has been significant contribution of FDI and domestic industrial investment in Nepalese economy. The results show that there are significant positive relationship between FDI and domestic industrial investment on GDP, industrial GDP and employment in the study periods.*

**KEYWORDS:** *FDI, Domestic Industrial Investment, Contribution, GDP, Employment.*

## INTRODUCTION

### Research Background

Nepal has entered in to modern industrial practices after 1936. The first formal industry was the Biratnagar Jute Mill.Ltd. at Biratnagar which was incorporated in 1936 under the Company Act 1936.That venture was done the joint investment of Nepalese and Indian capital(Pradhan,1984). Due to its suitable location with regard to raw materials, transport facilities, labour supply and market, developed vigorously within a short span of time.As a result Jute Mill flourished and that encouraged the establishment of five more joint stock companies within a span of two years those were sugar mill, rice, oil and match factory.

Nepal's economic growth remained low and erratic. Low levels of productivity have inhibited meaningful structural economic transformation where labour moves from low productivity activities to higher productivity and returns. With the manufacturing sector in stagnation and with limited absorption capacity within the services sector, many Nepalese exist the national labour market to find employment abroad. Moreover,Nepal continues to lag behind comparable countries in foreign investment, industrial growth and investment in productive assets (ODI Report,2014).

In the context of Nepal, before 1985 policies were guided by inward looking protectionist strategies. Domestic industries were treated as infant industries and were protected from foreign competition by high tariff and quota restrictions. The government was directly involved in the economy and provided essential products and services. Economic liberalization was initiated in 1985 and accelerated after 1990s, sought to modernize the economy and accelerate structure changes by creating an environment appropriate for private sector participation. The purpose of these liberalization policies was to development industries based on comparative advantage, efficiency, better capacity utilization, modernization and technology utilization (Regmi, 1994).

There has been significant contribution of FDI and domestic industrial investment in the economy. In the Nepalese context, the contribution of industrial sector is not sufficient in comparison to neighborhood countries. Though industrial sector contributes to the economy in terms of economic growth, employment generation, fulfilling goods and services as well. FDI and domestic industrial investment has significant role boosting industrial development as well as economic development.

### Statement of the Problems

Industrial Policy (2010) aims effectiveness coordination and cooperative actions would be public, private and co-operative sectors through the sustainable and broad based industrial development having the objectives such as increase in industrial export by improving national income and employment through the qualitative and competitive industrial product and productivity, increase in industrial sector's contribution in the balance national and regional development by mobilizing local resources, raw materials and skill, establish sustainable industrial enterprise and reliable sector by using modern technology and friendly environment in production process and Nepal should be established as the attractive investment zone in the south Asian region and world by promoting investment base for industrial development developing necessity productive manpower and managerial capability.

Foreign direct investment and domestic investment in industrial sector contribute the significant effort to industrial development, employment generation, GDP as well as industrial GDP of the economy. Nepal has been improving the investment friendly environment by reforming and improving the industrial policies and enterprises Acts after 1990s. FDI involves a long-term commitment to a business endeavor in a foreign country. The private sector has also been exciting for industrial investment in the country. Investment environment directly depends on government‘s policy. Investment policies related to industrial development are the basic instruments for the government to shape the industrial development in the country.

The investors in their efforts to secure profitability look carefully the macro-economic conditions such as strong and stable economic indicators, relatively developed capital markets, fiscal and tax policies that favour price stability, open market regimes etc. FDI, domestic investment andindustrial development climate in Nepal has not found satisfactory and Nepal has not succeeded in attracting the required quantum of investment and technology. The present study is basically necessary to access the contribution of FDI and domestic investment on GDP and industrial GDP as well as employment generation of Nepal. Under domestic investment, the investment of small, medium and large scale industries are undertaken. Thus this study has following reseach questions:

**(i)** How is thecurrent status of foreign direct investment and domestic industrial investment on industrialization of Nepal?

**(ii)** What is the contribution of FDI and domestic industrial investment on GDP, industrial GDP and employment in Nepal?

**Objectives**

The general objective of this study is to analyze the existing industrial investment situation of Nepal. The specific objectives of the study are as:

**(iii)** To study the current status of foreign direct investment and domestic industrial investment on industrialization of Nepal.

**(iv)** To examine the contribution of FDI and domestic industrial investment on GDP, industrial GDP and employment in Nepal.

## LITERATURE REVIEW

By the interaction between foreign and domestic investment is of paramount importance and both can cause each other in the economy. The increase in private investment signals high return on investment in the domestic economy whereas public investment shows the improvement in infrastructure and thereby reduction in cost of doing business. The roles of domestic investment motivate the foreign investors to reap the benefits of high returns (Ndikumana.& Verick,2008).

The inflow of foreign capital in the form of foreign direct investment (FDI) has significantly increased in the developing countries after 1990s.FDI inflow fulfills the rising investment requirements to boost economic growth at higher pace which supports for macroeconomic stability in the economy. Technological transfer from developed countries to developing countries occurs through FDI which paves the way for economic development in developing countries. (Choong & Lim,2009) argued that FDI affects economic development of the recipient country at macro and micro level. At macro level, it is beneficial for real sectors of the economy, such as investment, exports, economic growth and so forth whereas at micro level, it creates technological spillover and training of manpower and enhances management skill and so forth.

Te Velde(2010) has concluded that economic growth depends directly on economic fundamentals such as skills and capital formation as well as efficiency with which factors of production are put together, but the state business relations is a crucial factor behind efficient skills development, capital formation and ultimately higher productivity and incomes. Establishing successful state business relations require an appropriate policy framework that allows the state to support foreign and domestic investment in terms of industrial development and technological upgrading and the effective state business relations contribute significantly to economic growth.

Ndikumana &Verick(2007) has conducted having the objective to contribute to the literature on the causes and effects of FDI in African economies by focusing on the linkages between FDI and domestic factor markets. The study investigated whether domestic investment promotes FDI inflows and which in turn affected by FDI.The literature has provided much evidence on the determinants of FDI and effects of FDI on growth which was known about how FDI itself affects domestic factor markets.The empirical results showed that the relationship between FDI and domestic investment runs both ways, especially in the case of private investment. FDI crowds in private investment in the sample of SSA countries. The results also clearly indicated that the impact of private investment on FDI was stronger and more robust than the reserve relation.

Ullah,Shah & Khan(2014) has aimed to find dynamic interaction between domestic investment, foreign direct investment and economic growth in Pakistan for the period 1976-2010. Besides foreign direct investment inflow to Pakistan and domestic investment variables, that study also used as the third variable in order to avoid misspecification problems in the model and to know the interrelationship between the variables. The empirical findings of the study revealed the existence of long-run relationship between domestic investments, foreign direct investment and economic growth. The study suggested that FDI could be used to supplement the domestic investment and hold a complementary status that reserve should be having same implication. Similarly, various incentives including tax cut or subsidies should be promoted by the government in order to foster the FDI and domestic investment.

Chakraborty & Mukherjee(2013) had argued in the existing literature that foreign direct investment(FDI) inflow positively influences economic growth through technology diffusion, human capital formation etc. A time series analysis was undertaken to analyze whether there exists any long-run relationship between FDI, domestic investment and economic growth. The findings that there was a unidirectional causality from India’s economic growth to FDI and and FDI to domestic investment raises important policy implications. Higher FDI inflow in India in that period could be argued to be facilitated by the relatively stable GDP growth rate which acted as a major boost towards a sustainable high domestic investment.

ABU & Karim (2016) had examined the relationships among foreign direct investment, domestic savings, domestic investment and economic growth in 16 Sub-Saharan African (SSA) countries from 1981-2011, using various techniques. The results of VAR estimation and Granger causality tests demonstrate that there was a unidirectional causality from foreign investment to growth and domestic investment as savings to growth and a bidirectional causality between growth and domestic investment as well as savings and domestic investment. Based on the results of the impulse response analysis, there was a positive unidirectional causality from foreign investment to growth and domestic investment, both in the short and long-run.

The industrial policy 1992 followed outward-looking economic policies. The government, in addition to adopting private sector friendly policies, had launched several measures to enhance industrial development such as providing financial, procedural and other concessions to the industries, accorded high priority to FDI and focused to create investment friendly environment. For the creation of investment friendly environment in the country, government of Nepal had enacted Industrial Enterprise Act, Foreign Investment and Technology Transfer Act, Company Act, Privatization Act and incorporated many other related legal provisions in different Acts(GoN, 2002).

The inflows of FDI into Nepal accelerated after the economic liberalization of the 1990s but it was remained very low, averaging only nearly $8 million annually in that period. FDI inflows were low also in relation to the size of population and economic activity, even compared with other least developed landlocked countries in the Asian region. FDI had contributed significantly to export diversification and foreign investors were providing up to 25 percent manufacturing employment. The study remarked that political instability of Nepal presented mainstream foreign investors with an unacceptably high level of political risk (UNCTAD,2003).

Rana (2014) has suggested that Nepal should make FDI into Nepal even more liberal than Sri Lanka, if Nepal should wish to commercialize the Nepalese agriculture and forestry sectors as developed our mining and mineral sectors with appropriate value and supply chains. Nepal should encourage FDI for import substitution in sectors such as petroleum products, fertilizer, cement, pharmaceuticals, automobiles, especially components and spare parts and not least in rice production for national food security. Similarly Nepal should emphasize in horticulture, floriculture and organic products to export to West Asian countries and beyond into European countries.

## RESEARCH METHOD

The study is the descriptive and analytical in nature. So the descriptive research design has been applied. In descriptive and analytical research design, descriptive research design, different tables, diagram and examples has been presented as necessary. Similarly, econometric and statistical tools and models have been used to measure the impact of FDI and domestic industrial investment on GDP, industrial GDP and employment.

The published as well as unpublished relevant literature has been used to review the linkages of FDI and domestic investment on GDP and industrial GDP of FDI. Data published by various government and non-government organizations have been used to analyze the situation. Economic survey published by Ministry of Finance, data published by Statistical Year Book and other reports published by Central Bureau of Statistics and National Planning Commission (NPC) were the major sources of statistical information. Quarterly Economic Bulletin published by Nepal Rastra Bank. Apart from this, reports published by international organizations such as World Bank, the Internal Monetary Funds (IMF) etc. were also used.

## MODEL SPECIFICATION

The following equations are used to estimate the impact of FDI and domestic industrial investment (DII)on macroeconomic variables:

The impact of FDI and domestic investment (DI)on employment (E) is estimated by:

$$\ln Emp_t = \alpha_0 + \beta_1 FDI_t + \beta_2 DII_t + \varepsilon_t \ldots\ldots\ldots (i)$$

Where, lnEmp.is the natural log employment generated due to foreign direct investment and domestic investment, FDI is of foreign direct investment and DIIis the domestic industrial investment. The domestic industrial investment has been included the investment on small, medium and large scale industries. The $\alpha_0$ is constant;$\beta_1$ and$\beta_2$ are coefficientsparameters. Employment is expected to be increase due to FDI and domestic investment.

The impact of FDI and domestic industrial investment (DII)on GDP is estimated by:

$$\ln GDP_t = \alpha_0 + \beta_1 FDI_t + \beta_2 DII_t + \varepsilon_t \ldots\ldots\ldots (ii)$$

Where, lnGDP is the natural log of GDP.

The impact of FDI and Domestic investment (DI)on industrial GDP is estimated by:

$$\ln IGDP_t = \alpha_0 + \beta_1 FDI_t + \beta_1 DII_t + \varepsilon_t \ldots\ldots\ldots (iii)$$

Where, lnIGDP is the natural log of industrial GDP.

For analyzing and interpreting the data collected through the different sources in the process of presentation and analysis, both the qualitative and quantitative parameters have been used. Required econometrics, accounting and statistical tools and techniques has been applied. Data are also presented in tables, graphs and diagrams as required.

## RESULTS AND DISCUSSION

### Present Status of Industrial Sector

The Industrial Enterprise Act has been enacted and implemented to encourage, protect and regulate the industrial sector of Nepal and help increase the contribution of the industrial sector to the national income. Directive 2019 for Operation of Small Enterprise Development Program for Poverty Alleviation has been approved. The Special Economic Zones Act has been amended.

Measures taken to mitigate the global epidemic of COVID-19 are estimated to have negatively affected the value added of manufacturing industry by 2.3 percent in FY 2019/20. The contribution of industrial production to the GDP has averaged 5.5 percent annually in the last five years. This contribution is estimated to be 5.1 percent in FY 2019/20.A single point service center has come into operation in the Department of Industry with the objective of providing all kinds of services to domestic and foreign investors from one place.

Foreign investment has been increasing in the industrial sector due to existing policy, legal and structural reforms and procedural simplifications. Foreign Investment Commitment has increased by 165.38 percent to Rs. 29.67 billion in FY 2019/20 compared to mid-March 2018/19. The total investment commitment decreased by 10.1 percent and became Rs.1.2791 billion in 2019/20. During the past 10 years, the industrial investment commitment was Rs.1.7670 trillion.The share of small, medium and small scale industries based on the number of industries has been recorded 14 percent, 23 percent and 63 percent respectively till the up to mid-March, 2019/20. On the basis of total investment, the share of large, medium and small scale industries has estimated as 87 percent, 9 percent and 4 percent respectively.

**TABLE-1: PROVINCE-WISE INDUSTRY REGISTERED DOMESTIC AND FDI BASED INDUSTRIES (RS. IN TEN MILLION)**

| Classification of Industries | Domestic Industries | | | FDI Projects | | |
|---|---|---|---|---|---|---|
| | No.of Industries | Total Investment | Employment | Total Projects | FDI | Employment |
| Agriculture & Forest | 478 | 2849.4 | 36271 | 288 | 705.92 | 10379 |
| Construction | 78 | 4992.2 | 3801 | 46 | 298.30 | 3226 |
| Energy | 411 | 122898.8 | 35533 | 86 | 12880.18 | 11595 |
| ITC | 76 | 506.8 | 4551 | 91 | 726.23 | 4911 |
| Manufacturing | 3080 | 46713.3 | 328611 | 1191 | 5795.35 | 102717 |
| Mining | 69 | 688.3 | 7204 | 72 | 798.10 | 8786 |
| Services | 2224 | 15637.6 | 126806 | 1655 | 6178.20 | 70039 |
| Tourism | 1816 | 15948.8 | 72050 | 1570 | 5018.23 | 55479 |
| **Total** | **8212** | **210145.5** | **614827** | **4999** | **32400.51** | **267132** |

**Source: Economic Survey 2019/20.**

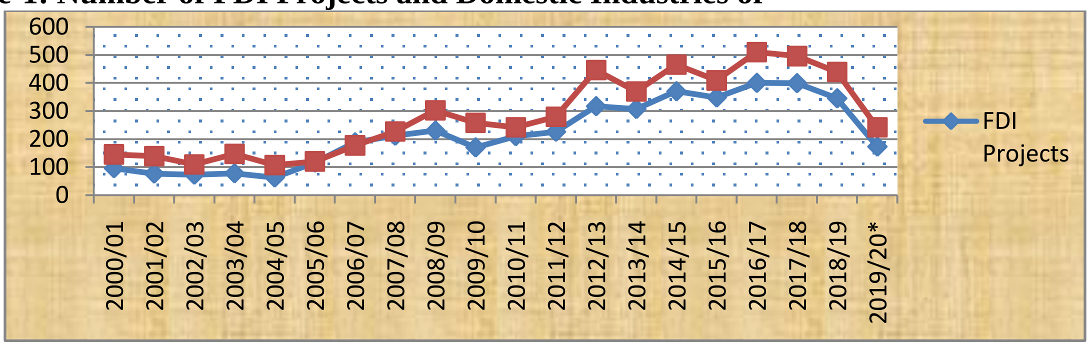
**[Note: ITC= Information, Transmission and Communication]**

Table-1 depicts that the share of manufacturing industry was 37 percent, service industry was 27 percent and tourism industry was 22 percent while the rest was from other sectors.In terms of investment commitment, the highest total industrial investment was 59 percent in the energy based industry and 22 percent in the manufacturing industry, while the lowest investment was 0.2 percent in the information, broadcasting and information technology based industries and 0.3 percent in the mining sector upto mid-March 2019/20.

From the beginning to the mid-March,2019-20, the foreign investment commitment of Rs. 3.24 trillion has been received in 4999 industries. Among the registered foreign-invested industries, small scale industries has accounted for 83 percent, medium industries for 11 percent and large industries for 6 percent. Among the foreign-invested industries, 40 percent are seems to be energy based industries, 19 percent in service industries, 18 percent in manufacturing industries and 16 percent in tourism industries, while the lowest investment seems to be construction industries at 1 percent. On the basis of industry registration, the highest foreign-invested industries were registered in the service sector at 33 percent, in the tourism sector at 31 percent and in the manufacturing sector at 24 percent, while the construction and mining industries has shown the least registered.

Figure-1 depicts the trends of FDI projects and domestic investment industries (Small, medium and large scale industries) from 2000/01 to 2019/20. The number of FDI projects and domestic investment industries has been increasing in the most of years in the study periods. Domestic investment industries are more than FDI projects. Though, there has been significant role for establishing industrial projects of FDI and domestic investment of Nepal (Annex-I).

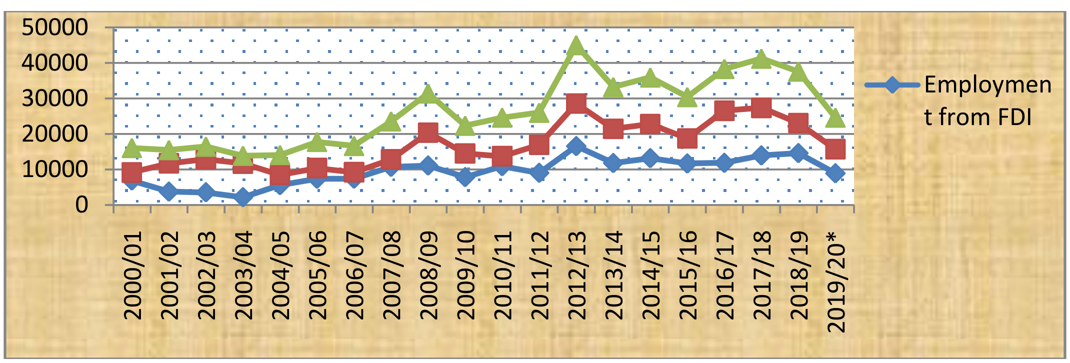
**Figure-1: Number of FDI Projects and Domestic Industries of**




**Source:** Annex-I

Figure-2 presents the employment generated from FDI projects and domestic industrial investment and total employment from both projects from 2000/01 to 2019/20. The number of employment level has been increasing in the most of years in the study periods. The employment level has gradually been increasing in the study periods.

**Figure-2: Employment from FDI Projects and Domestic Investment Industries.**




**Source**: Annex-I.

**Economic Impact of FDI and Domestic Industrial Investment**

**Impact on GDP**

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There has been significant impact of foreign direct investment (FDI) and domestic industrial investment (DII) on economic development of the economy. Domestic industrial investment may not sufficient boosting industrial development and economic growth of Nepal. Nepal can improve the gear of momentum of industrial development pace by mobilizing both foreign investment and domestic investment. Nepal needs huge foreign investment in diversified sectors. There has been significant role FDI anddomestic industrial investment (DII)for the overall industrial development of Nepal.

**TABLE-2: REGRESSION BETWEEN FDI AND DIION GDP**

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .820[a] | .672 | .633 | .42345 |

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 9.803 | .784 | | 12.507 | .000 |
| | Domestic Investment | 3.336E-5 | .000 | .498 | 2.237 | .039 |
| | Natural log FDI | .219 | .132 | .370 | 1.663 | .115 |

a. Predictors: (Constant), Natural log FDI, Domestic Investment

b. Dependent Variable: Nature log of GDP

**Source:** Calculated by Author based on Annex-II.

Analyzing the data of 2000/01-2019/20, the study finds that there has been founda positive relationship between domestic industrial investment and GDP of Nepal. The result seems to be valid as all diagnostic parameters justified the relationship such as the regression coefficient is significant at 5 percent p-value with coefficient 0.672 ($R^2 = 0.672$). The result can be interpreted that there is significant impact of domestic industrial investment on GDP during the study period.

However, this relationship is found to be opposite to the relationship of foreign direct investment (FDI) and GDP. The analysis shows that there is no relationship between FDI and GDP as the diagnostic p-value is found to be insignificant. It means, there is no impact of FDI on GDP of Nepal. This can be justifiable because the volume of FDI of Nepal is very small due to the lacks of investment friendly environment in the study periods (Table-2).

**Impact on Industrial GDP**

There has significant contribution of domestic industrial investment and FDI on industrial GDP of the economy. There has been mostly found direct proportional relationship between FDI and DII on industrial GDP (Table-3).

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**TABLE-3: REGRESSION BETWEEN FDI AND DIION INDUSTRIAL GDP**

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .919[a] | .844 | .826 | .27307 |

**Coefficients[a]**

| Model | | Unstandardized Coefficients B | Unstandardized Coefficients Std. Error | Standardized Coefficients Beta | t | Sig. |
|---|---|---|---|---|---|---|
| 1 | (Constant) | 5.080 | .428 | | 11.861 | .000 |
| | Natural log Domestic Investment | .214 | .099 | .412 | 2.167 | .045 |
| | Natural log FDI | .299 | .105 | .540 | 2.840 | .011 |

a.Predictors: (Constant), Natural log FDI, Natural log Domestic Investment
b. Dependent Variable: Natural log Industrial GDP

**Source:** Calculated by Author based on Annex-II.

There is significant impact of FDI and domestic industrial investment on industrial GDP in Nepal. In order find the impact of FDI and domestic industrial investment on GDP, the industrial GDP was regressed on FDI and DII by using data of 2000/01-2019/20. The overall model is statistically significant ($R^2$= 0.844, $p<0.5$). The natural log of domestic industrial investment and industrial GDP is positive.The natural log of domestic industrial investment is significant at 5 percent ($p<0.05$). This means that increase in industrial GDP is related to increase in domestic industrial investment. Similarly, the natural log of FDI is significant at 5 percent ($p<0.05$) and coefficient indicates that the greater the proportion of FDI, the greater the industrial GDP. Taken together, these findings indicate that the greater the proportion of FDI and domestic industrial investment result the greater proportion of the industrial GDP.

**Impact on Employment**

There has been significant relationship between FDI and domestic industrial investment on employment. The increase in investment tends to increase in employment in theoretical phenomenon.(Table-4).

**TABLE-4: REGRESSION BETWEEN FDI AND DIION EMPLOYMENT**

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .901[a] | .812 | .790 | .17688 |

**Coefficients**[a]

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 7.879 | .277 | | 28.402 | .000 |
| | Natural log Domestic Investment | .129 | .064 | .422 | 2.025 | .059 |
| | Natural log FDI | .167 | .068 | .511 | 2.450 | .025 |

a. Dependent Variable: Natural log Employment
b. Predictors: (Constant), Natural log FDI, Natural log of Domestic Investment

**Source:** Calculated by Author based on Annex-I &II.

There is significant impact of FDI and domestic industrial investment on employment in Nepal. In order find the impact of FDI and domestic industrial investment on employment, the employment was regressed on FDI and domestic industrial investment by using data of 2000/01-2019/20.The overall model is statistically significant ($R^2$= 0.812, $p<0.5$).The natural log of domestic industrial investment and employment is positive.The natural log of domestic industrial investment is significant at 5 percent ($p<0.05$). This means that increase in employment is related to increase in domestic industrial investment. Similarly, the natural log of FDI is significant at 5 percent ($p<0.05$) and coefficient indicates that the greater the proportion of FDI, the greater the employment. Taken together, these findings indicate that the greater the proportion of FDI and domestic industrial investment result the greater proportion of the employment.

## CONCLUSION AND IMPLICATIONS

Until the 1980s, most developing countries followed import substitution industrialization strategy under which domestic industries were protected and promoted through high barriers to trade. In early 1990s, a Neo liberal paradigm that identified the market as the most efficient mechanisms for resource mobilization became the dominant principle in the development. Nepal practiced inward looking protectionist strategies before 1985 under which domestic industries were a treated as infant industries and were protected from foreign competition by high tariff and quota restrictions. The government was directly involved in the economy and provided essential products and services but the policy did not produce expected results. Nepal introduced market orientation policies in the mid-1980s and embarked on intensive economic liberalization in the early 1990s. At that time, Nepal was considered to be one of the most liberalized countries in the South Asian region. The industrial, trade and investment related policies were highly liberalized. The trade and investment was increased substantially in the initial phase of liberalization. However, that could not be sustained for long due to political instability and policy matters.

The present study finds that there is significant positive relationship between FDI and domestic industrial investment on GDP, industrial GDP and employment but in case of FDI and GDP, there is insignificant relationship. The study finds that undertakings business and investment in Nepal is a very difficult and complicated task despite the very liberal policies. Though, Nepal needs improvement in the contribution of FDI and domestic industrial investment for raising the status of GDP, industrial GDP and employment as well as other macroeconomic parameters boosting Nepalese economy

**Annex**

**ANNEX-I: FDI & DOMESTIC INDUSTRIES (SMALL, MEDIUM AND LARGE INDUSTRIES) (RS. IN TEN MILLION)**

| Year | FDI Projects | Employment from FDI Projects | Domestic Industries | Employment from Domestic Investment |
|---|---|---|---|---|
| 2000/01 | 96 | 6880 | 145 | 9165 |
| 2001/02 | 77 | 3731 | 139 | 11741 |
| 2002/03 | 73 | 3543 | 109 | 12877 |
| 2003/04 | 78 | 2154 | 147 | 11687 |
| 2004/05 | 63 | 5559 | 107 | 8490 |
| 2005/06 | 116 | 7358 | 120 | 10398 |
| 2006/07 | 188 | 7389 | 177 | 9232 |
| 2007/08 | 212 | 10709 | 227 | 12844 |
| 2008/09 | 230 | 11091 | 302 | 20359 |
| 2009/10 | 170 | 7822 | 258 | 14510 |
| 2010/11 | 210 | 10902 | 242 | 13727 |
| 2011/12 | 226 | 9035 | 279 | 16960 |
| 2012/13 | 317 | 16569 | 446 | 28535 |
| 2013/14 | 307 | 11790 | 370 | 21448 |
| 2014/15 | 370 | 13167 | 466 | 22785 |
| 2015/16 | 348 | 11663 | 409 | 18760 |
| 2016/17 | 400 | 11842 | 510 | 26530 |
| 2017/18 | 399 | 13940 | 496 | 27339 |
| 2018/19 | 345 | 14594 | 439 | 23043 |
| 2019/20* | 173 | 8906 | 242 | 15713 |

**Source:** Economic Survey 2019/20 & Ministry of Industry/Department of Industry 12/17/2020

**ANNEX-II: FDI & DOMESTIC INVESTMENT, GDP AND INDUSTRIAL GDP(RS. IN TEN MILLION)**

| Year | FDI Investment | Domestic Investment | Total GDP | Industrial GDP |
|---|---|---|---|---|
| 2000/01 | 310.26 | 1076.66 | 44151.90 | 2858.94 |
| 2001/02 | 120.96 | 2266.16 | 45944.28 | 2933.53 |
| 2002/03 | 179.03 | 1320.35 | 49223.13 | 3194.29 |
| 2003/04 | 276.48 | 1329.04 | 53674.84 | 3506.24 |
| 2004/05 | 163.58 | 1800.31 | 58941.16 | 3900.44 |
| 2005/06 | 260.63 | 952.78 | 65408.40 | 4423.80 |
| 2006/07 | 318.60 | 812.37 | 72782.70 | 5010.04 |
| 2007/08 | 981.06 | 2012.64 | 81565.80 | 5684.67 |
| 2008/09 | 625.33 | 2696.14 | 98805.30 | 6544.70 |
| 2009/10 | 909.18 | 3924.54 | 119277.40 | 7092.40 |
| 2010/11 | 1005.3 | 9041.6 | 136695.40 | 8053.10 |
| 2011/12 | 713.8 | 8442.7 | 152734.40 | 9116.40 |
| 2012/13 | 1981.9 | 11960.3 | 169501.10 | 10031.20 |
| 2013/14 | 2013.2 | 28780.8 | 196454.00 | 11299.50 |
| 2014/15 | 6745.5 | 13875.1 | 213015.00 | 11898.00 |
| 2015/16 | 1525.4 | 12100.7 | 225316.30 | 12096.70 |
| 2016/17 | 1520.6 | 16317.4 | 267449.30 | 13386.20 |
| 2017/18 | 5576.0 | 35058.9 | 304493.00 | 15192.00 |
| 2018/19 | 2548.4 | 28335.3 | 345879.00 | 17239.20 |
| 2019/20* | 2967.3 | 12791.9 | 44151.90 | 28589.40 |

**Source:** Economic Survey 2019/20 & Ministry of Industry/Department of Industry 12/17/2020

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# VOLATILE BEHAVIOR OF STOCK EXCHANGE UNDER COVID 19 PANDEMIC

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## ABSTRACT

*An unforeseen epidemic that arose in the Republic of China and was later called COVID-19 has spread around the world since December 2019 to become a pandemic. The detrimental influence of the COVID-19 epidemic has been felt all over the world after the mass dissemination of the COVID-19 pandemic within the Republic of China, especially in the provincial state of Wuhan. With troubling uncertainty, the stock market has reacted to the COVID-19 pandemic, as traders have panic-sold out of concern. This research therefore focuses on understanding the unpredictable actions of the Covid 19 pandemic on the Indian Stock Exchange. The study describes the unpredictability in the market and also mentions the impact of current events on securities market volatility.*

**KEYWORDS:** ***S**tock Exchange, Volatile Markets, Covid 19 Pandemic, Indian Stock Markets, Volatility.*

## INTRODUCTION

A commercial centre where protections, for example, stocks and securities, are purchased and sold securities are normally exchanged over-the-counter (OTC); however some corporate securities can be exchanged on stock trades. Stock trades permit organizations to raise capital and financial specialists to settle on educated choices utilizing constant value data. Trades can be an actual area or an electronic exchanging stage. Through people groups are regularly familiars with the picture of exchanging floor, numerous trades currently utilize electronic exchanging.

**Review of Literature**

Mahul Brahma, Dr. Ruchika Gupta (2018) conducted a study to create an understanding from the FIIs investment decision and its effect on stock market movements. The study uses mathematical instruments such as Mean, variance, standard deviation, skewness and correlation assessment to determine the effect associated with the effect of FIIs on volatility in Indian currency markets. The GARCH model have also been used along with these tools to examine the effect of capital flows from FIIs on stock market volatility. The analysis indicates that there is a substantial connection. The analysis shows that the capital flow of FIIs and stock market fluctuations are significantly linked. In addition, the purchasing of FIIs has a statistically important influence on the volatility of NIFTY and SENSEX, which are used as proxies for the Indian industry.

Singh, G., Gupta, R. and Agarwal, N (2020) conducted a study which focuses on the implications of lockdown on the Indian Economy, the various challenges faced by the Government of India in getting the country to work again. The study is critical because since The Great Recession of 2008, the COVID-19 pandemic has pushed society and the global economy into an emergency unheard of. Governments have begun to implement lockdowns around the world due to the high levels of pollution and effects on the public health environment, thus affecting development, supply chain, transport, commerce, and how people function. Moody's lowered the gross domestic product growth rate of India from 5.5 percent to 2.5 percent for 2020. The Indian Government, however, declared a stimulus package of Rs 20 lakh crore, but it is enough to lift the issue. Is it feasible for India to provide assistance to the nearly 6.4 crore development units, of which only about one crore is enrolled under the GST and, having kept these alive, offer them a more daunting true life than stamina on a ventilator? What steps does the government take to re-engineer the economy and simultaneously guarantee general well-being? This analysis, therefore, seeks to investigate the answers to these questions. The report further proposes steps to empower the economy to reinvigorate the well-being and welfare of citizens politically.

The effect of financial accounting on the financial performance of insurance undertakings in Bangladesh has been investigated by Abdul and Abu (2019). A semi-structured questionnaire consisting of open and closed-ended questions was used to collect the primary information. The sample size was 52, which was picked using Sloven's algorithm. The results of the regression of the study show that liquidity had a real and powerful impact on the profitability of the deposit money banks listed in Somalia, so it is concluded that liquidity in the banking sector helped improve their profitability during the study time.

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**ANALYSIS**

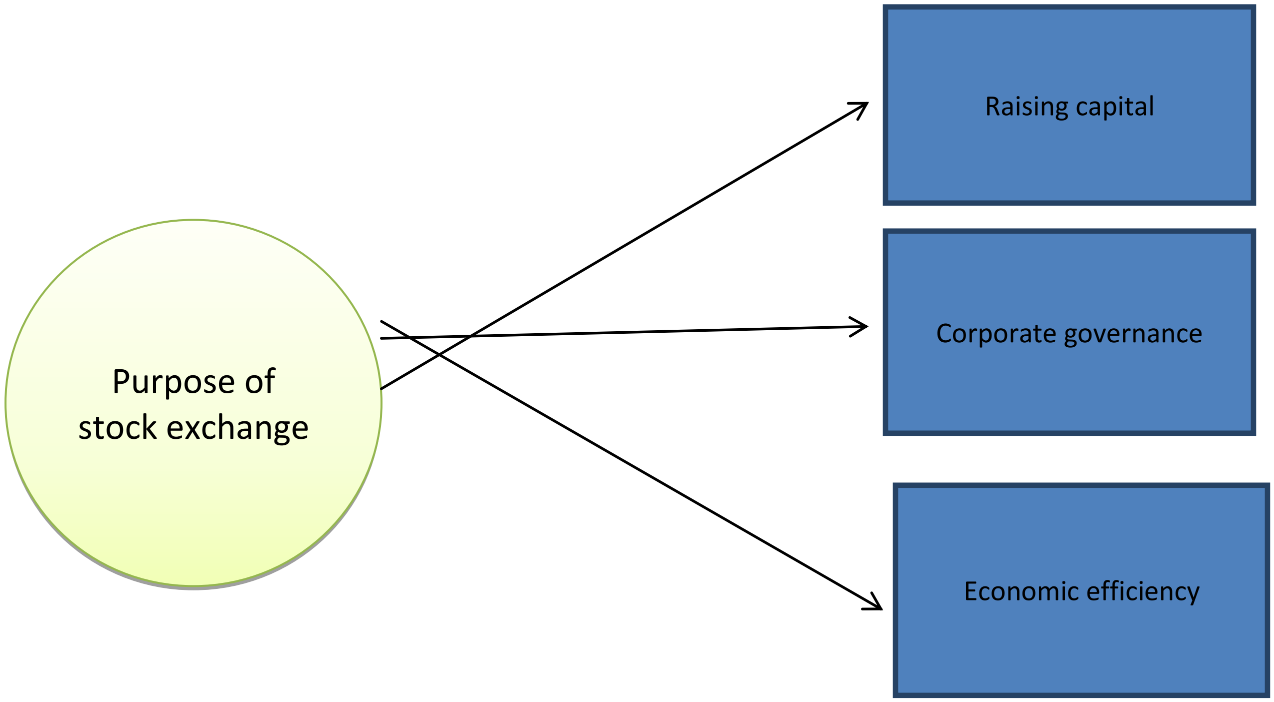


**FIGURE 1: MODEL OF STOCK EXCHANGE**

**(i) Notable Stock Exchange**

1. **New York Stock Exchange (NYSE)**

   Established in 1792, the New York Stock Exchange is by a wide margin the biggest trade in world. As of March 2018, the NYSE's market capitalization was US$23.12 trillion.

2. **NASDAQ**

   Established in 1971, NASDAQ is a US-based stock trade. With a market capitalization of US$ 10.93 trillion as of March 2018, it is the second-biggest on the planet by market capitalization. Many instruct and development firms decide to be recorded on the NASDAQ.

3. **Shanghai Stock Exchange (SSE)**

   Established in November 1990, the shanghai stock trade is the fourth - biggest trade on the planet. It revealed a market capitalization of US$5.01 trillion in March. There are two sorts of stock recorded on the SSE, 'An offer' and 'B share'. Offers are cited in RMB, with exchanging an offer truly confined to home-grown speculators.

**(ii) Two Sorts of Financial Exchanges**

These are two sort of securities exchange. Essential market and optional market.

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**FIGURE 2: STRUCTURE OF MARKETS**

**During Pandemic COVID-19**

How stock trades are shielding their business sectors from extraordinary unpredictability.

Worldwide stock trades are changing exchanging rules to shield their business sectors from serious unpredictability and theoretical exchanging as the Covid pandemic sledges values and undermines the world economy. There have likewise been calls to abbreviate exchanging hours or for shut downs for an opportunity to help quiet financial exchanges shook by flare-up.

The New York Stock Exchange will briefly close its exchanging floors and move completely too electronic exchanging from March 23.

## DISCUSSION

You can find in the outline beneath that securities exchange went through a few profound rectifications in the previous 20 years. Notwithstanding, it is critical to take note of that Nifty 50 TRI gave 11.6% CAGR returns over the most recent 20 years. Allow us to attempt to comprehend the reasons for instability.

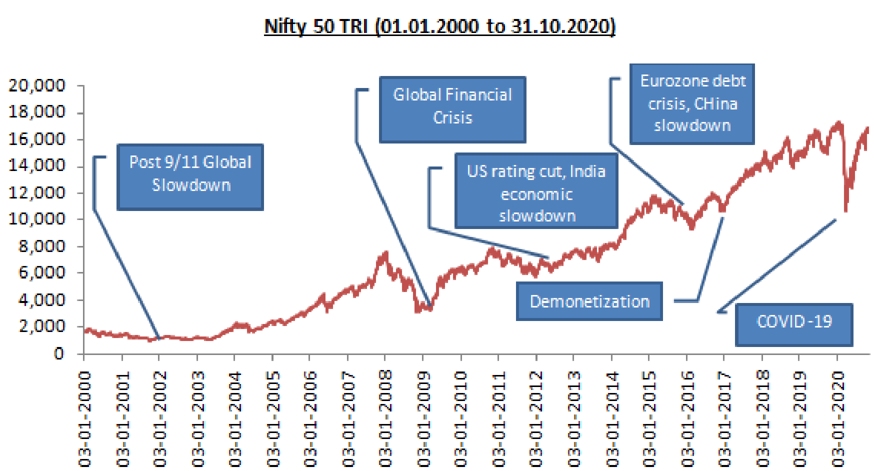


**Figure 3: National Stock Exchange (01.01.2000 to 31.10.2020)**

In the short term volatility is caused by imbalance between consumers and sellers within the securities market. If there are additional sellers than consumers within the markets, the stock costs can fall and contrariwise. Amendment in risk sentiments causes this imbalance. Uncertainty concerning the longer term outlook is that the primary reason behind increase in risk aversion. the foremost recent example of utmost volatility caused by sudden risk aversion is that the market crash in March 2020 caused by the eruption of COVID-19 pandemic - bang-up fell by thirty fifth (see the higher than chart). Volatility will be caused by alternative factors still.

- **Economic Crisis**: Stock markets are terribly sensitive to economic things. Larger the crisis, larger the autumn within the market. The market crash in 2008 as results of the worldwide monetary Crisis, early 2000s securities industry caused by international economic retardation within the aftermath of 9/11 and also the correction of year 2011 are samples of the impact of economic retardation / recession on stock markets.

- **Change in Government policy**: ending is example of volatility within the market caused by uncertainty concerning the fallout of the Government's policy on the economy. Market volatility once Government introduced tax surcharge on FPIs in interim Budget of 2019 that was later rolled back is another example.

- **Political uncertainty**: In Asian nation, markets have reacted to political uncertainty. The market felt quite 2 hundredth once the Lok Sabha election of 2004. The market was expecting NDA win, however the UPA Government came to power. However, the market quickly recovered and fortuitously we've got had stable Governments altogether the elections once 2004.

- **Global events**: With increasing international integration, international events even have a control on securities market. The correction in FY 2015 - sixteen was mostly driven by international factors like Euro zone debt crisis (Greece, European country etc.), economic retardation in China etc. The recently finished North American country Presidential elections is that the example of the impact of worldwide events on the securities market. Asian nation was additionally wedged by the bout of worldwide volatility within the run up to the North American country Presidential election.

The pace of recovery depends on the character of volatility. As an example, volatility caused by temporary demand and provides imbalance is typically transitory and also the market recovers fairly quickly. On the opposite hand, the market takes longer to endure severe economic downturns or recessions. If you perceive the character of volatility, you may be higher ready to ride it.

## CONCLUSION

The bang-up fell nearly five hundred points within the time period before the North American country Presidential elections. We tend to saw important intraday volatility throughout this era. However, the market has clearly welcomed the results of the North American country elections. Bang-up has up 900 points and is currently at its incomparable high, since the results showed a transparent path to conclusion for the Democratic presidential candidate. Though' the Republicans have filed lawsuits in many states difficult the election results, most market specialists expect them to not have any impact on the securities market. Province assembly election is another major event on the political calendar, however judgement by the market's response to the exit polls, it should not have a big impact. As so much as COVID worries, despite considerations concerning another wave of infections, the market reacted favourably to the positive news on the vaccine front. Though' the mood of the market appears positive, there is also lingering considerations concerning volatility thanks to the COVID state of affairs and economic impact there from.

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# Review Process

Each research paper/article submitted to the journal is subject to the following reviewing process:

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2. The articles passed through screening at this level will be forwarded to two referees for blind peer review.
3. At this stage, two referees will carefully review the research article, each of whom will make a recommendation to publish the article in its present form/modify/reject.
4. The review process may take one/two months.
5. In case of acceptance of the article, journal reserves the right of making amendments in the final draft of the research paper to suit the journal's standard and requirement.

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