

## Study on the factors affecting private investments in Sri Lanka

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### Abstract

Today it's widely accepted that private sector is a key engine of economic growth in any country across the globe. As a part of private sector, private investments also plays a greater role particularly within developing countries who are very much in need of capital resources as well as skilled labor, new technology and innovation in achieving faster growth. Sri Lanka still being a developing country is no exception to this. Therefore, considering the role of private investments in Sri Lanka, this study aims to identify the factors affecting private investments within Sri Lankan economy. The study was based on secondary data covering the period from 1975 to 2015. Findings derived from regression model and correlation coefficients of the study have revealed that real GDP growth, real exchange rate, inflation rate, budget deficit, foreign trade, foreign direct investment and liberalization factor are positively associated with private investments. It has further been identified that out of all the independent variables, foreign direct investment is the most affecting factor to private investments in Sri Lanka whereas the liberalization factor is the least affecting factor. The relationship between liberalization factor and private investments denotes the less importance of export and import industry in determining private investments in Sri Lanka. Therefore, in conclusion, this study emphasizes that foreign direct investment, real exchange rate and foreign trade play significant roles as factors in determining private investments.

**Key words:** *Private Investments, Economy of Sri Lanka, Private sector, Regression Analysis*

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## **Introduction**

Investment is one of the most important macroeconomic variables because the capacity of production of any economy depends not only on labor but also on the capital available to produce goods and services (Nghifenwa, 2013). Economists define investments as the accumulation of newly produced physical entities, such as factories, machinery, houses, and goods inventories. Investments can also be defined as putting money into an asset with the expectation of capital appreciation, dividends, and/or interest earnings (Mbaye, 2014). Investment also denotes change in physical stock of capital in a time period. Most or all forms of investment involve some form of risk, such as investment in equities, property, and even fixed interest securities which are subject, among other things, to inflation risk (Tawiri, 2010). It is essential for project investors to identify and manage the risks related to the investment.

The private sector plays a critical role in the overall macro-economic development in any country (Mbaye, 2014). There is a growing interest among the academics, policy makers and researchers about the macroeconomic environment and its influence on the level of investment. In the current development strategy private investment is recognized as a major source of promoting income and employment through increase production and productivity (Mbaye, 2014). Private investment forms a significant portion of a country's Gross Domestic Product (GDP). If investments grow, GDP also grows (Tawiri, 2010; Al Khatib, Altaieb, & Alokori, 2012). With a stated government policy objective of achieving GDP growth of 8 per cent or higher, Sri Lanka would need to raise its annual rate of investment from the current level of approximately 28 per cent of GDP to at least 35 per cent. With increasing pressures on public finances and announcements that public investment is likely to be capped at around 6 per cent of GDP, this higher investment ratio would need to come almost entirely from private investment (Rathanasiri, 2011).

Within this, foreign private investment too plays a critical role. This then necessarily means that private sector development is a critical part of Sri Lanka's overall development challenge. While the sources of faster growth in recent years have mainly been from government initiative, the sources of sustained faster growth in the medium-term will need to come from the

private sector large and small. No longer can we look at private enterprise development from just the narrow lens of ‘industrial development’ as may have been done in the past. It is about exploring and addressing a myriad of factors that can strangle or strengthen the private sector, provide it a conducive climate for growth, and ensure it plays a substantial role in bridging growth disparities and contributes to more inclusive economic progress and prosperity in the country. The latter becomes especially important in Sri Lanka’s post-war milieu (Institute of Policy Studies Sri Lanka, 2016).

Understanding the factors that affect the private sector will go a long way in helping solve some of the economic challenges in developing countries. Private investment stimulates demand for goods and services according to demand management theories of Keynes (Mbaye, 2014) as well as increasing employment opportunities. While all governments appreciate the need for private sector development, knowledge about factors that influence this crucial sector remains scanty. There are numerous factors that affect private investments, both which are quantitative and qualitative. Qualitative variables include real GDP, real interest rate, inflation, public investments, public debt, exchange rate, levels of savings, foreign exchange reserves, deposit rates, broad money supply as ratio of GDP, openness of the economy (trade policy), foreign direct investments, foreign aid, etc. Non-quantitative variables include corruption, governance, efficiency of contracts, markets and others (Nghifewa, 2013; Mbaye, 2014; Tawiri, 2010; Khatib, Altaieb, & Alokori, 2012). Therefore the objective of this study is Identify the factors affecting private investments in Sri Lanka.

## **Literature Review**

According to the traditional view, investment mainly depends on interest rate and output. The relationship between investment and cost of capital (interest rate) is positive or negative, indicating that there is an indeterminate relationship on the empirical ground. There exists a positive relationship between investment and output. But empirical literature found various other factors which influence on investment. Most traditional models are difficult to apply in developing economies, more relevant theories have been developed to incorporate theories that exhibit features similar to these countries. They have modified traditional models to capture constraints to

private investments. Below are some of the empirical studies done in developing countries.

Blejer and Khan (1984) examined the effect of government policy on private investment in 24 developing countries. Their results show that private investment is directly proportional to changes in GDP, availability of credit and public investment. Chibber and Shafik (1990) studied the impact of currency devaluation on private investment in Indonesia. They found that devaluation limits private investment in the short-run. This can be attributed to higher import costs for capital goods which limit private sector profits and inhibit new investments. If exports rise and imports fall, and if the supply side is weak in the short run, then private investments will be squeezed, unless the burden is put on private consumption or government expenditure. They found out that these effects are reversed in the long run because the real exchange rate depreciation leads to restructuring of local industry to meet rising export demand and to improvements in efficiency which increase profits and this encourages private investments.

According to the studies conducted by Greene and Villanueva (1991) in Kenya found that private investment is directly proportional to real GDP growth, the level of per capita incomes and the rate of public sector investment. Yet it is negatively related to real interest rates, domestic inflation, the ratio of debt to GDP and debt service ratio. Sark (1993) investigated the determinants of private investment in Pakistan. This results shows that there is a positive relationship between private investment and growth in GDP. Their paper breaks down public investment into infrastructural and non-infrastructural investment. They found that non-infrastructural investment is negatively correlated with private investment while infrastructural investment is positively related to private investment.

Serven and Solimano (1993) argue that there are many factors that affect private investment in developing countries. Among them being GDP growth, real exchange rate, public investment, real interest rates, public debt and uncertainties are key factors that affect private investment. They argue that the stringent monetary and credit policies adopted in stabilization packages

affect private investment by raising the real cost of credit as well as interest rates. Such packages increase the opportunity cost of retained earnings and they raise the user cost of capital hence reducing investment.

Ronge and Kimuyu (1997) conducted a research on Kenya using data covering 1986-1996. They used the flexible accelerator model, modified it to capture resource constraints faced by the private investors in developing economies. Their findings show that availability of credit, foreign exchange reserves and public investment have a positive impact on private investment in Kenya. Public debt and real exchange rate negatively impact private investment. Their study also found out that real interest rate is not significant in affecting private investments in Kenya owing to the presence of financial repression during the period under review. Kiptui (2005) shows that economic growth is the most important determinant of private investment. He also cites the openness of the economy as determinant of investment where firms have to brace themselves for increased competition from foreign companies. He introduced a dummy variable to represent liberalization in 1990s which suggests negative effects of liberalization on private investments. His study found that increase in imports negatively affects investments as well as local currency depreciation. He also notes that a negative relationship exists between private investment and inflation.

Kurokawa, et al (2008) found that major impediments to private sector investments are access to finance and finance costs, access to electricity, corruption, tax administration, skill levels and transport. Many of these constraints are due to market and government failures. Al khatib, Altaleb, Alokhar (2012) analyzes the economical determinants of domestic investment within the period (1980 – 2010) in Jordan with focus on postreform era efforts, both the short-run and long run movement of the investment process. According to the results the expansion in the export of goods and services is a key determinant of domestic investment. The long-run estimation indicates that improvement of financial intermediation (captured by ratio of broad money to GDP) is boosting domestic investment by their contribution to lowering the requirement to finance and thereafter lowering the cost of borrowing. The empirical results suggest that the inflow of FDI have a “crowd

in” effect on domestic investment, and that there was complementary relationship between FDI and domestic investment in Jordan.

Generally, investment behavior depends majorly on three broad segments; neoclassical model, accelerator theory, liquidity theory and uncertainty theories (Rathanasiri, 2011). The problem is that these theoretical models are analyzed in the context of developed economies. Application of most of these models in developing countries is limited by mostly data unavailability on variables like capital stock. Developing countries are mainly exporters of primary products, heavy importers of intermediate goods and importers of manufacturing components. They suffer from high national debt, financial repression, political interference and macroeconomic instabilities. Recent studies on determinants of domestic private investments in developing countries have opted to shift from the traditional theories and focus more on the role of the financial sector development (Khatib, Altaleb, & Alokor, 2012). Most studies have adopted the flexible accelerator model designed to capture clear institutional and structural features of these economies.

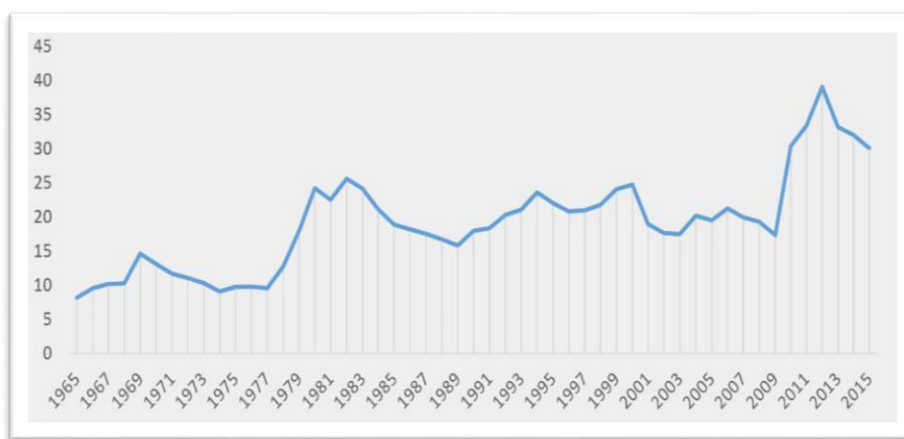
### **Investment Behavior in Sri Lanka**

The government elected in 1977 initiated a drastic shift in the development model from ‘regulated’ towards ‘liberalized’ economy. The overall reform program placed greater reliance on the neo-classical type market mechanism and competition in resource allocation. The policy reforms were basically a liberalized trade regime in which export promotion received high priority and in which the private sector was assigned to play a leading role in economic development (Athukorala & Rajapathirana, 2000).

Policy reforms were aimed at integrating the domestic economy with the international market with the ongoing globalization process, creating an environment conducive for market forces to function and allowing domestic and foreign capital to replace state capital in economic activity. The government was confined to play a facilitating role and to limit its public investment basically to large-scale infrastructure. There were clear indications by the end of the 1977 that substantial foreign assistance would be forth coming with the opening up of the economy (Dunham and Klegama 1998). Devaluation, trade liberalization, liberalization of financial market, privatization, fiscal discipline and deregulation was to have major effect on

investor attitude trade and growth performance. The promotion of foreign investment, particularly in export-oriented manufacturing, has been pivotal to Sri Lanka’s market oriented reforms since 1977 (Athukorala and Rajapathirana 2000). The policy reforms were aimed at stabilizing the economy, reducing pressure on balance of payment, deregulating the market mechanism, liberalizing current account transaction and enhancing export promotion. The government showed its active involvement in exports promotion and initiated the privatization program, which has been delayed since the inception

Figure 1: Private Investment as a % of GDP (1965-2015)



Source: Central bank Report (2015)

The pattern of the private investment during the era liberalization and the post liberalization period shown in figure 1. According to the figure 1, private investment of era liberalization period represent inferior level than the post liberalization period. After introducing the liberalization strategies in 1977, the private investment demonstrate dynamic increase during the period of 1977- 1980. The dramatic increase in the rate of investment came mainly from the government massive Keynesian type fiscal injections by way of infrastructure investment as an essential means to encourage private sector capital accumulation.

This investment program comprised of three lead projects: the Free Trade Zone (FTZ), the Accelerated Mahaweli Development Program (AMDP) and a Public Housing Scheme of which the largest and most magnificent was the AMDP initiated in 1970s (Rathanasiri, 2011). The recorded rate of investment accelerated in the early 1980s and then registered a slow decline after 1982. During the period of 1989 – 2009, there is fluctuations on private investment. The high rate of private investment represent the year of 2012, it was 39.1 as percentage of GDP.

## **Methodology**

The data sources, analyzing method and construction of the key variables in the model are described in this section. The study mainly focus on the relationship between private investment and the construction variables which are influencing the private investment. The relevant data were drawn from Central bank of Sri Lanka. The sample covers the period from 1975 to 2015 comprised with 30 observations. As discussed previous section, the model involves in following variables. Also include the dummy variable to represent the liberalization. During the period of 1975-1977 is the era liberalization period takes on the value of zero and the period of 1978-2015 is post liberalization period takes on the value of one.

PRIV = Private Investment (Dependent variable), RGDP = Real GDP growth, RER = Real exchange rate, IR = Inflation rate, BD = Budget deficit, FT = Foreign trade, FDI = Foreign direct investment, LB = Liberalization.

An econometrics model is applied to test the basic hypotheses of the study. With respect to the model of study, the economic theory assumes through the private investment depends on some determinants. To determine the existence or nonexistence of the relationship between the used variables, and to determine whether this relationship linear or non-linear, this study adopted the ordinary least squares method (OLS). This method is used to estimate economic relations, because it gives the best linear unbiased estimator (BLUE), based on the theoretical framework of this method, which estimates the private investment depend on the independent variables mentioned above. This study relied on a descriptive analytical approach to analyze and describe



an important determinant of Sri Lankan economy, and to analyze the important aspects related to private investment and the factors affecting these variables.

Before building up the regression model with the identified factors from the literature review, the correlation between the private investment and factors was identified by a correlation metrics, according to the correlation metrics Real Exchange rate, foreign direct investment and foreign trade's correlation is significant at the 0.01 level. Private investments were treated as the dependent variable whereas real exchange rate, foreign trade, foreign direct investments (FDI), liberalization factor were treated as independent variables in this study. Private investments, foreign trade and FDI were expressed in dollar millions and the real exchange rate was presented as a percentage. Liberalization factor was used as the dummy variable in this model to determine whether the economy was regulated or liberalized in each year. Real exchange rate, foreign trade, FDI and liberalization factor were considered as  $X_1$ ,  $X_2$ ,  $X_3$  and  $X_4$  respectively.

Statistical Package for Social Sciences software (SPSS) was used to conduct all the statistical analysis. Descriptive data was presented as means and standard deviations. Multiple regression analysis which included with Pearson correlation, Overall model fit, ANOVA and parameter estimates were primarily used to determine the relationship between the dependent variable and independent variables. At a P value < 0.05 was accepted as significant.

## Result

Table 1: Descriptive Statistics

	Mean	Std. Deviation	N
Private Investment in dollar millions	2980.8989	2244.35574	33
Real exchange rate	51.1158	33.75065	33
Foreign Trade in dollar millions	47887.2394	66907.13320	33
FDI in dollar millions	147.1813	165.38355	33
Liberalization	1.91	.292	33

Source: Author, 2016

Table 1 shows the descriptive statistics of the dependent variable and independent variables. Means of private investments, real exchange rate, foreign trade, FDI and liberalization factor were \$ million 2980. 89, 51.1%, \$ million 47887. 23, \$ million 147. 1 and 1.91 respectively.

Model for this study was developed as private investments = f (X<sub>1</sub>, X<sub>2</sub>, X<sub>3</sub>, X<sub>4</sub>) which denoted the functional relationship between private investments and X<sub>1</sub>, X<sub>2</sub>, X<sub>3</sub> and X<sub>4</sub>, predictor variables. Multiple regression and correlation analysis were conducted to examine the relationship between private investments in each year and the independent variables. In this study the Pearson correlation was used to identify the relationship between these variables. The relationships between private investments and all independent variables showed positive relationships out of which the private investments and FDI had the highest correlation coefficient of 0.934 while private investments and liberalization factor had the lowest correlation coefficient of 0.348. P values of the correlation coefficients for real exchange rate, foreign trade and FDI were statistically significant at the 0.05 alpha level.

According to the overall model fit shown in the Table 3, multiple correlation between the dependent variable and the independent variables or the R value was 0.963 which implied that private investments has a very strong positive relationship with the predictor variables. R square coefficient 0.928 indicated that 92.8 percent of variance in private investments can be explained by the four predictor variables. DurbinWatson statistic which turned out to be 1.636 implied that there is autocorrelation error in this model to some extent, but it is not too strong to distort the model.

Table 3: Overall Model Fit

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.963 <sup>a</sup>	.928	.917	645.42337	.928	89.735	4	28	.000

Source: Author, 2016

According to the ANOVA shown in Table 4, \$ million 149524248.305 of total variance was described by the regression while \$ million 11663997.268 of total variance was not described. P value, 0.000 was lower than 0.05 and therefore was accepted as significant. Based on the parameter estimates as shown in Table 5, the regression equation was derived as  $Y = 97.469 + 24.29X_1 + 8.510X_3 + 192.96X_4$ . P values of real exchange rate and FDI were identified as statistically significant at the 0.05 alpha level.

Table 4: ANOVA Table

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	149524248.305	4	37381062.076	89.735	.000 <sup>b</sup>
1 Residual	11663997.268	28	416571.331		
Total	161188245.574	32			

a. Dependent Variable: Private Investment in dollar millions

b. Predictors: (Constant), Liberalization, Foreign Trade in dollar millions, FDI in dollar millions, Real exchange rate

Source: Author, 2016

## Conclusion

This model was developed for the purpose of identifying the impact of economic variables, real exchange rate, foreign trade, foreign direct investments (FDI) and liberalization factor on private investments in Sri Lanka from 1975 to 2011. Based on the analysis of the multiple regression model it can be said that all of these economic variables are positively associated with private investments and that they have a linear relationship with it. In terms of identifying the impact of each independent variable, FDI, real exchange rate and foreign trade seem to have a very high impact on private investments out of which the FDI has the highest. It also denotes that a slight change in any of these three variables could lead to drastic changes in private investments thereby affecting the aggregate demand in the economy. On the other hand, liberalization factor has the least impact on private

investments which implies that the fact that Sri Lankan economy being regulated or liberalized does not really impact private investments very much. Since the liberalization factor characterizes the export and import market of the economy, this further identifies that exports and imports do not necessarily impact private investments within Sri Lankan economy. Therefore it can be concluded that FDI, real exchange rate and foreign trade in Sri Lanka play significant roles as economic variables in the determination of private investments and hence the effective manipulation of these variables is crucial in order to maintain a steady private investments in Sri Lankan economy.

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