Role of Foreign Direct Investment by Multinational Companies in Economic Growth of Nepal

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Abstract

This paper explains the effect of foreign direct investment on economic growth of Nepal. It examines the impact of the total number of industries and the total number of positions approved for foreign investment on the gross domestic product (GDP) per capita and the real GDP growth rate of Nepal. The paper uses data from fiscal year 2004/05 to fiscal year 2013/14. The analysis shows the positive impact of foreign investment on real GDP growth rate but insignificant impact on GDP per capita of Nepal. This paper reaches the conclusion that the host country should take full advantage of foreign investment to boost the economic growth of the nation. The host country should distribute foreign investment to industries by category (construction, manufacturing, energy, services, tourism, and agriculture) and at different scales (small, medium, and large).

Keywords: Economic Growth, Foreign Investment, Multinational Companies, Gross Domestic Product

1. Introduction

In general, foreign direct investment (FDI) is defined as an inflow of cash and noncash into the host country from foreign countries. It contributes notable improvement to the economic growth of the developing countries. It influences both tangible and intangible assets such as employment, income, price, production, export, import, balance of payments, and general welfare of the host country. One of the major achievements of FDI inflow is that it may result in importing technology, skills, training, knowledge, capital, physical capital, and other important assets. In addition, the host country may get economic benefits from the spillover effect of multinational companies (MNCs). For developing countries, FDI is one of the most effective ways to develop good relationships with the rest of the world (Hossain and Hossain, 2012).

In developing countries, FDI by MNCs plays an important role in their entry into advanced technologies. MNCs are one of the major technologically modern organizations, accounting for an essential sector of the world’s research and development (R&D) investment (Borensztein et al., 1998). Another possible benefit of FDI is capital accumulation. FDI also evidently affects the balance of payments through increasing capital flow, enhancing production, and increase in exports. It helps create prospective commercial surplus and economic growth. Moreover, FDI access by MNCs helps to enhance an international network to increase the possibility for trade. MNCs could contribute to economic growth by promoting export of goods and services, maximizing the savings rate, and building economies of scope and scale.

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Thus, MNCs provide different worthwhile assets by means of FDI transactions such as modern technology, capital, knowledge, production, and export to boost the economic growth of host countries, especially increase in GDP (Temiz and Gökmen, 2014). FDI by the MNCs also makes it possible to emplace labor-intensive industries and promotes resources-based industrialization, which is good for developing countries with abundant labor and high accessibility of natural resources (Chudnovsky, 1993). Furthermore, the possibility of employment would be a big advantage for the host country. However, the major requirement for FDI entry into developing countries is the funds for investment. Thus, FDI supports the host country in enhancing the standard of living by creating more job opportunities and implementing strategic projects that need huge funds (Aga, 2014).

This paper discusses the economic growth of a nation and emphasizes the role of FDI for the host county of Nepal and its economic growth, based on the available data from the past ten fiscal years, 2004/05 to 2013/14. This paper presents industry and foreign-investment trends in Nepal. The paper is based on external secondary data and scientific economic literature, reports and consultation papers of the government of Nepal, the United Nations (UN), the United Nations Development Programme (UNDP), the International Labor Organization (ILO), and other reports. Correlation and regression analysis were performed to study the impact on GDP per capita and real GDP growth rate by the total number of industries and the total number of positions approved for foreign investment in Nepal. This paper finds insignificant impact of foreign investment on GDP per capita but significant influence on the real GDP growth rate on Nepal.

2. Literature Review

In economics, the increase of prospective production is known as economic growth. Economic growth is usually evaluated in terms of the real GDP growth rate. GDP growth indicates the economic front of the country (Almfraji and Almsafir, 2014). Current thinking about economic growth is mostly driven by the neoclassical growth model developed by Robert Solow. Capital collection is a main factor conducive to economic growth. Productivity growth is measured by increase in worker output and the outcome of an increase in the amount of capital per worker. Innovation and technological change are important sources of structural change. In Schumpeter’s view, innovations lead to “creative destruction,” a process in which firms and sectors are concerned with a decline of old technologies and existing firms. Technological development is a key principle of modern economic growth (Kniivilä, 2007). FDI by MNCs influences economic growth in three ways: size effect, skill and technology effect, and structural effect. The net subsidy of FDI to the recipient country’s investment and savings is known as size effect, which influences the production growth rate. Moreover, host countries also are directly or indirectly affected by the transfer of skills and technologies caused by MNCs and the transformation of market structure (Fortanier, 2007). Baldwin et al. (2005) claim “MNCs to be important transactors of technology that FDI is good for growth.” Similarly, Borensztein et al. (1998) declare that “FDI is more productive than domestic investment.” On the other hand, a study on Asian and Latin American countries indicates that “an increase in FDI, rather than being favorable, has a rather negative effect on productivity” (Kawai, 1994). Contrary to what is predicted, spillovers are negative: greater foreign participation in an industry has a statistically significant negative effect on the performance of other firms. Each 10 percent increase in the share of foreign assets is associated with a 1.7 percent fall in sales growth of domestic firms (Djankov and Hoekman, 2000). Carkovic and Levine (2002) studied the effects of FDI inflows on economic growth in 72 countries and concluded that “FDI does not exert a reliable, positive impact on economic growth.” Some studies find positive effects of FDI on productivity, for example, a study of the Indonesian manufacturing sector (Sjöholm, 1999) and a study of the UK manufacturing industry (Haskel et al., 2007). On the other hand, some studies find negative effects of FDI on productivity, for example, a study of the Venezuelan manufacturing sector (Aitken and Harrison, 1999) and a study of the Moroccan manufacturing sector (Haddad and Harrison, 1993).

MNCs effect the economic growth of the host country by increasing employment opportunities, whether the positions affiliated with FDI are direct or indirect. Both direct and indirect employment opportunities are possible in countries with abundant labor and comparatively low capital. Direct employment is increased if foreign MNCs hire more host country citizens. Indirect employment is increased when MNCs invest in local suppliers and MNC employees contribute to local expenses. For instance, in 1997 Toyota’s investment in France created 2,000 direct jobs and potentially another 2,000 jobs in support industries (Hill, 2009).
On the other hand, some argue in the case of FDI by Japanese auto companies in the United States that the jobs created from the investment have been more than offset by the jobs lost at US-owned auto companies. As a result of such substitution effects, the total number of new jobs created by FDI may not be as large as declared by MNCs at the beginning (Hill, 2009).

The effect of FDI on a country’s balance of payments is a main policy object for the host country government. There are three possible balance-of-payment outcomes of FDI. First, when MNCs initiate a foreign subsidiary, the host country gains from the initial capital inflow. Second, when FDI replaces the import of goods and services, it helps to boost the current account of the host country’s balance of payments. Third, when MNCs create foreign subsidiary to export goods and services, the balance of payments of the host country increases. There are also some negative effects of FDI on balance of payments of the host country. For example, current account balance-of-payments of the host country will be debited when a foreign subsidiary imports a large number of inputs. For example, when Nissan, a Japanese automobile company, invested in the UK, Nissan responded to concerns about local content by pledging to increase the proportion of local content to 60 percent, and subsequently they raised it to over 80 percent (Hill, 2009). FDI by MNCs creates competition to local markets and influences domestic companies to reduce costs. On the other hand, MNCs can recoup funds from elsewhere to subsidize their costs in the host market, and in this way local companies could be put out of business and the MNCs obtain a monopoly market (Kurtishi-Kastrati, 2013).

Hoang et al. (2010) analyzed the effects of FDI on economic growth in Vietnam by using panel data from sixty-one provinces over the period 1995–2006. This study finds that there is a strong and positive impact of FDI on economic growth in Vietnam, where the additional capital from FDI helps promote economic growth in Vietnam (Hoang et al., 2010). Similarly, Kojojareenprasit (2012) studied the impact of FDI on economic growth in South Korea over the period 1980–2009 and finds a strong and positive impact of FDI on South Korean economic growth. Moreover, De Gregorio (2005) analyzed the evidence of economic growth in Latin America in the period 1950–1985, and the study finds that with an increase in aggregate investment by 1 percentage point of GDP, economic growth increases by 0.1% to 0.2% per year, but increasing FDI by the same amount, economic growth increases by approximately 0.6% a year. This indicates that FDI is almost three times more efficient than domestic investment.

3. Review of Resources and Employment Facts in Nepal

Nepal has copious natural resources, the main natural resources in Nepal being water, forest, minerals, and soil. These resources are essential for developing industry, agriculture, and trade. However, there is lack of proper utilization of these resources in Nepal. Water resource is one of the most important resources for economic growth of Nepal. After Brazil, the second largest country for water resources is Nepal. Irrigation is the backbone of agriculture. A large portion of Nepal’s population relies on agriculture. Nepal generates electricity on the basis of hydropower using its rapid flowing rivers. There are about 6,000 rivers in Nepal. So, the country has great capacity of hydropower capacity, possibly as much as 83,000 MW per year, but only 40,000 MW is currently possible economically and technically (Hydroelectricity Investment and Development Company Limited). Due to slow economic development, Nepal faces challenges in its labor market: three-quarters of workers continue to work in the agricultural sector. Because of very few job opportunities in Nepal, many young workers enter the foreign labor markets every year (Nepal Labor Market Update, ILO, 2014).

From 1999 to 2009, the economy of Nepal underwent a great structural change with the service sector exceeding the agricultural sector as the largest contributor to the country’s GDP. According to a 2014 estimate, 69% of total employment is in the agricultural sector and 12% and 19% of total employment is in the industry and service sectors respectively (CIA World Fact book). Though the share of employment in agriculture decreased to 35% in fiscal year (FY) 2010/11 from 53% in FY 1995/96, and the share of employment in non-agricultural increased to 65% in FY 2010/11 from 47% in FY 1995/96. The manufacturing sector is small in Nepal because of a narrow local market and wide export opportunities. However, the manufacturing sector can provide a high range of employment in comparison to other sectors especially in carpets, dairy products, textiles and garments, ceramic products, footwear, and glass products. Moreover, development in the construction sector surpassed the national GDP growth rate as well as created employment opportunities.
Another auspicious sector is tourism which is also a great source of employment creation and GDP growth. Nevertheless a high rate of urbanization and a primary focus of the labor supply in this area, the urban employment rate is less (63.4%) than in rural areas (82.1%). Employment patterns and trends in Nepal are dominated by the static nature of rural regions despite the population’s flow of urbanization. Most people in rural Nepal are engaged in the agricultural sector but for wages and sustenance, but in urban areas people are employed outside of the agricultural sector at a rate of 57.6% in comparison to 18.8% in rural area (Sijapati, 2014).

4. Trend on Industries, Employment, and Foreign Investment in Nepal

Because of limitations on the availability of data, data on total number of industries registered, total number of positions approved, and the total number of industries and positions approved for foreign investment are collected only from FY2004/05 to FY2013/14. As available, FY’s 2004/05 to 2008/09 have information on the first nine months.

4.1 Number of Industries Registered by Category and Scale

Industries registered in Nepal are divided into different sectors: agriculture, construction, energy, manufacturing, mineral, tourism, and services. They are further divided by scale: there are large-, medium-, and small-scale industries. Figure 1 shows the number of industries registered by category from FY 2004/05 to FY 2013/14. It shows an upward trend in the service, manufacturing, tourism, energy, and agricultural categories. However, the growth curves for the mineral and construction industries are flat. Figure 2 demonstrates the number of industries registered by scale from FY 2004/05 to FY 2013/14. There is a significantly higher number of small-scale industries registered than medium- and large-scale industries. It shows an upward trend in the number of industries registered in each scale.

Figure 1: Number of Industries Registered by Category from FY 2004/05 to FY 2013/14

4.2 Number of Industries Approved for Foreign Investment by Category and Scale

Figure 3 shows the trend of the number of industries at different sectors approved for foreign investment from FY 2004/05 to FY 2013/14. Among the six categories, the service sector has the highest number of industries approved for foreign investment, followed by the tourism and manufacturing industries in FYs 2009/10, 2011/12, and 2013/14. There is an upward trend in the number of industries approved in the service, tourism, agriculture, and manufacturing sectors except a decrease in manufacturing in FY 2013/14. The construction, energy, and mineral industries have a flat trend in the number of industries approved for foreign investment. Figure 4 shows the number of industries approved for foreign investment by scale from FY 2004/05 to FY 2013/14. Small-scale industries have the highest number of approvals and there is an upward trend in the number of small-scale industries approved for foreign investment. However, the trend is almost flat for medium- and large-scale industries approved for foreign investment.
4.3 Employment Registered by Category and Scale

Figure 5 shows the number of positions registered by categories from FY 2004/05 to FY 2013/14. Manufacturing has the highest number of positions registered, followed by the energy, service, and tourism industries. The number of positions registered in the construction and mineral industries are significantly lower than in other industries. Moreover the agricultural industries have a moderate number of positions registered. There is an upward trend in the number of positions registered in each category listed except in construction and mineral. Figure 6 exhibits the number of positions registered by scale from FY 2004/05 to FY 2013/14. Medium-scale industries have the highest number of positions in FY's 2004/05 and 2005/6 but small-scale took that position in FY 2006/07. Later, large-scale industries attain the highest number of positions registered except in FY 2009/10. Small- and large-scale industries have about the same number of positions registered in FY 2010/11. Overall, there is an upward trend in the number of positions registered in each scale.

Figure 6: Number of Positions Registered by Scale from FY 2004/05 to FY 2013/14

Figure 6: Number of Positions Registered by Scale from FY 2004/05 to FY 2013/14

Data Source: Government of Nepal, Ministry of Industry, Department of Industry

4.4 Employment Approved for Foreign Investment by Category and Scale

Figure 7 shows the number of positions approved for foreign investment by category. The service sector has the highest number of positions registered in FY’s 2004/05, 2006/7, 2009/10, 2010/11, and 2011/12, but for the rest of the FY’s, manufacturing industries get the highest number of positions except in FY 2008/09 which is reached by mineral industries. The highest numbers of positions for foreign investment were approved in FY 2012/13. Figure 8 shows number of positions approved for foreign investment by scale from FY 2004/05 to FY 2013/14. It shows that small-scale industries have the highest number of positions approved for foreign investment except in FY’s 2004/05 and 2013/14. In FY 2013/14, there is a significant decrease in the number of positions approved for small-scale industries, but it is recovered by a significant increase in large-scale industries.

Figure 7: Number of Positions Approved for Foreign Investment by Category from FY 2004/05 to FY 2013/14

Data Source: Government of Nepal, Ministry of Industry, Department of Industry
Figure 8: Number of Positions Approved for Foreign Investment by Scale from FY 2004/05 to FY 2013/14


5. Analysis of Foreign Investment Impact on GDP of Nepal:

This analysis uses the data for ten fiscal years (2004/05 to 2013/14). It studies the effect on GDP by the number of industries and the number of positions approved for foreign investment in Nepal. Figure 9 gives the correlation matrix of pairwise Pearson’s correlation coefficient to measure the association between variables. It shows that there is pairwise strong association between real GDP growth rate (%) and the number of industries approved and the total number of positions approved for foreign investment in Nepal.

Figure 9: Correlation Matrix of GDP Per Capita ($), Real GDP Growth Rate (%), Number of Industries Approved for Foreign Investment, and Number of Positions Approved for Foreign Investment.

Regression model (1) predicts GDP per capita ($) based on the number of industries and the number of positions approved for foreign investment in Nepal.

\[ \hat{Y}_1 = 1469.477 + 4.627X_1 - 0.102X_2 \]  

where \( Y_1 = \) GDP Per Capita ($), \( X_1 = \) number of industries approved for foreign investment, and \( X_2 = \) number of positions approved for foreign investment. Variance inflation factor (VIF) is found to be VIF = 6.93, this model is shown to have an issue of multicollinearity. After using the AIC model-selection criterion, both backward and forward model-selection procedures, the selected final model still remains the same as given in equation (1). However, it shows that the effect of the number of industries and the number of positions approved for foreign investment on the GDP per capita of Nepal is statistically insignificant.

**Table 1: Regression coefficients, standard Error, t-test value, and p-value**

<table>
<thead>
<tr>
<th>Coefficients</th>
<th>Estimate</th>
<th>Standard Error</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1469.477</td>
<td>290.548</td>
<td>5.058</td>
<td>0.001*</td>
</tr>
<tr>
<td>( X_1 )</td>
<td>4.627</td>
<td>3.244</td>
<td>1.426</td>
<td>0.197</td>
</tr>
<tr>
<td>( X_2 )</td>
<td>-0.102</td>
<td>0.076</td>
<td>-1.343</td>
<td>0.221</td>
</tr>
</tbody>
</table>

* Statistically significant

Regression model (2) predicts real GDP growth rate (%) based on the number of industries approved and the number of positions approved for foreign investment in Nepal.

\[ \hat{Y}_2 = 2.2299 - 0.0015X_1 + 0.0002X_2 \]  

where \( Y_2 = \) real GDP growth rate (%), \( X_1 = \) number of industries approved for foreign investment, and \( X_2 = \) number of positions approved for foreign investment. Regression model (2) has an issue of multicollinearity. After using the AIC model-selection criterion, both backward and forward model-selection procedures, the selected final model becomes

\[ \hat{Y}_2 = 2.2444 - 0.0002X_2 \]  

where \( Y_2 = \) real GDP growth rate (%) and \( X_2 = \) number of positions approved for foreign investment.

**Table 2: Regression Coefficients, Standard error, t-test value, and p-value**

<table>
<thead>
<tr>
<th>Coefficients</th>
<th>Estimate</th>
<th>Standard Error</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>2.2444</td>
<td>0.5063</td>
<td>4.433</td>
<td>0.001*</td>
</tr>
<tr>
<td>( X_2 )</td>
<td>-0.0002</td>
<td>0.0001</td>
<td>3.764</td>
<td>0.006*</td>
</tr>
</tbody>
</table>

* Statistically significant

Correlation and regression analysis shows that foreign investment in Nepal (in terms of the number of industries approved and the number of positions approved) has no effect of GDP per capita ($) of Nepal. However, the effect of the number of positions approved for foreign investment on real GDP growth rate (%) of Nepal is statistically significant.

**6. Conclusion**

The paper discusses FDI and the economic growth of a host country, Nepal. It seeks to answer the question of whether FDI affects Nepal's economic growth. To answer the research question, the paper explored the effects of FDI on a host country, reviewed the example of Nepal, collected data on industries and employment in Nepal, and performed statistical analysis to find the impact of FDI on Nepal's economic growth. The result of regression analysis shows that the number of industries approved for foreign investment has no significant impact on either the GDP per capita or the real GDP growth rate of Nepal. Similarly, the number of positions approved for foreign investment has no significant impact on the GDP per capita of Nepal. However, the study finds that the number of positions approved for foreign investment has significant impact on the real GDP growth rate of Nepal. “Employment opportunities are possible in countries where labour is abundant and capital is comparatively low.”
This statement applies to the condition of Nepal as a country, with labour abundant but capital less so, and FDI increases the impact of positions on the nation. However, FDI disfavours the productivity effect on the country, which shows that FDI has an insignificant effect on GDP per capita. It may be that industries cannot provide a huge amount of technology spill over that could help the nation make structural changes. As productivity growth is measured by the increase in worker output and the outcome of the increase in the amount of capital per worker; innovations and technological change are important factors to improve productivity.

The host country should attract more foreign investment by sector (construction, energy, and manufacturing) and by scale (small, large, and medium). However, in the context of Nepal, foreign investment is more focused on small-scale industries. These sectors and scales provide huge numbers of positions in urban areas. In large-scale industries, work is divided according to their efficiency among the labourers, which boosts productivity. These industries also utilize a large amount of modern capital that enhances innovation and technical development. Nepal, for instance, cannot use its full capacity of hydropower because of minimal financial and technical support; it needs support from foreign investment. Once Nepal develops its modern capital, it would be benefited by maximum productivity and minimum labour cost. It will make it possible for consumers to buy goods at a cheaper rates and help increase the GDP per capita of the nation, and it may bring a strong positive correlation with the overall effect of FDI in Nepal.

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