Factors Affecting Total Factor Productivity Growth in Sri Lanka

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Abstract

Total Factor Productivity (TFP) growth has used widely in the growth literature as a proxy variable to measure technological growth. Using aggregate annual data from 1977 – 2007 this study examines factors affecting TFP growth. In the first stage of the study it computes TFP growth for Sri Lanka in a standard growth accounting framework. In the second stage, the study develops OLS and GLS models to test the effect of FDI, openness, and ICT investment on TFP growth. In all models FDI has a significant and positive effect on TFP growth which is consistent with the literature. Import share variable has only a weak effect on TFP growth which questions the effect of liberal trade policies on TFP growth and needs further investigation. Our conclusion on the effect of government investments on TFP growth is not final as it shows a negative impact. We recommend in depth analysis of the effect of government investments on TFP growth in future studies. Investment in ICT related industries also shows a positive but weaker effect on TFP growth and it could be due to limitations in the data. Overall the results are consistent in all models and consistent with the results of other countries. Policies that attract more foreign investments and ICT related investments can be recommended for TFP growth.

Keywords: Total Factor Productivity Growth, Investment, FDI, Openness, Information and Communication Technology

1. Introduction

Technological growth is a key element that determines the economic growth of a country. It has been shown the contribution of it on the overall economic growth both in theoretical and in empirical literature. Total Factor Productivity (TFP) growth is identified as a proxy for the technological growth of a country. This is a result of using the neoclassical growth framework where technological growth explained as an exogenous factor in growth models. This framework paves the way to compute TFP using growth accounting method employed in this study. Recent studies have shown the importance of TFP growth in the overall economic growth (see Aiyar and Dalgaard, 2005; Felipe, 1997; Heshmati and Shiu, 2006; and Nakajima *et al*., 2004). In Sri Lanka, the TFP contribution in economic growth has increased surpassing the contribution of variables such as capital, human capital and labor (Dayaratna-Banda and Kankanamge, 2011). Under such a circumstance it is important to identify some crucial elements that facilitate or hinder TFP growth in Sri Lanka to guide the policy prescription towards more favorable direction of the country's economy.

Solow's (1956) pioneering work has laid down a path for the neoclassical growth framework with subsequent contributions by Mankiw *et al*. (1992) and many others who have extensively investigated this framework for different countries. Felipe (1997) surveys some vital empirical work in this area and points out concentration of such studies on East Asian countries due to efforts by many authors in search of determinants of high growth in the past decades. Literature also provides evidence in variation in TFP estimates in cross-country studies (more recent contributions by Aiyar and Dalgaard, 2005 and in country specific studies Rodrik and Subramanian, 2004).

Recent empirical evidence indicate that in many countries factors such as Foreign Direct Investment (FDI), openness, infrastructure development and Information Technology (IT) and alike has been used to explain the technological growth. Sri Lanka underwent major changes in its economic policies adopting more market friendly policies since 1977 which has affected

FDI inflows, openness and investment in IT. Throughout the entire sample period of this study from 1977 to 2007, these variables show general increasing trend. For example, FDI has increased from 37 million US dollars in 1977 to 60,768 million US dollars in 2007. Openness, which can be computed as, the total of imports and exports as a percentage of the GDP, has doubled from 1977 to 2007. Similar changes have occurred with respect to infrastructure development and IT investment. Therefore, it would be interesting to examine the likely impact of these factors on the technological growth.

2. Literature

Solow (1956) who introduced growth accounting technique used the phrase "technical change" for any kinds of shifts in the aggregate production function. The aggregate production function uses real GDP as a function of capital and labor. As a residual in the growth accounting framework, TFP captures components of real GDP growth that are not explained by capital, labor and human capital. However there may be a lot of other factors that may affect TFP (Musso *et al*., 2005).

Edwards (1997) analyzes the robustness of the relationship between openness and TFP growth by using a comparative data of 93 countries and nine alternative indices of trade policies. He finds positive relationship between openness and TFP growth. Heshmati *et al*., (2006) analyses and measures the technical change and TFP growth. He uses panel econometric estimation approach of measuring the technical change and TFP growth of 30 Chinese provinces during the period from 1993 to 2003. Based on the measures of technical change, estimates of TFP growth has been obtained and their determinants were examined using regression analysis. The determinant variables are Information and Communication Technology (ICT) investment, FDI, road infrastructure (total length of highways in km), telephone lines (in number of subscribers), government consumption (in 100 million yuan), reform (ratio of state-owned enterprises industrial value to total gross industrial

value), percentage of highly educated labor (ratio of number of graduates of regular institutions of higher education to population), total investment (in 100 million yuan) and openness (the ratio of imports plus export to GDP). TFP has recorded positive growth for all provinces during the sample period. FDI and ICT investment are found to be significant factors contributing to the TFP differences.

Jeong *et al*. (2004) analyze sources of TFP growth in Thailand. They develop a method of growth accounting that decomposes not only the overall growth but also the residual TFP growth into four components: i.e., occupational shifts, financial deepening, capital heterogeneity, and sector-wise Solow residuals. Appling this method for two decades between 1976 and 1996 they found that 55 percent of TFP growth explained by occupational shifts and financial deepening on average, without presuming exogenous technical progress. Expansion of credit is a major part of this explained TFP growth.

Growth accounting studies on Sri Lanka are limited. For few cases available, Sri Lanka is usually included as a case in cross-country and regional assessments of sources of growth (see Bosworth *et al*., 2003). These studies tend to assume that the elasticity for factor inputs to growth and the depreciation rates of capital are the same across countries for comparison purposes. These studies tend not to account for country specific factors.

Mankiw *et a*l. (1992) examines whether the Solow growth model is consistent with the international variation in the standard of living. It shows that an augmented Solow model that includes accumulation of human as well as physical capital provides an excellent description of the cross-country data. Cobb-Douglas production function with constant returns to scale has employed in their work as in Solow's framework.

It is generally believed that investment in infrastructure improves the use of technology. For example, improvement in telecommunication infrastructure has led to use the latest technology available which could lead to improve productivity in related sectors. Meng and Li (2002) provide some evidence on the development of China's ICT sector on the TFP growth. Openness might

improve the use of technology through importation of latest machinery, equipment, etc. Heshmati *et al*. (2006) analyses and measures the technical change and TFP growth of 30 Chinese provinces during the period from 1993 to 2003. They find that FDI and ICT investment are significant factors contributing to the TFP differences between the Chinese provinces. Klenow *et al*. (1997) have shown that it is TFP rather than capital that determines the levels and changes in international income differences even with human capital. Duma (2007) finds evidence of significant and positive correlation between economic growth and TFP growth in Sri Lanka.

3. Methodology

In the first stage, we compute TFP using the standard growth accounting technique. In the second stage, the paper develops regression models to examine the impact of factors affecting TFP growth. Following Mankiw *et al*. (1992), this study consider a Cobb-Douglas type aggregate production function with constant returns to scale to describe real GDP (Y) as a function of physical capital (K), human capital (H), labour (L) and total factor productivity (A) as follows:[1]

$$Y_t = A_t K_t^{\alpha} H_t^{\beta} L_t^{1-\alpha-\beta} \qquad (1)$$

where α and β are the shares of capital and human capital respectively. Shares of physical capital (α) and human capital (ß) are assumed to be 0.2 and 0.1 respectively as in the literature (see Bosworth *et al*., 2003 and Rodrik *et al*., 2004). From equation (1), we derive equation (2) given is given in logarithmic values. As this procedure is well documented in the literature (see Barro and Sala-i-Martin (1995)) and for the brevity of this paper only the required result is shown.

[1] Cobb Douglas production function, assuming constant returns scale is used mostly in theoretical macroeconomic literature. Since the main research question in this study is rather empirical (to identify factors affecting TFP growth), it uses this theoretical framework.

$$a_t = y_t - \alpha k_t - \beta h_t - [1 - \alpha - \beta] l_t \quad (2)$$

In equation (2), growth rate of TFP *(a)* is expressed as a function of growth rates of real gdp*(y,)* capital *(k)*, human capital *(h)* and labor *(l)*. Computed *TFP* is then used as the dependent variable in the empirical model (equation (3)) to investigate what factors affecting TFP growth.

$$TFP_t = \beta_0 + \beta_1 FDI_t + \beta_2 IMPORTS_t + \beta_3 GOVTINFRA_t + \beta_4 ICT_t + \varepsilon_t \quad (3)$$

where ε is a random error term which is normally distributed with a zero mean and a constant σ^2 variance $[\varepsilon_i \sim N(0, \sigma^2)]$. As in the literature this study uses explanatory variables such as *FDI, IMPORTS*, *GOVTINFRA* (government infrastructure investment) and ICT investment (see Edwards, 1997); Hesmati and Shiu, 2006).

FDI and TFP Growth

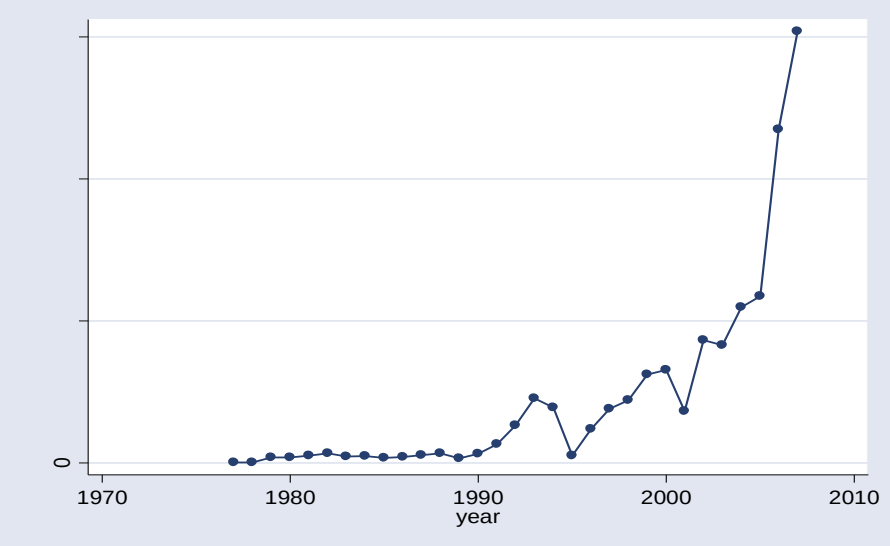
GDP growth is driven by economic and technological forces. Investments play a crucial role in this context. For countries that lack capital and depend on FDI, liberalization of FDI[2] related policies is important. A developing country like Sri Lanka can be benefited not only by supplementing domestic investment through FDI, but also in terms of employment creation and transfer of technology.

The FDI contributes to TFP growth through the provision of better access to technologies for the local economy and spill over. It brings competition, transfer of technology; provide training of labour and better management

[2] The term FDI raises important conceptual questions regarding definition and interpretation, as well as practical problems of measurement. The classification of certain types of investments is sometimes based on arbitrary arguments. The World Trade Organization (WTO) in 1996 indicates that FDI occurs when an investor based in one country acquires an asset in another country with the intent to manage that asset. Accordingly, the management dimension is what distinguishes FDI from portfolio investment in foreign stocks, bonds and other financial instruments. This study uses FDI as identified by the Central Bank of Sri Lanka

practices. As noted by the World Bank report, 2002, FDI can promote economic development of the host country by helping to improve productivity growth and export. Given such evidence in this study, we expect a positive effect of FDI on TFP growth.

Figure 1
Foreign Direct Investment



Source: Annual Reports of Central Bank of Sri Lanka.

Government Infrastructure Investment and TFP Growth

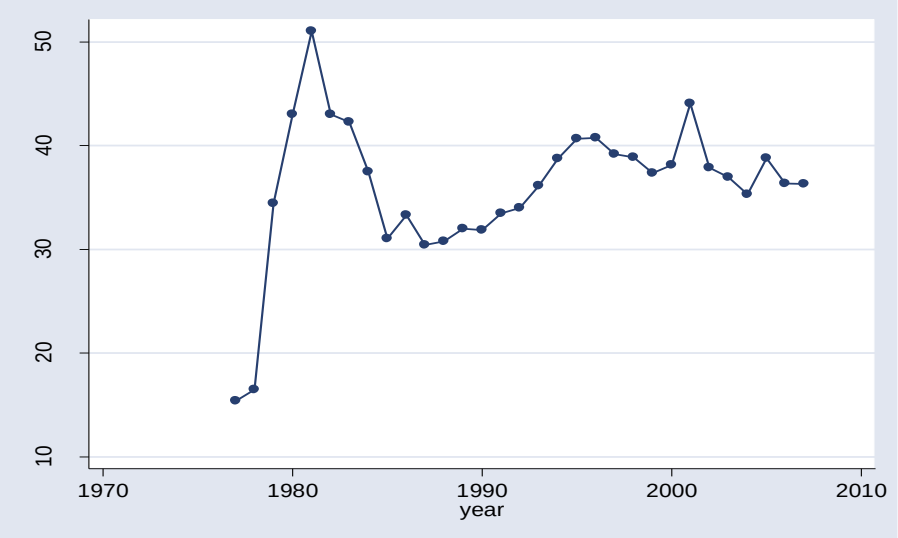
Government infrastructure includes government economic and social infrastructure investment. Studies on developing countries suggest that poor infrastructure contributes to low productivity. Issues such as power outages, weak telecommunication systems, poor-roads are impediments to investments in developing countries (World Bank, 2002). Also 'competitiveness' rankings, such as those of the World Economic Forum (2000), give a higher weight to assessment of infrastructure. A number of studies have examined the effect of infrastructure on aggregate output (See for example, Aschauer, 1989; Canning,

2001; Fernald, 1999; Gramlich, 1994; Holtz-Eakin, 1994 and Roller *et al*., 2001). Therefore development in infrastructure is a crucial factor in the improvement of TFP. Razafimahefa (2005) has included infrastructure investments, among the seven factors considered as 'determinants of TFP growth'. In aggregate data available from the Central Bank, government infrastructure investment is considered for the infrastructure investment in this study. It has two components; i.e. economic infrastructure and social infrastructure.

Economic Infrastructure:

To enhance the economic activities government spends annually around four percent (on average) of GDP on economic infrastructure. The areas consist of, communications, energy, electricity, petroleum, transportation (road & railway), aviation, ports and water supply and irrigation.

Figure 2
Imports as a percent of GDP



Source: Annual Reports of Central Bank of Sri Lanka and Sri Lanka Customs.

Social Infrastructure

Social infrastructure includes health, education, environment social safety net etc. Sri Lanka's achievements in the areas have been well recognized and indicators such as maternal and infant mortality rates and life expectancy have reached the comparable levels of those in high income countries. Sri Lanka's education system is renowned for having achieved near universal primary education and high level of literacy. Data regarding government investment on economic and social infrastructure and total investment obtained from the Central Bank annual reports.

Imports and TFP Growth

This study considers total imports (Rs. millions) as percent of GDP to focus whether the country gains technology through its imports. In the literature many researchers have used total trade volume as a percent of GDP that measures the openness of the economy. However empirical literature provides somewhat mixed evidence between the openness and TFP growth. The debate on the relationship between trade policy and economic performance together with technological growth drew attention of many researchers in the 1980s due to several factors, such as third world debt crises, reforms in the East European transition economies and the success of East Asian countries.

New growth theories support the proposition that openness affects growth.[3] Several studies have attempted empirical tests of the effects of openness on economic growth (see Dollar, 1992 and Jin, 2000). The impact of openness on productivity growth has been explored in two recent studies namely Edwards (1998) and Milner *et al.*(2000). Despite the voluminous empirical literature, the relationship between openness and productivity growth

[3] The 'new' theories of growth pioneered by Romer (1986), Lucas (1988) have provided persuasive intellectual support for the proposition that openness affects growth positively. Barro *et al*. (1995), Grossman *et al*. (1992) and Romer (1992) among others have argued that countries that are more open to the rest of the world have a grater ability to absorb technological advances.

lacks strong empirical evidence due to mix results in empirical studies.[4] Nevertheless, we expect that *IMPORTS* has a positive and significant impact on the *TFP* growth. We compute the imports variable by taking imports volume as a percentage of GDP. This assumes that there is a significant amount of technology comes to the country through imports of machinery and other intermediate goods that are use in production. Figure 2 shows imports as a percent of GDP.

ICT and TFP Growth

In today's knowledge based world, ICT plays an increasingly central role in economic growth and productivity. Experience shows that a competitive ICT sector is a prerequisite for improving information infrastructure. ICT, in conjunction with globalization and the information revolution, have reshaped the workforce and production process. By increasing the speed of international communication ICTs have enabled corporations to outsource technology, factors of production. It lowers production costs leading to reduction in the prices of goods. ICT investment is also considered to have improved TFP growth via the reduction of transportation costs and transaction costs increased competition and increased efficiency. Data regarding ICT investment is not readily available and obtained from external trade statistics published by Sri Lanka Customs. This study applies Heshmati *et al.* (2006) approach to obtain ICT investment.[5]

The model given in equation (3) considered as the base model (Model 1) and estimated using OLS. Second model was estimated using GLS method.

[4] Rodriguez *et al.* (1999) undertake an extensive critical appraisal of the literature covering the studies by Dollar (1992) and Sachs *et al.* (1995). The authors conclude that the evidence is not convincing.

[5] The ICT investment includes investments in the production of radios, televisions, fixed telephones, mobile telephones, personal computers and communication equipments. ICT Investment information (Under the code no 8471-8472 for the period of 1990-2007 and code no 8453: a, b, c, d, and e for 1977-1989) is mainly taken from External Trade Statistics of Sri Lanka Customs and total investment data obtained from Central Bank Annual Report (see Appendix 1). ICT variable was computed by taking the ICT investment as a percentage of total investment.

This model used the standard error of regression of Model 1 as the weighting factor. Third model was estimated with Newy-West standard errors as a correction for homoscedasticicty and autocorrelation in the random error term.

4. Data

This study used annual data from 1977 to 2007 to estimate above model. For the growth accounting in equation (2), real GDP growth rate *y* was directly obtained from the Central Bank annual reports from 1977 to 2007. Rate of growth of capital *(k)* was computed using gross domestic fixed capital formation.[6] Human capital *(h)* is generally measured through average years of schooling of the working population.[7] In this study, we computed human capital variable using the average schooling of non-agricultural labor force (considering only labor in industry and service sectors) from the labor force survey data.[8]

Labor force data for variable *l* is also taken from the labor force survey data. Everyone of working age (in Sri Lanka persons aged 10 years and above and able and willing to work) who are participating in work force belong to

[6] A seven percent depreciation rate was considered and the standard perpetual inventory method is used in the computation, see Dayaratna-Banda and Kankanamge (2011) for details of this method.

[7] The number of years of schooling was taken from Duma's study.

[8] The average number of years of schooling for an employed person is calculated from enrollments in primary and secondary schools and higher education in combination with the age distribution of the population. These data are used to calculate the fraction of the population that has primary schooling, secondary schooling and higher education. Human capital variable was constructed using labor force survey data and generally measured through average years of schooling of the working population. This study calculate this variable as the maximum educational attainment of employed people in each level (as a share of total) and multiplied by the number of years of schooling in each grade level. This is then multiplied by the number of people employed to derive average years of schooling of the working population.

labour. Observations before 1990s were not available for every year. For missing observations mean value between two observations was considered.

Table 1
Summary Statistics of Regression Model Variables

Variable	N*	Mean	Std. Dev.	Min	Max
TFP (percent)	31	1.279	3.104	-4.09	11.21
FDI (Rs. Millions)	31	8992.74	13822.31	37	60768
IMPORTS (as percent of GDP)	31	35.98	6.983	15.38	51.02
GOVT INFRA (Rs. Millions)	31	41853.16	36275.51	6420	155508
ICT (as a percent of total investments)	31	7.687	2.975	1.8	12.5

* N is number of observations

For the empirical model *FDI* data were obtained from various Central Bank reports. Data required for *IMPORTS* variable were obtained from Sri Lanka Customs statistics. Government infrastructure investment (*GOVT INFR*) variable considers economic and social infrastructure investment obtained from the Central Bank annual reports. ICT variable was computed according to the description in the previous section. Summary statistics of the variables used in regression models are given in Table 1.

5. Results and Discussion

In the estimation, the model presented in equation 3 used as the base model (Model-1, Table 2, column (1)) where the *TFP* growth variable is modelled as a function of *FDI*, imports as a share of GDP *(IMPORTS)*, government infrastructure investment *(GOVT INFRA)* and investment in

information technology *(ICT)* as a percent of total investments. The base model estimated using OLS method. In addition to the base model two other specifications of this model also used to check the robustness and consistency of the base model results. The second specification used the Generalized Least Squares Method (GLS) using standard error of regression of the base model as the weighting factor (Model 2, Table 2, column 2). The motivation to estimate this model is to reduce the likely adverse consequences of the heteroscedasticity in the random error term. Third specification is same as the second specification but used Newey-West standard errors to correct both autocorrelation and heteroscedasticity in the random error term. (Model 3, Table 2, column 3).

Table 2
TFP Regressions for the Three Models

Varible	Model -1 OLS (Column-1)	Model- 2 GLS (Column-2)	Model-3 (Newey-West standard errors) (Column-3)
Constant	4.3725	1.5937	1.5937*
	(2.6361)	(0.9608)	(0.7123)
FDI_t	0.0004*	0.0004*	0.0004*
	(0.0002)	(0.0002)	(0.0001)
$IMPORTS_t$	-0.1261	-0.1261	-0.1261**
	(0.0796)	(0.0796)	(0.0670)
$GOVT\ INFRA_t$	-0.0001*	(-0.0001)*	-0.0001*
	(0.0001)	(0.0001)	(0.0001)
ICT_t	0.4592**	0.4592**	0.4592*
	(0.2375)	(0.2375)	(0.1764)
N	31	31	31
F	3.10*	3.10*	3.71*

* significant at 5%, ** significant at 10%
Columns 1 and 2: Standard errors are in parenthesis, Columns 3: Newey-West standard errors are in parenthesis

In the first model *FDI* variable shows a positive and significant effect (at five percent) on *TFP* growth. This agrees with the initial hypothesis and existing empirical evidence on the *FDI* on the *TFP* growth. The size of the coefficient is 0.0004 indicating that a one million rupee *FDI* on average will

bring about 0.0004 percent *TFP* growth at the macro level holding everything else constant. Magnitude of TFP growth will depend on, to what extent that the country is attracting FDI that significantly improves factor productivity. The import share as a percent of GDP (IMPORTS) variable is not significant in the first model at all standard levels of significance. It could be the fact that this variable captures large volume of petroleum, automobile and other consumable items under imports which could lower the effect of imported high-tech capital goods and other intermediate goods that are used in production.

Government social and economic infrastructure investment variable (GOVT INFRA) is significant at five percent but with a negative effect. This empirical observation needs some explanation. Government has both short term and long term investments that yield benefits/costs over a much longer time horizon and one has to consider such issues in assessing the effect of infrastructure investment on TFP growth. One way to overcome this problem is to use lagged variables of such investments. But still it will be difficult to choose an appropriate lag length that suits varying time horizons of different investment projects. On the other hand, the popular notion which is mostly pointed out in the media than in academic research, government's mismanagement and wastage of resources also could lead to such negative effects on the TFP growth. However this result is not final. This empirical observation needs further investigation with a broader perspective in assessing its contribution to TFP growth.

ICT variable shows a positive and significant effect on TFP growth at 10% level of significance. The positive effect was anticipated, but the effect of IT on TFP growth is somewhat weak (significant at 10 percent). The result indicates one percent increase in the ICT investments increases TFP growth by 0.46 percent. The second specification of the base model used generalized least

squares estimation as a solution for likely heteroscedasticity.[9] All variables in the base model were weighted by the standard error of regression of the base model. The results of this model are consistent in terms of size and the sign of the coefficients with model-1 results.

All variables in the third model are same as in the second model. The difference is the model was estimated using Newey-West standard errors.[10] This is important given the time series structure of the data. Results indicate that coefficients of *FDI, GOVT INFRA* and *ICT* variables are similar to the first two models. The import share variable *(IMPORTS)* which was not significant in the first two models turns significant at 10 percent level with a negative effect on TFP growth. We used this variable as a proxy for acquiring technology from overseas hypothesising a significant and positive effect on TFP which turned out to be negative and significant. The empirical evidence is mixed in the literature (see Dollar, 1992; Edwards, 1998; Greenaway *et al*., 2002; Jin, 2000 and Milner *et al*., 2000). Grossman *et al*. (1992) argues favoring positive effects of openness on the technological growth.

Our result, i.e. negative effects of imports on TFP growth in Sri Lanka, needs more comprehensive analysis. One of the reasons could be that this variable includes lot of consumables and imports such as petroleum. A better way is to consider only the capital and other intermediate type goods that are used in production and removing imports such as petroleum. On the other hand, it calls attention of policymakers on trade liberalizing policies to re-examine existing policies and make use of liberal trade policies to facilitate new technology coming in. Despite mixed evidence, still the overall bias in the literature towards a positive relation between these variables which is expected to bring much needed technology to a country.

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[9] White's heteroscedasticity test performed after estimating model 1 and model 2 and both models have no evidence of heteroscedasticity (both models do not reject null hypothesis of homscedasticity at 5 percent)

[10] Breusch-Godfrey test for autocorrelation with up to three lags indicated some weak autocorrelation at the third lag rejecting the null hypothesis of no autocorrelation at 10 percent significance in model 2.

6. Conclusion

TFP growth is used as a proxy to assess the technological growth of a country in the neoclassical growth models. The main objective of this study was to empirically investigate the factors affecting TFP growth in Sri Lanka which has not been addressed in the literature. Computation of TFP growth was done using the growth accounting framework. We considered *FDI*, imports as a share of GDP *(IMPORTS)*, government infrastructure investment *(GOVT INFRA)* and investment in information technology as a percent of total investments *(ICT)*. These variables or variant of these variables are used in empirical studies of other countries to explain TFP growth. Our hypothesis was that these variables positively affect *TFP* growth.

We estimated three models i.e. OLS, GLS and the third using OLS with Newey-West standard errors. The second and third specifications are used as robustness checks for model 1. Overall the results of all three models are consistent. In all three models *FDI* has a significant and positive effect on TFP growth which is consistent with the literature. Therefore our policies should promote *FDI* both short term as well as long term as there is clear empirical evidence that it will help in improving the overall productivity.

Imports share variable is significant (at 10 percent) only in the third specification. This observation leads us to question as to what extent the liberalized trade policies of more than three decades have been able to improve the technology in the country. Our results indicate imports share variable has only a weak effect on TFP growth. Therefore, we emphasize re-examination of liberal trade policies of the country by the policymakers in favour of acquiring much needed technology. Also we suggest that in future studies this variable should be further refined to capture only the imports of capital and intermediate goods that helps in improving TFP and to exclude imports such as petroleum and other consumables.

Government infrastructure investments (economic and social-*GOVT INFRA*)) variable has negatively affected TFP growth in all three models. However this result is not final due the complex nature of government investments in both short term and long term projects. Projects with longer time horizon will yield net benefits/costs in the long run which will be difficult to capture in a study like this. On the other hand mismanagement, wastage and corruption in government investment projects as reported in media (at various times) may have affected this result.

Our results on ICT variable are significant only at 10 percent indicating somewhat weak effect on TFP growth. Given the availability of data we suggest ICT investment variable also needs further investigation at industry level. The effect of such investments will depend on the kind of human capital we have particularly in the IT sector. One has to consider the complementarity between such investments and quality human capital and the future research can focus on such issues.

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Appendix

ICT Investment as Percent of Total Investments

Year	ICT Investment (Rs. Mn)	Total Investment (Rs. Mn)	ICT Investment as % of Total Investment	Year	ICT Investment (Rs. Mn)	Total Investment (Rs. Mn)	ICT Investment as % of Total Investment
1977	88.1	4896	1.80	1993	6194	103239	6.00
1978	120.957	5259	2.30	1994	12129	127675	9.50
1979	307.94	8554	3.60	1995	15651	156510	10.00
1980	716.931	13527	5.30	1996	18900	171825	11.00
1981	1460.22	22465	6.50	1997	21420.36	186264	11.50
1982	1794.36	23610	7.60	1998	20624.785	217103	9.50
1983	1282	30527	4.20	1999	20471.12	255889	8.00
1984	1686	35132	4.80	2000	37727.875	301823	12.50
1985	2303	39708	5.80	2001	33358.205	351139	9.50
1986	2514	38682	6.50	2002	32516.82	309684	10.50
1987	3185	42463	7.50	2003	35154.42	334804	10.50
1988	3213	45900	7.00	2004	45095.812	388757	11.60
1989	3489	50562	6.90	2005	43090.07	506942	8.50
1990	4159	54722	7.60	2006	72793.828	627533	11.60
1991	5716	71455	8.00	2007	18477.418	803366	2.30
1992	8941	85156	10.50				

Source: Sri Lanka Customs