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# Foreign Direct Investment and Economic Growth in SAARC Countries

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## Abstract

Foreign Direct Investment (FDI) plays a vital role in economic growth of the countries. The present study analyses the impact of the FDI on economic growth of South Asian Association of Regional Cooperation countries by using the pooled data for the period 1990-2014. Neo-classical production function has been used for analysis and getting stock-to-flow estimation, Taylor series approximation has applied. Fixed Effects Model has been used to investigate the impact of FDI, domestic capital, labour and government expenditures on economic growth. It is the evident from the results that both domestic investment and FDI have been a positive effect on economic growth. The study finds that the contribution of domestic private investment is more trustworthy than the contribution of FDI. Consequently, FDI loses its attraction as an engine of growth if the adverse balance of payment consequence of the resulting profit repatriating is also taken into account. The labour has positive and significant association with GDP. The effect of government expenditure is negligible on economic growth. The findings suggest that growth strategy cannot yield the long term benefits if it neglects investments on human capital.

**Keywords:** FDI, Economic Growth, Domestic Investment, Fixed Effects Model.

**JEL Classification Codes**: F23, O47, E22, C32.

## 1. Introduction

The phenomenon of Foreign Direct Investment (FDI) has long been a subject of interest. This interest has exhibited a special surge in recent years due to the number of varied reasons. The most significant reason is channelling resources to developing countries through increase global foreign investment. Although, the FDI in the total capital inflows into developing countries has accounted for a relatively small component, its relative importance is increasing in the pace of the fact that the access of many developing countries to other sources of financing. The global FDI flows going to the developing countries have witnessed a rapid increase due to three major factors: rise of Multinational Corporation's pursuing the global profits, liberalization of global capital markets and finally economic globalization within developing countries (Thirlwal, 1999). Despite many factors affecting FDI have been identified, generally its main determinants include size of the host market, foreign exchange rates, local wage rates, inflation rate, and investment rate, well availability of skilled labour, infrastructure facilities, political instability, host government's FDI policies and other policies.

Theoretically, FDI does not only produces physical capital but also advanced managerial skills, transfer advanced technologies and innovative products. The advanced technology adopted by the multinational corporations and government of developed countries may spread to the indigenous firms in the wake of FDI and yield spill over effects such as technological benefits to developing countries and enhance host country's economic growth. FDI can influence the employment, production, prices, income, economic growth, exports, general welfare and balance of payments of the recipient country (Eradel & Tatoglu, 2002).

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It was because of more open FDI regimes that many countries adopted deregulate the economic activity and reliance upon market forces both in domestic and external economies. The effects of FDI on the economies of recipient countries have been studied by MacDougall (1960), Kemp (1962), Crouch (1973), Bhagwati (1978), Borenstein, De-Gregorio and Lee (1995), Balasubramanyam, Salisu and Spasford (1996), De-Mello (1997), Ahmed and Paul (1998), Chowdhury and Mavrotas (2003), Ahmed and Hamdani (2003), and Hansen and Rand (2004). The net flow of FDI increased after 1960s to developing countries because of adoption of liberal and open economic policies (UNCTAD, 1998).

During the 1980s, the share of FDI in total financial flows to less developed countries (LDCs) was tended generally to fall because of the rise in adoption of protectionist policies in the late 1970s in many western industrialized countries. From the late 1970s, huge amounts of FDI from Japan and certain European countries have been channelled to the developed countries to bypass trade restrictions. Despite this, the absolute growth of FDI in LDCs has remained significant. Until middle of 1980's, Caribbean and Latin America were the largest recipients of FDI. However, the situation has reversed since late 1980s as Pacific and Asian countries have become its beneficiaries.

The objective of the study is to investigate the effect of FDI, domestic investment, government expenditure and labour on the economic growth of SAARC countries by using neo-classical production. The distinction has been made between foreign and domestic capital to capture the effect of endogenous technology. Stock to flow transformation has been applied by following Ahmed and Paul (1998) and Ahmad and Hamdani (2003). The panel data of SAARC countries has been used in study from 1990 to 2014.

The remaining part of study is organized as follows: Part 2 presents a brief review of relevant literature. Part 3 consists of methodology, data and formation of variables. Part 4 comprises of results and discussions. Part 5 concludes the study.

## 2. Literature Review

The vast numbers of theoretical and empirical studies have examined association between FDI and economic growth. Some of them have examined determinants of FDI in the host economies while others have explored causality relationship between FDI and economic growth.

The probable effects of FDI on economic growth and other related aspects of the recipient economy have been explained by their main models such as Harrod (1939) and Domar (1946), Solow growth model, endogenous and neo-classical growth models. The growth models presented by Harrod (1939) and Domar (1946) demonstrate that capital formation upsurges standards of living and improves economic growth of an economy. The natural rate and warranted growth rate has compared in Harrod-Domar (H-D) model that is based on savings and investment decision of the firms and households. However, neo classical economists criticized this model for an assumption of fixed proportion of production with argument that it is not possible to substitute labour for capital in production. For instance, Solow (1956) argued that depending on capital also increases productivity of labour, hence making contribution in process of growth and investment. Although, the assumption of H-D model of incidence of growth in long run without any fixed proportions was admitted by him, Solow (1956) ponders an economy which utilizes savings for production of homogenous products.

Furthermore, Solow (1956) considers savings as a proposition to a labour productivity and income in the model. However, Solow (1956) has not considered the importance of the knowledge in the production process. Later on, Lucas (1988) and Romer (1986, 1990) developed endogenous growth models in which capital has pondered as a knowledge rather than just an equipment and a plant. The endogenous growth model is also emphasized on research and development process. Technological progress has been considered as an exogenous factor in the formation of capital of a country and not only an accidental cause in the decision of a firm's private investment. However, different mechanisms are being used in literature to sustain growth. Mostly, the models of sustained growth have introduced the capital whose accumulation was not based on an assumption of diminishing returns of capital. Some of them have included human capital accumulation in definition of capital. Rebelo (1991), Lucas (1988), Stokey (1991) and others incorporated knowledge accumulation either through research and development or through learning by doing (Aghion & Howit, 1992; Romer, 1986 & 1990; Helpman & Grossman, 1991). However, population growth was used as endogenous variable to incorporate fertility choice in neo-classical model. Furthermore, economists like Li (1996) and Kremer (1996) also introduced models of technology diffusion in new research.

In a nutshell, all these theories state that simple vicissitudes in the definition of capital like knowledge and human capital or in production function can drastically change the forecasts about the association between economic growth and investment. It implies that any changes in policies towards flows of FDI can make changes in economic growth of concerned economies.

## 3. Empirical Findings

The scholars have tested the relationship between FDI and economic growth from the different angles. Dritsaki and Adamopoulos (2004) explored long run relationship equilibrium association among FDI, trade and economic growth. Gera, Gu and Lee (1999) have observed that international spill over of research and development are biased against the use of labour, intermediate goods, physical capital, and biased towards use of research and development in domestic capital. Haskel, Pereira and Slaughter (2002) found statistically significant and positive correlation between the foreign-affiliate share of activity and total factor productivity (TFP) of domestic plant in the plant's industry. Kang, Du, Bhatia and Fried (2005) founds that FDI does not have any significant effect on economic growth in OECD countries. FDI has significant and positively related with economic growth as indicated by Naz, Sabir and Mamoon (2015), Ullah, Shah and Khan (2014), Ali et al. (2014), Rahman (2014), Mustafa and Santhirasegaram (2013), Saqib, Mansoon and Rafique (2013), Chen and Zulkifli (2012), Gudaro, Chhapra and Sheikh (2012), Babatunde (2011), Bhavan, Xu and Zong (2011), Chee and Nair (2010), Khan (2007), Falki (2009), Samsu, Derus, Ooi and Ghazali (2009), Khawar (2005), Hansen and Rand (2004), Chowdhury and Mavrotas (2003) and Zang (2002) found bi-directional causality between FDI and GDP.

Moreover, GDP and FDI ratio was not strong for each direction (Chowdhury & Mavrotas, 2003). Their findings also indicated that FDI plays significant role in enhancement of GDP by transferring knowledge and adopting new technologies. Ahmad and Hamdani (2003) examined the impact of FDI on GDP along with control variables and found that FDI and domestic investment both have significant impact on GDP. Eradel and Tatoglu (2002) examined that domestic market size and attractiveness have a positive impact on FDI. Mohamed (2003) explored the positive impact of investment on economic growth of Egypt. Shaoo and Mathiyazhang (2003) found long-run relationship exists among GDP, FDI and Exports in India. Yasmin and Chaudhary (2003) examined determinants of FDI by making categories of countries included in the analysis. Their findings showed that per capita GDP, urbanization, inflation, standard of living, wages and current account are significantly affected by FDI in low income countries while labour force, urbanization, trade openness, domestic investment, current account, standard of living, wages and external debt are significantly related with FDI in lower middle income countries. Moreover, labour force, urbanization, domestic investment, GDP per capita, external debt and trade openness are significantly related with FDI in the upper middle income countries.

Sharma (2002) observed that export growth was much faster in India during sample period than GDP growth and FDI was contributing in this growth along with other variables. Zhang (2002) showed that bi-directional causality exists between FDI and productivity growth in China. Lim (2001) examined determinants of FDI and its relation with GDP. The results suggest that no causality exists between FDI and GDP. Furthermore, study finds positive spill over effects from FDI on GDP. Hence, on determinant side, the study found a strong influence of an infrastructure quality, market size, economic and political stability, and free trade zones for attraction of FDI. Additionally, study found mixed results for business/investment climate, labour costs, physical incentives and openness in the recurrence of FDI.

Weeks (2001) explored that the impact of exports on non-export sector and FDI on domestic investments has varied across region of Latin America. Nair-Reichert and Weinhold (1999) found that the association between both type of investments and GDP was the heterogeneous in the sample of the developing countries. But the degree of heterogeneous was high in more open economies. Borensztein et al. (1998) explored that FDI is an important determinant in transfer of technology and it contributes more on growth than domestic investment. Tsai (1991) observed that FDI in Taiwan was based on supply side determinants. Anderson (1990) observed that the social return to investment. The investment rate and investment-induced return to labour are significant contributors in economic growth. Khan (1997) identifies factors which are responsible for low level of FDI in Pakistan.

It can be concluded from literature review that most FDI has a positive impact on recipient economies but it cannot reduce the importance of domestic investment. Indeed, FDI brings innovation, new technology, better managerial and administrative skills along with better research and development opportunities.

## 4. Methodology

The analytical framework of the model is based on neo-classical production function followed by MacDougall (1960) and Kemp (1962a, 1962b). FDI has considered as a flow component of capital stock in production function. The general form of the production function is as follows:

$$Y = F\left[ L, K^{d}, K^{f}, T\left( t, K^{f} \right) \right] \tag{1}$$

Where, $Y, L, K^d, K^f$ and $t$ are output, labour, domestic and foreign capital stocks and time respectively. The technological factor $T = \left( t, K^f \right)$ allows for the exogenous technological growth of the neo-classical type along with the externalities or spill over effects from foreign owned capital to the domestic economy.

The Equation (1) narrates the aggregate output to foreign and domestic capital stocks. Since, the data on domestic and foreign investment are available; equation can be estimated after applying stock-to-flow transformations followed by Ahmed and Paul (1998). Thus, in order to bring domestic and foreign investment explicitly into picture, total differential of Equation (1) has taken as shown below:

$$dY = \frac{\partial F}{\partial T}\frac{\partial T}{\partial t}dt + \frac{\partial F}{\partial L}dL + \frac{\partial F}{\partial K^d}dK^d + \left[\frac{\partial F}{\partial K^f} + \frac{\partial F}{\partial T}\frac{\partial T}{\partial K^f}\right]dK^f \tag{2}$$

The empirical counterpart of this equation can be obtained by applying some Taylor Series approximation and substituting instant rates of variation per unit of time, followed by differentials, by first differences in discrete times. By considering linear Taylor series approximation in natural logs and dividing both sides of Equation (2) by output and dividing and multiplying the second, third and fourth term on the right hand side by suitable variables, the following equation has obtained:

$$\frac{dY}{Y} = \frac{\partial F}{\partial T}\frac{T}{Y}\frac{1}{T}\frac{\partial T}{\partial t}dt + \frac{\partial F}{\partial L}\frac{L}{Y}\frac{dL}{L} + \frac{\partial F}{\partial K^d}\frac{K^d}{Y}\frac{dK^d}{K^d} + \left[\frac{\partial F}{\partial K^f}\frac{K^f}{Y} + \frac{\partial F}{\partial T}\frac{T}{Y}\frac{\partial T}{\partial K^f}\frac{K^f}{T}\right]\frac{dK^f}{K^f} \tag{3}$$

All the elasticities are treated as constants while taking first order Taylor Series approximation in logs. Therefore, by taking the discrete time log of linear approximation of the above equation, the following equation has obtained:

$$\frac{Y_t - Y_{t-1}}{Y_{t-1}} = \alpha_1 + \alpha_2\frac{L_t - L_{t-1}}{L_{t-1}} + \alpha_3\frac{K_t^d - K_{t-1}^d}{K_{t-1}^d} + \alpha_4\frac{K_t^f - K_{t-1}^f}{K_{t-1}^f} \tag{4}$$

The alteration in capital stock is equal to net investment during the current period for two consecutive periods that equals gross investment minus depreciation. Following earlier convention, it has assumed that capital stock depreciation is proportional to the stock of capital in the preceding period. Thus, denoting the gross domestic and gross foreign investment in period *t* is given by $I_t^d$ and $I_t^f$; the depreciation of domestic and foreign capital in period t by $D_t^d$ and $D_t^f$; and the corresponding depreciation rates by $\delta^d$ and $\delta^f$ respectively. The change in foreign and domestic capital can then be rewritten as follows.

$$K_t^d - K_{t-1}^d = I_t^d - D_t^d = I_t^d - \delta^d K_{t-1}^d \tag{5}$$

$$K_t^f - K_{t-1}^f = I_t^f - D_{t-1}^f = I_t^f - \delta^f K_{t-1}^f \tag{6}$$

By substituting equation (5) and (6) into equation (4) and rearranging the results yields:

$$\frac{Y_t - Y_{t-1}}{Y_{t-1}} = \alpha_1 - \delta^d - \delta^f + \alpha_2\frac{L_t - L_{t-1}}{L_{t-1}} + \alpha_3\frac{I_t^d}{K_{t-1}^d} + \alpha_5\frac{I_t^f}{K_{t-1}^f} \tag{7}$$

The last two expiration measures the growth rates of foreign and domestic capital. Since the data on stocks of capital is not available, these growth rates have redefined as the changes in stocks of capital relative to GDP followed by base year. For this purpose, the above equation is rewritten as follows:

$$\frac{Y_t - Y_{t-1}}{Y_{t-1}} = \alpha_1 - \delta^d - \delta^f + \alpha_2\frac{L_t - L_{t-1}}{L_{t-1}} + \alpha_3\frac{Y_{t-1}}{K_{t-1}^d}\frac{I_t^d}{Y_{t-1}} + \alpha_4\frac{Y_{t-1}}{K_{t-1}^f}\frac{I_t^f}{Y_{t-1}} \tag{8}$$

Further assuming that the two output-capital ratios denoted by $\sigma^d$ and $\sigma^f$ are stable and denoting the growth rates by $G$, the equation (8) can rewritten as follows:

$$G_t^{GDP} = \alpha_1 - \delta^d - \delta^f + \alpha_2 G_t^L + \alpha_3\sigma^d G_t^{K^d} + \alpha 4\sigma^f G_t^{K^f} \tag{9}$$

Finally, introducing government expenditure (GE) and a random error term yields the following econometrics equation estimated for the analysis.

$$G_t^{GDP} = \beta_1 + \beta_2 G_t^L + \beta_3 G_t^{K^d} + \beta_4 G_t^{K^f} + \beta_5 G_t^{GE} + \mu_t \tag{10}$$

### 4.1. Model Specifications and Data Description

The model presented in the previous section can be estimated for the SAARC countries by employing the Panel data approaches. The econometric form of the model is as follow:

$$G_t^{GDP} = \beta_1 + \beta_2 G_t^L + \beta_3 G_t^{K^d} + \beta_4 G_t^{K^f} + \beta_5 G_t^{GE} + \mu_t \quad (11)$$

Where,

$G_t^{GDP}$ = growth rate of GDP

$G_t^L$ = Growth rate of labour

$G_t^{K^d}$ = Growth rate of domestic capital

$G_t^{K^f}$ = Growth rate of foreign capital (FDI)

$G_t^{GE}$ = Growth rate of government expenditure

$\mu_t$ = Stochastic error term

Equation (11) can be estimated through three different ways namely the common intercept model, fixed effects model (FEM) and the random effects model (REM). The choice among these models solely based on the degree of explanation and the specification accuracy of a given model. The common intercept model ignores the country and time specific difference among the cross sections, whereas, the FEM and the REM incorporate the structural changes among the cross sectional units. The choice between the FEM and the REM can be made on the basis of Hausman specification test. The Hausman specification test check the validity of the restriction that there exist no correlation among the cross sectional differences and the explanatory variables which render the REM as a correct choice for estimation while the FEM does not impose such a restriction. On the basis of Hausman specification test we render the FEM as an appropriate model for the analysis of our study. In the Fixed Effects model (FEM), the intercept term may differ across individual or cross sectional units but each individual intercept is time invariant. It may also be assumed that the slope coefficients of the regressors do not vary across cross-sectional units or over time (Gujarati, 2003). The specific form of the FEM is as follows:

$$Y_{it} = \alpha_1 + \alpha_2 D_{2i} + \alpha_3 D_{3i} + \alpha_4 D_{4i} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + \mu_{it} \quad (12)$$

Where, $D_{2i}, D_{3i}, D_{4i}$ are dummies of cross-sectional units and $\alpha_1, \alpha_2, \alpha_3, \alpha_4$ are differential intercept coefficients. $X_{2it}, X_{3it}, X_{4it}, X_{5it}$ are the growth rates of labour, domestic capital, foreign capital (FDI) and government expenditure respectively. To avoid the occurrence of the dummy variable trap[1], *N-1* dummies are used in the model. The model which includes the fixed effects is called as the Least-Squares Dummy Variable (LSDV) Model. This model is also known as a covariance model in which $X_2$, X3, $X_4$, and $X_5$ are its covariates.

The data employed for the empirical analysis is pooled data of SAARC countries namely Pakistan, India, Sri Lanka, Maldives, Bangladesh, Bhutan, Nepal and Afghanistan for period 1990 to 2014. The data for all variables namely GDP, FDI, government expenditure and gross fixed capital formation [2] and labour force has obtained from World Development Indicators published by World Bank.

## 5. Results and Discussions

Hausman test was used to check either FEM or REM is appropriate. The results of Hausman Test (Chi-Sq Statistics = 8.81, Prob. 0.06) negate the null hypothesis and affirm that fixed effects model is appropriate for empirical analysis. The results indicate that growth of labour has positive and significant at 5 percent level of significance. Its coefficient signifies one percent increase in labour is associated with 0.22 percent in growth of GDP. These findings are also supported by Naz et al. (2015), Ali et al. (2014), Mustafa and Santhirasegaram (2013), Ullah et al. (2014) and Falki (2009). The share of labour in economic growth is 22 percent as most of the SAARC countries have surplus labour force. Theoretically, it can be expected that the share of labour in economic growth should be large. The result of the study indicates that share of labour in economic growth is small and this is because of investment in human capital is not according to the required level and the marginal productively of labour is low in SAARC countries (see Table 1). Domestic capital is positively and significantly related with growth and one percent increase in growth of capital is expected to increase GDP by 0.2 percent as found by Naz et al. (2015), Mustafa and Santhirasegaram (2013), Samsu et al. (2009), Falki (2009), and Borensztein et al. (1995).

[1] That is a situation of perfect colinearity or perfect multi colinearity , if there are more than exact relationship among the variables (Gujarati, 2003).

[2] Proxy for total investment in the sampled countries

**<Table 1>** FDI and Economic Growth in SAARC Countries (1990-2014)

| ***Dep. Variable:*** **Growth rate of GDP** ***No. of Observations:*** **224** | | |
|---|---|---|
| | **Fixed Effects** | **Random Effects** |
| **Variable** | **Coefficient t-statistics in ( )** | **Coefficient t-statistics in ( )** |
| Growth rate of labor | 0.22* (1.84) | 0.12 (1.09) |
| Growth rate of domestic capital | 0.02* (1.62) | 0.04** (2.24) |
| Growth rate of FDI | 3.76** (1.91) | 3.41*** (2.54) |
| Growth rate of government expenditure | -0.006 (-0.32) | 0.02 (0.88) |
| $R^2$ | 0.25 | 0.05 |
| D.W. | 2.31 | 2.06 |
| F-statistics | 1.48 | 2.70 |
| **Hausman Test** | | |
| Chi-Sq Statistics = 8.81 | | Prob. 0.06 |
| *significant at 10 percent level<br>**significant at 5 percent level | | |

The coefficient of government expenditure is negative and insignificant for SAARC countries also indicated by Ahmad and Hamdani (2003) and Ali et al. (2014). This is because of inefficiency within the public sector and distortions in resource allocation caused by large public sectors of the SAARC countries considered for analysis.

The relationship of FDI and economic growth is positive and significant at 5 percent level. One percent increase in growth of FDI will increases GDP growth by 3.76 percent. These findings are also supported by Naz et al. (2015), Ullah et al. (2014), Ali et al. (2014), Rahman (2014), Mustafa and Santhirasegaram (2013), Saqib et al. (2013), Gudaro et al. (2012), Chen and Zulkifli (2012), Babatunde (2011), Bhavan et al. (2011), Chee and Nair (2010), Falki (2009), Samsu et al. (2009), Khan (2007), Khawar (2005), Hansen and Rand (2005), Chowdhary and Mavrotas (2003), Yasmin and Chaudhary (2003), Zang (2002), Nair – Reichert and Weinhold (1999). The result shows that the effect of FDI on GDP is expected to be higher than domestic investment. For simplicity, the cross country differences in growth rates should be regarded as fixed in the sampled countries.

The effect of both types of investments on economic growth is positive. Although, the effect of FDI on GDP growth is larger than domestic investment yet we cannot say that FDI enhances growth more than domestic investment as indicated by Ahmad and Hamdani (2003), Samsu et al. (2009) and Borensztein et al. (1995). The reason is that the role of FDI is not consistent and it can potentially vary a great deal over time and especially, across countries. One of the factors that can contribute to inconsistency is the difference in the sector-wise composition of FDI across countries. For example, the beneficial externalities are mostly confined to the FDI in high tech industries such as automobiles and electronics. The FDI in patented consumer goods industries do not necessarily produce spillover benefits to the local industry. Domestic effort in research and development can even be retarded from FDI in patented goods industries.

**<Table 2>** Estimated Fixed Effects of SAARC Countries

| Country | Fixed Effects |
|---|---|
| Afghanistan | -0.265793 |
| Bangladesh | -0.39875 |
| Bhutan | 0.711057 |
| India | 0.943261 |
| Srilanka | 0.167087 |
| Maldives | 0.509400 |
| Nepal | -1.090281 |
| Pakistan | -1.669917 |

<Table 2> presents the fixed effects for SAARC countries under consideration. The fixed effect measures the constant rate of exogenous technological progress minus the rate of capital depreciation. These fixed effects are also including the average effects of omitted variables; in particular the effects of such factors as are peculiar to each country. Fixed effects also confirmed that the differences in growth performance among the sample countries are mostly deterministic or fixed.

The fixed effects vary quite substantially across SAARC countries and these effects are positive for Bhutan, India, Srilanka and Maldives. The positive fixed effects indicate that the rate of technological progress is greater than the rate of capital depreciation in these countries. The fixed effects for Afghanistan, Bangladesh, Nepal and Pakistan, are negative but for Afghanistan and Bangladesh magnitude of fixed effects is small while for Nepal and Pakistan, it is very high. The countries with small negative effects indicate better average growth performance and other factors contribute more in growth rate than the factors included in the analysis. The rate of technological progress is also less than rate of technological progress.

## 5. Conclusion

The main conclusion that emerges from the analysis is that although FDI plays an important role in the process of economic growth, it cannot be regarded as a more important as a domestic investment. Further, the contribution of domestic private investment to economic growth has been found to be more consistent and reliable than the contribution of FDI with respect especially to economic growth. If additional factors like the adverse balance of payments consequences of the resulting profit repatriation, loss of employment from increased capital intensity are taken into consideration, FDI tends to lose its attraction as a prime factor.

The effect of government expenditure on economic growth is found negative and insignificant. There are strong reasons for maintaining the public sector. Since increased in the government expenditure tends to can crowed out private investment, its net contribution are typically accompanied by suppression of private sector in terms of complicated, long winding and inconsistent regulatory framework for the private sector, which is not conducive to foreign investment either. The results also state that labour productivity is low across sample countries. This is an unfortunate conclusion, but consistent with prior expectations. Since labour is considered to be prime and potentially an important factor of production, improvement in its productivity should be a policy goal of government. The main reason for the low productivity of labour is the low quality of human capital. The capital intensive growth strategy was typically followed by developing countries with surplus labour force and lack of physical capital is the real bottleneck of growth. This growth strategy implies that quality of labour is at secondary importance. There is a need to give preference to invest in human capital through investment in education and health over other measures. In fact, it must be recognized now that any growth strategy which neglects the importance of human capital cannot be expected to yield long-term dividends.

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