Foreign Aid vs. Economic Development: Exploring the Empirical Linkage for India, Sri Lanka and Maldives

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Abstract:
This study empirically examines the causal relationships between foreign aid (ODA) and economic development for India and Sri Lanka using the annual data 1960-61 to 2010-11. Both India and Sri Lanka need to maintain high growth to create more employment opportunity and to reduce poverty. Considering the long run causal linkage among foreign aid, trade performance, financial sector development, domestic investment and economic growth, both the countries should focus on the efficient utilization of foreign aid where the rate of return should be greater than rate of investment. The study suggests that the government has to be more concerned about its efficient utilization rather than its amount of inflows. The government of India should further try to raise its growth rate and liberalize its external sector to attract foreign capital i.e. foreign aid and FDI inflows. The government of Sri Lanka should focus on the efficient utilization of foreign aid in some productive activities, directly linked with the welfare of the people. Both the countries adopt outward-looking development strategy through appropriate measures such as more flexible labour market, political stability, infrastructural facilities, human capital generation, institutional efficiency and good macro-economic policies to attract more foreign capital.

Keywords*: Foreign Aid, Economic Development, India, Sri Lanka*

JEL Classification: *F35, O11*

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Introduction

Foreign aid refers to external assistance from third parties - usually multilateral organizations and advanced economies to support a country's economic growth. The form of foreign aid is classified as humanitarian aid, where relief supplies and personnel are provided to support for the immediate needs of a nation. This generally refers to the provision of emergency supplies of food and medicines in a war-torn or disaster-struck country. The second form of foreign aid is known as official development assistance (ODA), is the support given to alleviate poverty over the longer term. Typically, ODA comes in the form of financial or technical support that develops a country's physical infrastructure, such as education and health sector. There have been some cases where recipients of ODA have used these funds to develop the nation's primary industries or to spur sufficient structural changes to attain longer-term economic growth and development. Feeny and McGillivray (2008), have suggested four major determinants that affects aid effectiveness i.e. (a) aid has decreased returns, (b) aid effectiveness is influenced by external and climatic conditions, (c) aid effectiveness is influenced by political conditions, and (d) aid effectiveness depends on institutional quality. The role of foreign aid towards economic development has played important role in several developing countries.

Aid vs. Growth

A survey relating to the history, volume, composition and allocation of foreign aid has concluded that historically, aid has served a multitude of objectives. For some donors aid used as a commercial policy tool whereas some other used for the development needs of recipients. The most important change in the aid architecture has been noticed after 1992 due to the historic upward trend in foreign capital inflows.

Papanek (1972), Dowling and Hiemenz (1982), Gupta and Islam (1983), Burnside and Dollar (1997), Hansen and Tarp (2000), Dalgaard et al. (2004), Gomanee, et al. (2005) and Karras (2006)) found that foreign aid positively affect economic growth of the recipient

countries. Papanek (1972) has carried out a cross-country analysis by using regression approach for 34 countries in the 1950s and 51 countries in the 1960s, treating foreign aid, foreign investment, other flows and domestic savings as explanatory variables. They found foreign aid has a substantially greater positive effect on growth as it helps to fill the foreign exchange gap and the saving-investment gap. Papanek (1972, 1973), then extended by Mosley et al. (1987) and Snyder (1993) has analyzed the relationship between foreign aid inflow and the growth rate of gross domestic product in 69 developing countries over three periods (the 1960s, the 1970s and 1980-1987), incorporating country size (measured by gross domestic product) in the model. They have found that when country size is not taken into consideration, the effects of aid are small and insignificant but when this factor is taken into account, the coefficient of aid becomes positive and significant. Singh (1985) has found that foreign aid has strong positive impact on growth when the state intervention is not taken into consideration. Snyder (1993) has found a positive relation between aid and growth by considering the country size into account. Burnside and Dollar (1997) have examined the impact of foreign aid on economic growth in developing countries by using the data from 56 countries from 1970-1973 to 1990-1993. They have found that aid has a positive impact on growth in developing countries with good fiscal, monetary and trade policies but has little impact on countries where such policies are poor. Fayissa and El-Kaissy (1999) has found that foreign aid positively affects economic growth in developing countries. Hansen and Tarp (2000) have examined the relationship between foreign aid and growth in real per capita GDP by using the modern cross-country growth regression. It has shown that aid continues to have positive impact on growth through investment and this result is not conditional on good policy.

Furthermore, foreign aid is not only helps to fill the foreign exchange gap but also it provides the opportunity to access to modern technology and managerial skills, and allows easier access to foreign market (Chenery and Strout, 1966; Gulati, 1975; Gupta, 1975; Over, 1975; Levy, 1988 and Islam, 1992). A study by Kosack (2003) has found that aid can directly increase welfare but only in the presence of democracies. Building on recent developments in fiscal response, for the first time a new fiscal model has developed incorporating the main four components of foreign aid namely project aid, programme aid, technical assistance and food aid. The disbursement of each category of foreign aid has considered as a choice of government

policy. Specifying the budget constraints, the first model has solved to obtain both the structural equations (capturing the direct impacts on the endogenous variables) and the reduced form equations (which capture the total impacts). Then the second model has developed where aid included in aggregated form. This model has presented both the structural and reduced form equations. This study concluded that significant policy implications can be derived by comparing the results of aggregated aid and disaggregated aid models which will help to raise the effectiveness of aid inflows (Mavrotas and Ouattara, 2003).

Ghulam (2005) has investigated the effectiveness of foreign aid in economic development of Pakistan during 1960-2002. By using regression technique this study shows aid has positive effect on the economic development. The aid may be helpful in boosting economic growth under the presence of appropriate monetary, fiscal and trade policies. Feeny (2005) investigated the impact of foreign aid on economic growth in Papua New Guinea for the period 1965-1999. The study employed the Auto Regressive Distributed Lag (ARDL) bound testing cointegration technique and found that aid and its various components have shown positive impact on growth when the country has undertaken Structural Adjustment Programme of World Bank. McGillivray (2005) has econometrically analyzed the impact of aid on the poverty and economic growth of African countries by using the time series data for the period 1968-1999. The paper concludes that aid helps to reduce poverty and raise the growth rate in African countries.

The literature review reveals the fact that the role of foreign aid on economic growth has left us with no accurate conclusion. Moreover, it is observed that aid effectiveness varies across countries due to the mismatch among the factors of aid effectiveness persist in different countries. The reasons of variation are ranging from poor policies, diversion of aid to unproductive consumption, corruption, uncertainty, weak institutions, adverse geographical condition, political instability, bureaucratic inefficiency, under developed socio-economic infrastructure and backward technology. It is needless to say that these factors differ from region to region and even country to country hence, the role and achievement of foreign aid would differ from one place to other. Country specific or region specific studies might help to put more light on aid effectiveness

Recent Trend of Foreign Aid Inflows to India and Sri Lanka

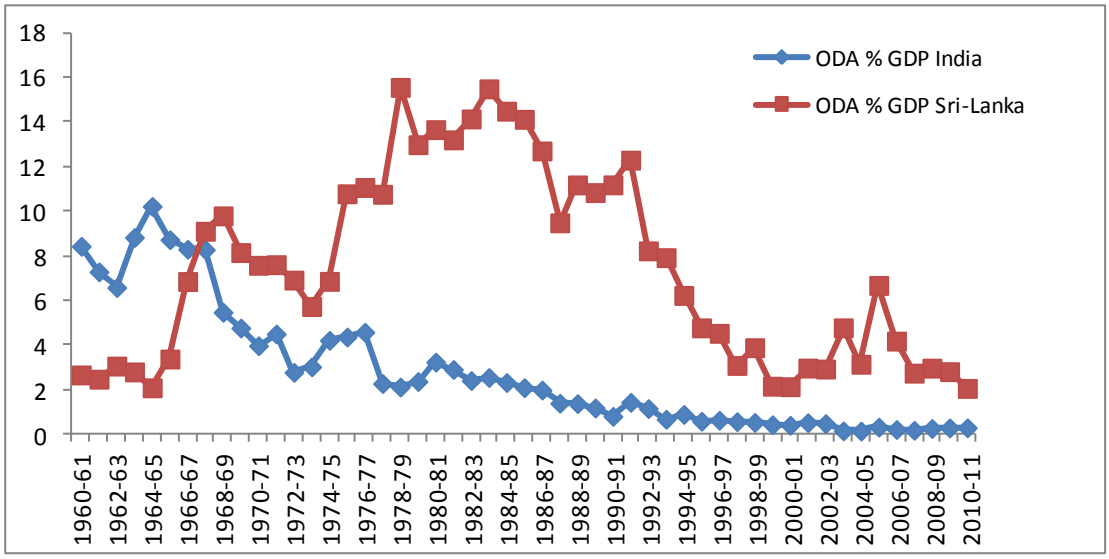
A survey relating to the history, volume, composition and allocation of foreign aid has concluded that traditionally, aid has sanctioned for several uses. For some donors aid used as a commercial policy tool whereas some other donors used for the development needs of recipients. The most important change in the aid architecture has been noticed after 1992 due to the sudden fall in the aid inflows. This study has concluded that this change in aid architecture may not create any problem for the developing countries where smaller aid flows compensated by the private flows but it may create problem for the low income countries those financially depended on foreign aid (Hjertholm and White, 1998). Over the last three decades, particularly after 1990s the real value of ODA has declined due to fall in its share and its unproductive uses. The share of foreign aid to both Sub-Saharan Africa and other low-income countries has declined during 1990s, partly due to the diversion of aid flows to transition economies and 'trouble spots'. The paper has concluded that reductions in aid amounts have been accompanied by improvements in the quality of aid and this encourages untying of aid inflows (White and Feeny, 2003).

Since after the Second World War, huge amount of foreign aid came to all most all the poor countries to fight against their socio-economic hurdles. There were no specific instructions given by the donors about the utilization of aid amounts by the recipient countries. It leads to unproductive utilization of aid in many recipient countries. Along with corruption, lack of human capital, backward technology, institutional inefficiency and bureaucratic efforts are some of the factors responsible to make aid ineffective. This unplanned and unproductive expenditure of foreign aid put a question mark whether the developing countries should rely on foreign aid for their economic development or should try to find any other alternative source. This issue fueled by the financial crisis, oil price shocks and civil wars occurred during 1970s and 1980s. By taking the advantage of this situation, many foreign private investors try to invest in the developing countries. Inadequate domestic capital in the developing countries forces them to use private foreign capital as an alternative to foreign aid.

During 1990s, both the government of India and Sri-Lanka adopted the economic reforms measures to save their economy from financial crisis. In India, the economic reforms started in

1991 after the introduction of new economic policy. Due to the intervention of foreign private capital the share of foreign aid to the growth process of both India and Sri-Lanka has shown a declined trend. The following diagram-1 shows the share of ODA (as an indicator of foreign aid) to GDP of both India and Sri-Lanka:

Figure 1: Trends of Foreign Aid Inflows as Percentage of GDP to India and Sri Lanka



Source: World Development Indicators, 2011.

The figure 1 shows that, in case of India the share of foreign aid to GDP has shown a downward trend particularly after 1990s which is due to adoption of economic reforms measures. During 1960s, the share of foreign aid to GDP was high nearly 8%. Again it showed an upward trend in 1964-65 and rose up to 10% which may cause due to its productive utilization. But after that period it gradually falls and now it is less than 0.5% of its GDP. In case of Sri-Lanka the share of foreign aid to GDP has shown a fluctuating trend during this study period. During 1960s the share of foreign aid to GDP was nearly 2.5%. After that it showed an upward trend and it reached its peak in the year 1978-79 i.e. 15%. But after that it starts fallen again and now it becomes 2%.

Foreign aid in Sri Lanka played a vital role in the process of economic development, particularly in terms of financing large scale infrastructural project and also social services such as education and health. Aid has become more effective in term of financing capital intensive

government expenditure, since Sri Lanka governments have failed to generate sufficient revenue to meet their current expenditure. In recent past, the contribution of foreign aid to Sri Lanka has increased in support of tsunami reconstruction activities. The main donor of Sri Lankan's foreign aid is Japan, the Asian Development Bank (ADB) and World Bank. Sri Lanka received approximately 80 percent of its total foreign aid from these three agencies. Recently, Sri Lanka access to concessional finance from multilateral donors declined since the country achieved higher levels of per capita income. Greater shares of Sri Lanka's ADB loans are now in form of Ordinary Capital Resources financing and World Bank loans have shorter repayment periods of twenty years.

Along with the reduction in access to finance from the country's traditional donors, Sri Lanka is also facing a decline trend in foreign aid due to certain western bilateral donors are withdrawing support as a result of an intensification of the conflict in the country (Kalegama and de Mel, 2007).

Data Source and Empirical Methodology

This study attempts to analyze, the impact of foreign aid on economic development of two selected aid recipient South Asian countries namely; India and Sri Lanka. In order to examine the impact of aid on development, annual time series data on some selected macroeconomic variables has been collected from 1960-61 to 2010-11 both in India and Sri Lanka. The variables include in case of India such as Official Development Assistance (ODA), Gross Capital Formation (GCF) as a proxy of domestic investment, Trade, Per capita GDP (PcGDP) as an indicator of economic development, WPI as a proxy of inflation rate and Bank Credit (BC) as the proxy of financial development. In case Sri Lanka, the study uses same variables except Gross Fixed capital formation (GFCF) as domestic investment and Consumer Price Index (CPI) as inflation rate. These two countries are lower middle income developing nations of south Asian region. Both the countries are dependent on foreign assistance for their economic development.

The data for the study have been collected from the secondary source such as *World Development Indicator (WDI)* is published by World Bank and *International Financial Statistics (IFS)* is published by International Monetary Fund (IMF). The annual time series data have been

taken for the period 1960-61 to 2010-11 a unit of measure in US million Dollars and transferred into logarithms in India and Sri Lanka.

We employ Johansen and Juselius (JJ) (Johansen and Juselius, 1990) procedure of testing for the presence of multiple cointegrating vectors. JJ method of multivariate approach is a well-established model to trace out cointegrating relationship between the time series variables. We use this approach to find out the cointegrating relationship between ODA, trade, bank credit, per capita GDP and WPI.

Empirical Results

In this section, we present results of our empirical analysis. We attempt to answer to the following four empirical hypotheses or questions:

Hypothesis 1: Does causal relationship exist between foreign aid (ODA) and economic development (PcGDP)?
Hypothesis 2: Does causal relationship exist between foreign aid (ODA) and financial development (BC)?
Hypothesis 3: Does causal relationship exist between foreign aid (ODA) and trade (TR)?
Hypothesis 4: Does causal relationship exist between foreign aid (ODA) and domestic investment (GCF)?

To set the stage of causality test, the order of integration of the variable is initially determined using the ADF test. The testing procedures of ADF are based on the null hypothesis that a unit root exists in the autoregressive representation of the series. The result of unit root for all the variables in India and Sri Lanka are reported in table 3. It is clear that all the variables of India and Sri Lanka are non-stationary at levels and become stationary at first difference. Hence, hence all variables are integrated of order, I(1).

Table-3
Test for unit root applying Augmented Dickey-Fuller (ADF) test

Variables	*Optimal lag (AIC)*	*ADF –test statistics (level)*	*optimal lag (AIC)*	*ADF –test statistics (1st difference)*	*Order of Integration*
India					
LBC	*1*	*0.1357*	*1*	*-5.7199**	*I (1)*

LGCF	*1*	*0.5251*	*1*	*-7.6042**	*I (1)*
LODA	*1*	*-2.1987*	*1*	*-7.9958**	*I (1)*
LPCGDP	*1*	*2.0223*	*1*	*-3.6962**	*I (1)*
LTr	*1*	*1.8524*	*1*	*-6.1729**	*I (1)*
LWPI	*1*	*-0.9669*	*1*	*-5.4490**	*I (1)*
Sri Lanka					
LBC	*1*	*-2.5000*	*1*	*-7.7069**	*I (1)*
LCP	*1*	*1.1629*	*1*	*-4.2260**	*I (1)*
LGFCF	*1*	*-0.4616*	*1*	*-6.3656**	*I (1)*
LODA	*1*	*-2.4858*	*1*	*-7.6485**	*I (1)*
LPCGDP	*1*	*-1.1600*	*1*	*-4.9476**	*I (1)*
LTr	*1*	*-0.6429*	*1*	*-6.4407**	*I (1)*

** Denotes that the null hypothesis that the variable concerned is non-stationary can be rejected at 5% significance level. Asymptotic cut off values for 5% significance level are -3.41 when the trend term is included and -2.86 when the trend term is not included.*

Since all the variables are integrated of the first order or *I(1)*, Johansen multivariate cointegration test is applied for finding the order of cointegration *d(max)* for India and Sri Lanka separately. The results of cointegration test of India and Sri Lanka are reported separately in table 4. Using the maximum eigenvalue test as well as trace test, we find for two cointegrating relationship for both India and Sri Lanka. Therefore, the results support the hypothesis of cointegration between ODA, PcGDP, BC, Trade, WPI and GFCF. We can conclude that there exists a long run relation between variables in and these variable moves together in the long run in India and Sri Lanka.

Table - 4

Johansen cointegration test (maximal eigenvalue and trace test)

Null Hypothesis	*Test statistics (maximal Eigenvalue)*	*critical value (5%)*	*Test statistics (trace test)*	*Critical value*
India				
r=0	*48.646**	*40.077*	*127.168**	*95.753*
r≤1	*32.308*	*33.876*	*78.522**	*69.818*
r≤2	*22.898*	*27.584*	*46.213*	*47.856*
Sri Lanka				
r=0	*53.775**	*44.497*	*142.972**	*117.708*
r≤1	*30.003*	*38.331*	*89.196**	*88.803*
r≤2	*24.836*	*32.118*	*59.192*	*63.876*

r is the number of cointegration vector under null hypothesis of no cointegration.
We are assuming a linear deterministic trend
**Denotes rejection of null hypothesis of no cointegration at 5% level.*

Having established the long run relationship (Engle and Granger, 1987)[*], the next subsequent step for our analysis is two estimate causal relationships between our sample variables. In so doing, we have to employ pair wise Granger-causality test (Engle and Granger, 1969). Before that, it is necessary to select the optimal lag length by using different criteria. While determining lag length, econometricians have either fixed the lag length arbitrarily or chosen it through some statistical procedure. It is advisable to choose the lag length by using some selection criterion. Here, the study uses five lag order selection criterion such as Likelihood Ratio (LR), Final Prediction Error (FPE), Akaike Information Criterion (AIC), Schwarz Information Criterion (SIC) and Hannan-Quinn Information Criterion (HQIC) has shown in table 5. Except LogL, all other criteria unanimously select lag order 1, and, thus we take that as optimum lag length. A lag of one year seems appropriate for an analysis of foreign aid and some macroeconomic variables because the external sector policy or monetary policy is revised twice every year in India and Sri Lanka. During the period of study, policy changes have become frequent in a bid to deregulate the economy and strengthen the market forces. Under such circumstance the lag of one year is justifiable.

Table - 5
Lag order selection by different criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	87.30377	NA	1.46e-09	-3.318521	-3.086870	-3.230633
1	415.5999	562.7933	9.72e-15	-15.24897	-13.62741*	-14.63376*
2	460.0996	65.38739*	7.34e-15*	-15.59590*	-12.58443	-14.45336

Notes: - * *indicates lag order selected by the criterion,*
LR: sequential modified LR test statistic (each test at 5% level), FPE: Final prediction error, AIC: Akaike information criterion, SC: Schwarz information criterion, HQ: Hannan-Quinn information criterion.

The Granger-causality test is used to ascertain the direction of causality between ODA, GCF, Trade, WPI, BC and PcGDP in case of India and ODA, GFCF, BC, Trade, CP and PcGDP in case of Sri Lanka. This test assumes that the underlying time series data are stationary, i.e., I(0) processes. Therefore, it is imperative to examine whether ODA, GCF, Trade, WPI, BC, GFCF, CP and PcGDP are stationary. Augmented Dickey-Fuller (ADF) test is employed to check the stationary property of these two variables. One of the implications of Granger causality test is that if two variables, say X and Y, are cointegrated and each is individually *I(I)*, that is,

[*] *Presence of cointegration relationship between the variables suggest that there exists causal relationship between ODA, BC, Trade and GCF at least in one direction and possibly in both directions (Engle and Granger, 1987)*

integrated of order one, then either X must Granger cause Y, or Y must Granger cause X. Therefore, it is necessary to ascertain whether two variables X, and Y, are cointegrated, that is, whether there is any long-run relationship between these two. The Johansen cointegration test has also been performed in this study.

The casual relationship between PcGDP and ODA, BC and ODA and Trade and ODA are examined by standard Granger-causality test as per the set of hypotheses. Following equations are estimated for this purpose:

$$LPcGDP_t = \sum_{i=1}^{n} a_i LPcGDP_{t-i} + \sum_{j=1}^{m} b_j LODA_{t-j} + \mu_{1t} \quad (7)$$

$$LODA_t = \sum_{i=1}^{n} c_i LODA_{t-i} + \sum_{j=1}^{m} d_j LPcGDP_{t-j} + \mu_{1t} \quad (8)$$

$$LODA_t = \sum_{i=1}^{n} c_i LODA_{t-i} + \sum_{j=1}^{m} d_j LBC_{t-j} + \mu_{2t} \quad (9)$$

$$LBC_t = \sum_{i=1}^{n} c_i LBC_{t-i} + \sum_{j=1}^{m} d_j LODA_{t-j} + \mu_{2t} \quad (10)$$

$$LGCF_t = \sum_{i=1}^{n} a_i LGCF_{t-i} + \sum_{j=1}^{m} b_j LODA_{t-j} + \mu_{4t} \quad (11)$$

$$LODA_t = \sum_{i=1}^{n} a_i LODA_{t-i} + \sum_{j=1}^{m} b_j LGCF_{t-j} + \mu_{4t} \quad (12)$$

$$LTrade_t = \sum_{i=1}^{n} c_i LTrade_{t-i} + \sum_{j=1}^{m} d_j LODA_{t-j} + \mu_{3t} \quad (13)$$

$$LODA_t = \sum_{i=1}^{n} c_i ODA_{t-i} + \sum_{j=1}^{m} d_j LTrade_{t-j} + \mu_{3t} \quad (14)$$

The rejection of null hypothesis that ODA does not Granger-cause PcGDP requires that (a) estimated coefficients on the lagged ODA in equation 7 are statistically different from zero (i.e., $\sum b_j \neq 0$) and (b) the set of estimated coefficients on the lagged PcGDP in equation 8 are statistically different from zero (i.e., $\sum c_j \neq 0$). Same discussion and interpretation has been followed in other equations such as 9, 10, 11, 12, 13 and 14.

As Granger-causality test is very sensitive to the number of lags used in estimation procedure, optimum lag length is determined by applying Schwarz Criterion (SC). According to this criterion, optimum lag length k is obtained by minimizing the function.

$SC = \ln a^{`2} + k \ln n$

Where, $a^{`2}$ is the maximum likelihood estimate of a^2 (RSS/n).

The test of cointegration ignores the effect of the past values of one variable on the current value of the other variable. So, finally, we tried the Granger causality test to examine such possibilities. Since the reliability of results of the Granger causality test depends on whether the variables are stationary or not, we first tested unit root of the variables using ADF test. The result of the unit root test is reported in table 1. It shows that all the variables are stationary on first difference. It is well-known that Granger causality test is sensitive to the choice of lag length. To avoid this problem, as noted in Enders (1995), we have applied different lag length criterion to choose the optimum lag length and reported in table 5. The following table 6 reports pair wise causality results of India:

Table 6
Pair wise Granger Causality Test for India

Null Hypothesis	Direction of Causality	F-Statistic	P-value
LPGDP does not Granger Cause LODA	LPGDP $\Rightarrow$ LODA	5.03765	0.01071
LGCF does not Granger Cause LODA	LGCF $\Rightarrow$ LODA	4.82296	0.01277
LWPI does not Granger Cause LODA	LWPI $\Rightarrow$ LODA	9.56232	0.00036
LBC does not Granger Cause LODA	LBC $\Rightarrow$ LODA	3.45085	0.04054
LTR does not Granger Cause LODA	LTR $\Rightarrow$ LODA	5.35227	0.00831
LODA does not Granger Cause LTR	LODA $\Rightarrow$ LTR	3.09895	0.05507
LPGDP does not Granger Cause LGCF	LPGDP $\Rightarrow$ LGCF	3.34385	0.04447
LPGDP does not Granger Cause LWPI	LPGDP $\Rightarrow$ LWPI	1.78390	0.17992
LBC does not Granger Cause LPGDP	LBC $\Rightarrow$ LPGDP	4.33246	0.01916
LPGDP does not Granger Cause LBC	LPGDP $\Rightarrow$ LBC	1.82549	0.17313
LTR does not Granger Cause LPGDP	LTR $\Rightarrow$ LPGDP	2.58974	0.08644
LPGDP does not Granger Cause LTR	LPGDP $\Rightarrow$ LTR	2.19767	0.12311
LGCF does not Granger Cause LWPI	LGCF $\Rightarrow$ LWPI	2.88879	0.06625
LGCF does not Granger Cause LBC	LGCF $\Rightarrow$ LBC	1.90672	0.16064
LTR does not Granger Cause LGCF	LTR $\Rightarrow$ LGCF	5.36648	0.00821
LGCF does not Granger Cause LTR	LGCF $\Rightarrow$ LTR	5.77994	0.00590
LBC does not Granger Cause LWPI	LBC $\Rightarrow$ LWPI	1.74467	0.18657
LWPI does not Granger Cause LBC	LWPI $\Rightarrow$ LBC	1.61363	0.21073
LTR does not Granger Cause LBC	LTR $\Rightarrow$ LBC	2.59633	0.08593

Notes:

(i) Optimum lag lengths (m) are determined by minimizing the Akaike Information criteria (AIC) by E-views package

*(ii) * Denotes significant at 5% confidence level.*

(iii) The significant result only presented in the table.

Table 6 reports the pair wise Granger causality test of India. In this paper, we have set four hypotheses to find out the causality. First, PCGDP has causal relationship with ODA, which indicates the economic development of the country attract more ODA inflows. The result shows that, we can reject the null hypothesis that PCGDP does not Granger cause ODA at 5% level, whereas the null hypothesis that ODA does not Granger cause PCGDP at 1% level. Thus, there is one-way causality between two variables. This result seems to reinforce, the hypothesis of complementarily between PCGDP and ODA for India. On the other hand, we don't find any causality in either direction between ODA and PCGDP. This result is interesting and supporting our theory. The economic development (PCGDP) in India attracts more foreign aid (ODA) inflows through and foreign aid (ODA). It is clear that, there is an evidence of uni-direction Granger causality between BC and ODA. This result supports our theoretical debate. Further, it suggests that the performance of financial development (BC) stimulates more ODA inflows in India and also foreign aid (ODA) inflows encourage trade and economic development of the country. The financial development in the country encourage ODA inflows whereas, the reverse is not true.

Thus, ODA inflows into India are not motivated automatically, but rather motivated by pull factors i.e. the development financial infrastructure and liberalize external sector policy. Third, we find there is bidirectional causality between trade (TR) and ODA. These results also support our theory. It shows that, more ODA inflows encourage trade performance of the country. The trade liberalization and trade performance of the country attract more ODA inflows in last two decade. Fourth, the result of Granger causality test between the domestic investment (GCF) and foreign aid (ODA) for India indicates that there exists uni-directional causality between two. However, the causality between GCF and ODA indicates that the domestic investment is stronger in India which helps to attract more ODA inflows. On the other hand, ODA inflows into India have not much significant impact on domestic investment. We also find the casual relationship exist among the few pair of macroeconomic variable such as GCF with BC, PCGDP with BC, TR with BC, WPI with BC, PCGDP with GCF, GCF with trade, WPI with ODA and TR and PCGDP.

Long run Equation:

$$LODA_t = 57.71 + 11.57\ LPCGDP_{t-1} - 0.980\ LGCF_{t-1} + 2.712\ WPI_{t-1} - 0.942\ LBC_{t-1} - 5.202\ LTR_{t-1} \ldots (1)$$

(2.51) (-0.42) (3.29) (-0.82) (-4.16)

The results in equation (1) denote the long run relationships between foreign aid and explanatory variables. It is empirically found that both economic growth (PCGDP) and inflation (WPI) have positive and significant impacts on foreign aid in the long run, while trade openness (TR) has adverse significant effect on aid. On other hand, although both capital formation (GCF) and financial development (BC) are negatively influencing the foreign aid but their effects are insignificant. Moreover, the positive effects of growth and inflation on foreign aid could be due to the presence of better economic environment.

Table 7
Pair wise Granger Causality Test for Sri Lanka

Null Hypothesis	Direction of Causality	F-Statistic	P-value
LGFCF does not Granger Cause LODA	LGFCF $\Rightarrow$ LODA	0.13349	0.87539
LODA does not Granger Cause LCP	LODA $\Rightarrow$ LCP	6.78998	0.00269
LODA does not Granger Cause LCP	LODA $\Rightarrow$ LCP	6.78998	0.00269
LTR does not Granger Cause LODA	LTR $\Rightarrow$ LODA	1.64019	0.20558
LODA does not Granger Cause LTR	LODA $\Rightarrow$ LTR	2.55665	0.08904
LPCGDP does not Granger Cause LGFCF	LPCGDP $\Rightarrow$ LGFCF	3.35747	0.04395
LGFCF does not Granger Cause LCP	LGFCF $\Rightarrow$ LCP	5.72017	0.00619
LGFCF does not Granger Cause LBC	LGFCF $\Rightarrow$ LBC	3.14189	0.05303
LBC does not Granger Cause LCP	LBC $\Rightarrow$ LCP	3.56546	0.03672
LTR does not Granger Cause LCP	LTR $\Rightarrow$ LCP	4.33344	0.01915
LBC does not Granger Cause LTR	LBC $\Rightarrow$ LTR	2.32028	0.11015

Notes:

(i) Optimum lag lengths (m) are determined by minimizing the Akaike Information criteria (AIC) by E-views package

*(ii) * Denotes significant at 5% confidence level.*

(iii) The significant result only presented in the table.

Table 7 reports the pair wise causality test of Sri Lanka. We also test four hypotheses in case of Sri Lanka. First, we find ODA has causal relationship with PCGDP, which indicates the foreign aid has positive impact on economic development of Sri Lanka. Sri Lanka's economic development is fully depending on foreign capital and particularly foreign aid (ODA). The economy is highly depending on foreign aid from both bilateral donor and multilateral donor. The result shows that, we can reject the null hypothesis that ODA does not granger cause PCGDP at 5%, whereas the null hypothesis that PCGDP does not granger ODA at 1% level. This

result contradicts with in case of India. Second, our hypothesis is to find out the causal relationship between ODA and BC. It is clear that, there is an evidence of uni-direction Granger causality between ODA and BC. The result supports our theory. More ODA Inflows to Sri Lanka helps the financial development. The financial development in Sri Lanka is so weak which unable to attract more ODA flows. However, the more ODA inflows directly help the financial development of the country. This result also contradicts with India. Third, ODA has causal relationship with trade (TR). The ODA inflows into Sri Lanka enforce the trade performance. The trade performance and trade labialization policy in Sri Lanka is so weak which unable to attract more ODA inflow. It shows the trade performance in Sri Lanka is not like India. Fourth, the result of Ganger causality test between ODA and domestic investment (GFCF) for a Sri Lanka indicates that there exists uni-directional causality between two. However, ODA inflows into Sri Lanka help for the domestic investment. We also find the casual relationship exist among the few pair of macroeconomic variable in this study such as BC with CP, CGCF with CP, ODA with CP, TR with CP, GFCF with BC, PCGDP with BC, TR with BC and TR with GFCF. Aid helps in raising the GDP growth rate through structural transformation of the economy, laid foundations of the industrial and agricultural sectors, provided technical assistance, helps in implementing various developmental projects, bringing various policy advice and modern technology, assisted in overcoming the budget deficit. On the other hand, its underutilization and unproductive uses, raises the fear of debt burden for future.

Long run Equation

$$LODA_t = 131.60 - 5.43\ LPCGDP_{t-} - 4.40\ LGCF_{t-1} + 5.89\ LCP_{t-1} + 5.80\ LBC_{t-1} - 2.71\ LTR_{t-1} \ldots (1)$$

(-1.33) (-3.75) (4.15) (3.99) (-1.69)

The result in equation (2) explains the foreign aid (ODA) have n effect on financial development, inflation (CP) and negative effect on capital formation (GCF). Higher the foreign aid inflows help for the financial development and consequently it induces inflation (CP) of the country. More foreign aid inflows have negative and significant effect on capital formation of Sri Lanka economy. This result is very interesting and supports the theories of foreign aid on development. However, foreign aid (ODA) negatively affects the economic development (PCGDP) and trade openness (TR) of the country.

Conclusion and Policy Implications

It is clear that foreign aid is one of the major factors contributing to the development process of both India and Sri Lanka. Both India and Sri Lanka need to maintain high growth to create more employment opportunity and to reduce poverty. Considering the long run causal linkage among foreign aid, trade performance, financial sector development, domestic investment and economic growth, both the countries should focus on the efficient utilization of foreign aid where the rate of return should be greater than rate of investment. The study suggests that the government has to be more concerned about its efficient utilization rather than its amount of inflows. The government of India should further try to raise its growth rate and liberalize its external sector to attract foreign capital i.e. foreign aid and FDI inflows. The government of Sri Lanka should focus on the efficient utilization of foreign aid in some productive activities, directly linked with the welfare of the people. Both the countries adopt outward-looking development strategy through appropriate measures such as more flexible labour market, political stability, infrastructural facilities, human capital generation, institutional efficiency and good macro-economic policies to attract more foreign capital.

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