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Bangladesh Before and After the Paris Declaration**

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The Macroeconomic Impact of Foreign Aid in Bangladesh Before and After the Paris Declaration

Nuzat Tasnim Dristy*

Abstract

Foreign aid effectiveness has been a hot topic for several decades. Bangladesh has been receiving foreign assistance since its independence in 1971 and has taken various initiatives in enhancing the effectiveness of aid. The signing of the Paris Declaration is one such initiative where the government has committed to improve aid delivery and management so as to ensure the proper utilization of aid in its development programs. This paper examines the impact of foreign aid on Bangladesh's economic growth before and after the signing of the Paris Declaration in 2005. The result of the analysis is such that there is almost no change in the aid-growth relationship before and after adopting the Paris Declaration principles. Moreover, even though aid-dependency and Dutch Disease effects were always minimal in Bangladesh, the inflow of external assistance was to some extent volatile in the pre-declaration phase. However, the fluctuation of aid has not progressed further in the post-declaration phases. Hence, the overall macroeconomic impact of foreign aid remains the same, concluding that the Paris declaration has not yet played a constructive role in enhancing the aid-growth relationship within the economy.

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I. Introduction

The impact of foreign aid on economic growth has been at the center of the development debate for many decades. Some researchers suggest that development assistance enhances the growth rate of a developing country by supplementing domestic savings and investments, whereas others strongly oppose this view and argue that instead of increasing domestic savings, aid in practice results in disincentives to save, corruption and rent-seeking behavior within the developing economies. A third group of researchers, following the publication of Burnside and Dollar (2000), strongly claims that the impact of foreign aid depends on the recipient countries' policies; i.e., aid can only make a contribution to growth in countries with good policies and institutional environment.

International agreements among the donor communities such as the Paris Declaration on Aid Effectiveness, the Accra Agenda for Action, and the Busan Partnership for Effective Development Cooperation, are increasingly playing an active role in enhancing aid effectiveness in the recipient countries. The Paris Declaration (2005) has laid down a set of principles to improve the quality and the impact of aid on the development of the recipient nations as well as initiated a monitoring system so that the donors and the recipients can hold each other accountable for their commitments, actions, and progress.

Bangladesh, a developing country in South Asia, is one of the signatories of the Paris Declaration. According to Sachs (2005), Bangladesh has stepped on the first stair of the ladder of development, by enhancing the production of food and commodities, improving education and healthcare systems, and increasing exports, foreign direct investment (FDI), investments in the industrial sector of the economy, and so on. Nevertheless, after having received foreign aid for the last 44 years, the country is extremely vulnerable to climate change and rising sea level, has a poorly performing governance system, inadequate absorptive capacity and high levels of corruption, all questioning the effectiveness of aid.

This paper explores the relationship between aid and growth along with the possibly perverse macroeconomic consequences of aid dependency, volatility and Dutch Disease in Bangladesh, prior to and following the joining of the Paris Declaration forum. The aim of the research is to study whether or not the Paris Declaration could bring in positive macroeconomic consequences of aid effectiveness in an aid-recipient country like Bangladesh.

II. Macroeconomic Background

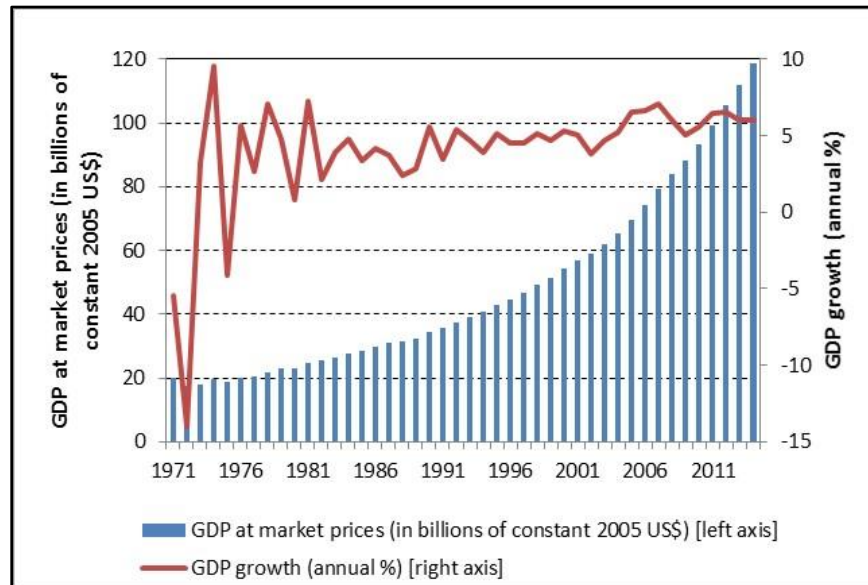
During the 1970s, Bangladesh was viewed as a “bottomless basket” by the Western world (Bangladesh Bank, 2015), especially after experiencing negative per capita growth rates of gross domestic product (GDP). However, while real per capita income was around US \$250 in 1972, it then rose to above US \$1000 in 2014. Hence, Bangladesh is now a land of immense prospect, maintaining a stable growth rate of per capita income of around 5 percent per year during the last 10 years, and on July 1, 2015, the World Bank re-classified Bangladesh as a lower-middle income country (which are countries with gross national income (GNI) per capita between \$1,046 and \$4,125).¹

¹ See World Bank (2015).

II.1. Income Trend and Sectoral Composition of GDP

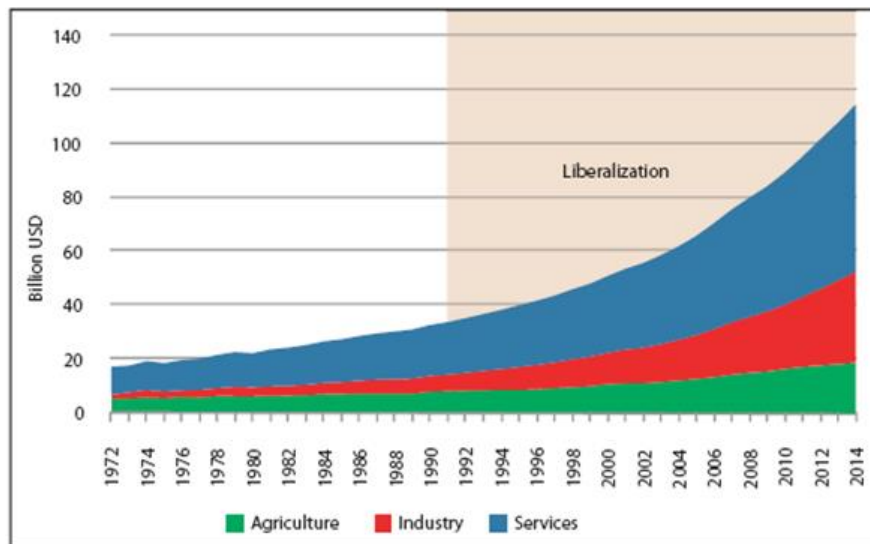
According to Figure 1, Bangladesh's real GDP has amplified by nearly 5 times since its independence in 1971. The exponential trend of GDP suggests that the economy has made significant progress during the last few decades. Like the pattern of GDP, the composition of GDP (see Figure 2) is also showing an exponential increase, especially after the liberalization of the economy during the 1990s.

Figure 1: Real GDP and Real GDP Growth of Bangladesh, 1971-2014



Source: Created by author based on World Bank (2016).

Figure 2: Evolution of Sectoral Shares of GDP, 1972-2014



Source: Bangladesh Bank (2015), based on World Development Indicators 2015.

II.2. Pattern of Foreign Aid in Bangladesh

Aid means to assist or help, i.e., something more than what the market provides. Foreign aid is termed as any transfer (money, capital, goods, services, etc.) from a wealthy country or international development organizations to an underdeveloped country that benefits the recipient country and its populations. The purpose of aid can be economic, developmental, social, humanitarian emergency assistance and so on. United Nations Millennium Project urges all developed countries to make a concrete effort in spending 0.7 percent of their GNI in foreign aid.

Bangladesh receives various kinds of external assistance such as bilateral and multilateral Official Development Assistance (ODA), Non-Government Organization (NGO) support, private donations and so on. ODA can be categorized further as food, commodity and project aid as well as program support and technical assistance. According to bilateral aid disbursement since 1972 provided in Table 1, Japan provided the highest amount of foreign support to Bangladesh, followed by the United States and the United Kingdom.

With regards to multilateral aid (shown in Table 2), the World Bank's International Development Association (IDA) disbursed the largest amount of assistance for the economic development of Bangladesh, followed by the Asian Development Bank (ADB) and the United Nation (UN). A total of US\$ 65.44 billion² of foreign aid was received by Bangladesh between 1972 to the mid of 2015 from both bilateral and multilateral donors (ERD, 2015b).

Table 1: Summary of Foreign Aid Disbursement by Major Bilateral Development Partners of Bangladesh (1971/72 to 2014/15)

Major Bilateral Development Partners	Total Aid Disbursed (US \$ million)
Japan	8615.5
USA	3552
United Kingdom	2605.5
Canada	2171.7
Germany	1922.3
The Netherlands	1166.3
Denmark	1080.8
China	1055.3
Saudi Arabia	924.4
Sweden	902.6
India	846
Norway	712.5
France	581
Russia	507.8

Data Source: Economic Relations Division (ERD) (2015b).

² Aid figures accumulated by the ERD are in current US\$.

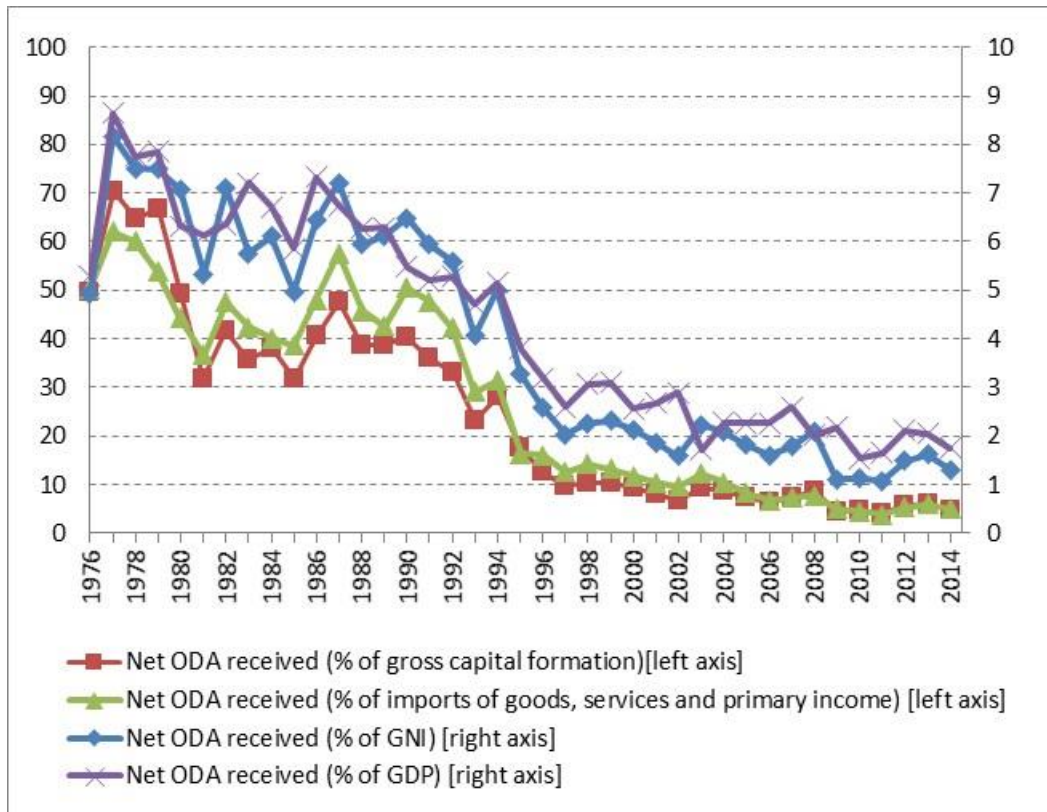
Table 2: Summary of Foreign Aid Disbursement by Major Multilateral Development Partners of Bangladesh (1971/72 to 2014/15)

Major Multilateral Development Partners	Total Aid Disbursed (US \$ million)
IDA	15796.6
ADB	11062.7
UN System	3535.6
EU	1752.9
UNICEF	1161
ISDB	811.8

Data Source: Economic Relations Division (ERD) (2015b).

Figure 3 portrays net Official Development Assistance (ODA) received as ratios of a) percent of GNI, b) percent of gross capital formation, c) percent of GDP, and d) percent of imports of goods and services and primary income. All the ratios are showing a declining pattern which suggests that Bangladesh's dependency on external assistance is turning down.

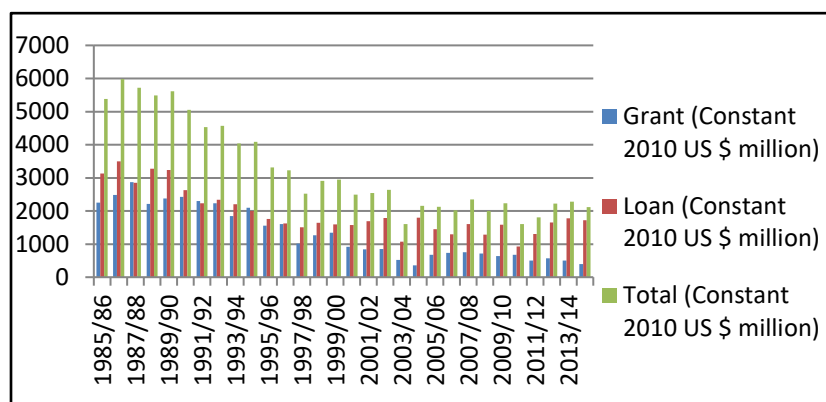
Figure 3: Net Official Development Assistance (ODA) ratios of Bangladesh, 1976-2014



Source: Created by author based on World Bank (2016).

As Figure 4 shows, the total aid disbursement of Bangladesh in constant terms has been showing an exponentially declining trend for the last thirty years, which demonstrates that the country is becoming self-sufficient in its domestic production and hence less reliant upon external assistance. One notifying factor is that although the amount of foreign aid is falling, the share of loans is twice the amount of grants in recent years, portraying that Bangladesh is capable of repaying loans to its donors.

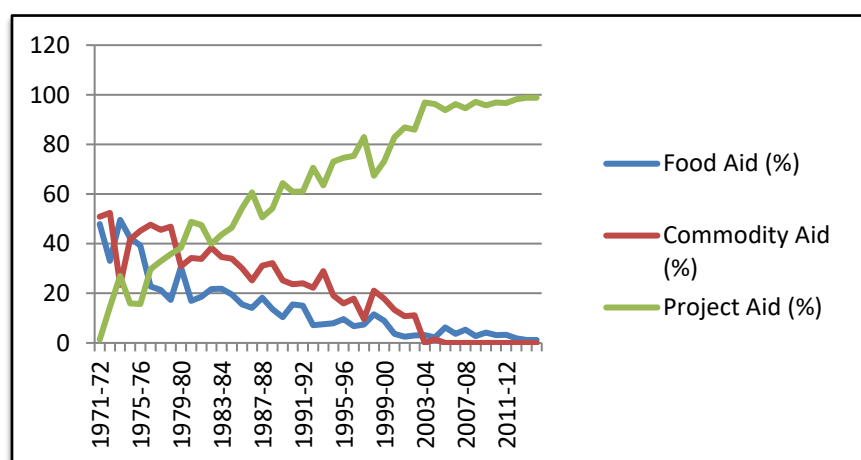
Figure 4: Concessional Foreign Aid: Grants and Loans, 1985/86 to 2014/15
(in millions of constant US dollars, after adjusting nominal numbers using CPI (2010=100))



Data Source: Economic Relations Division (ERD) (2015b).

Figure 5 shows that over the years, food and commodity aids have lost its pace while the project funding has become a popular and important mode of assistance in Bangladesh. The situation is very consistent with the usual pattern, i.e., as a nation prospers, project-based assistance replaces food and commodity aid, and multilateral concessional loans take away bilateral grants.

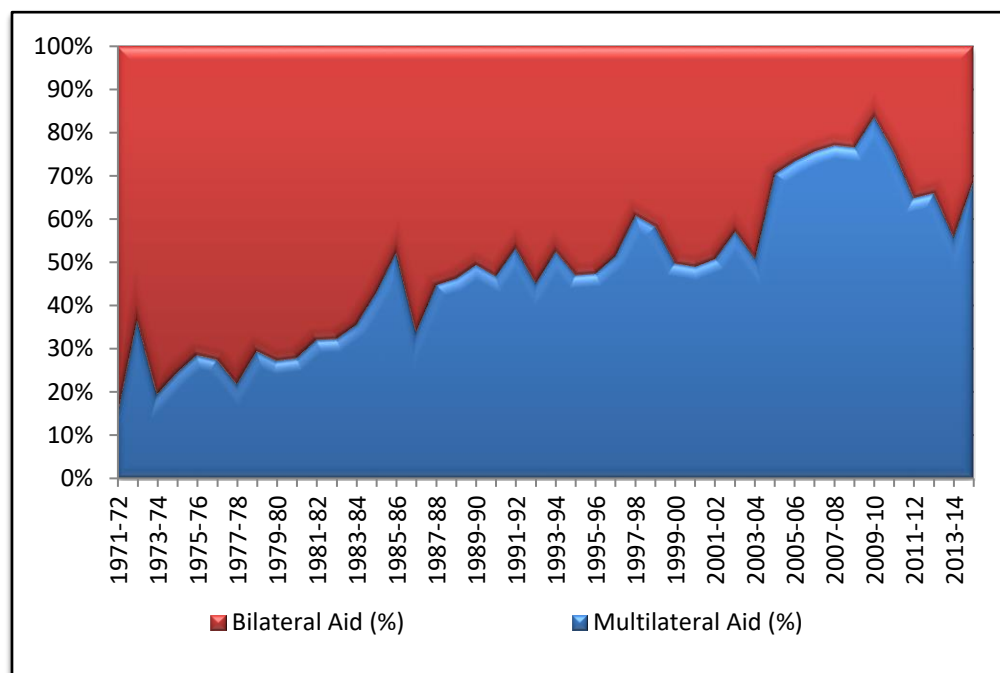
Figure 5: Composition of Foreign Aid: Food, Commodity, Project, 1971-72 to 2014-15



Data Source: Economic Relations Division (ERD) (2015b).

The share of multilateral aid in Bangladesh has been rising as compared to the bilateral aid during the past couple of years (Figure 6). While the ratio of bilateral aid was 20 percent and the multilateral aid 80 percent during the initial years of independence, the ratio reversed in recent times. The growth of multilateral organizations such as World Bank, UNDP, etc. is the primary cause of such scenario. The World Bank, ADB, Islamic Development Bank (IDB) together disbursed the biggest share of total foreign aid in Bangladesh, amounting US \$1.5 billion³ in the FY2013-2014 (ERD, 2015a).

Figure 6: Shares of Bilateral and Multilateral Aid, 1971-72 to 2014-15



Data Source: Economic Relations Division (ERD) (2015b).

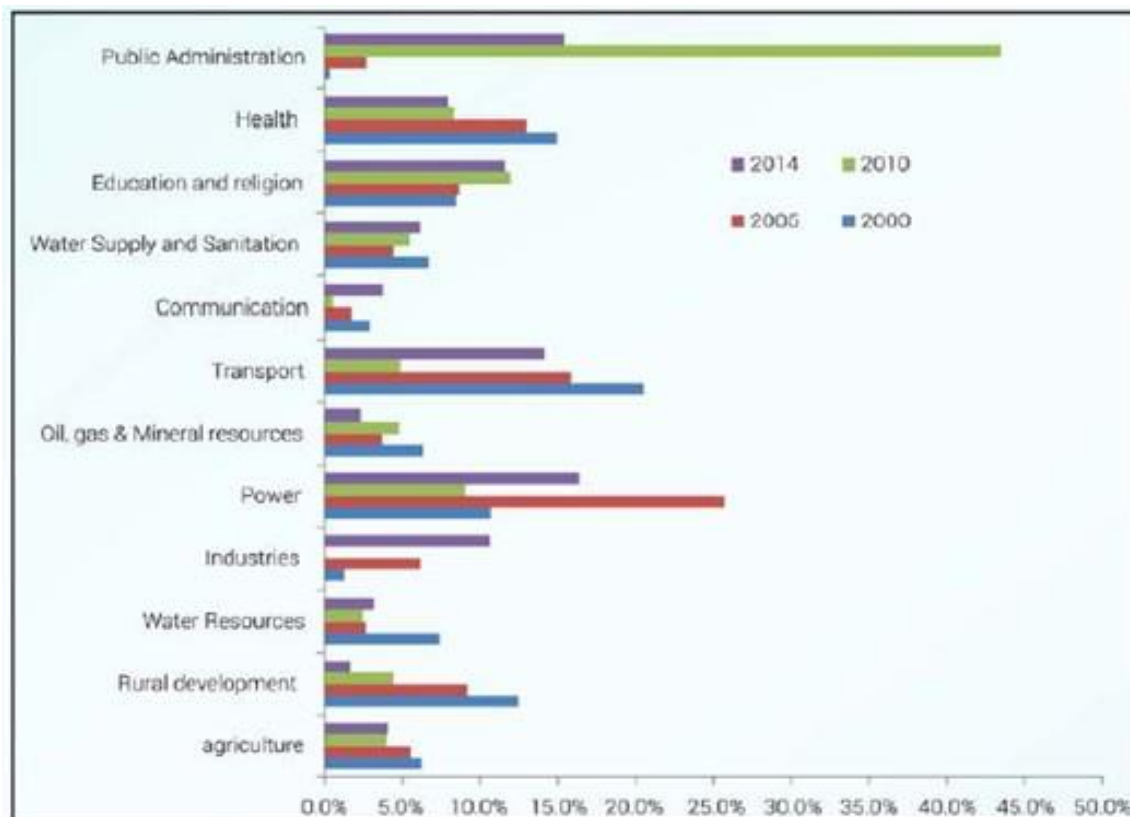
As can be seen from Figure 7, during 2000 and 2005, power and transport sectors were the major recipients of foreign aid in Bangladesh. However, in 2010, the public administration received the lion's share, which signifies that the donors are more focused towards public sector and good governance reform for aid allocation in recent times.

During the 1970s, foreign aid was the only means to recover the post-war economy. Food, commodity and other grants from India, Canada, UK, Australia, United Nations, etc. were primarily supportive during that time. However, aid dependency has declined to a large extent since the ODA is around 2 percent of GDP at present. While ODA covered over 50 percent of the Annual Development Program's (ADP) expenses in 2010, the figure lessened to only 32 percent in the FY2012-2013. Similarly, the state's 7th five-year plan comprises of 77 percent private investments, 23 percent public investments and only 3 percent external public resources (ERD,

³ Aid figures accumulated by the Economic Relations Division (ERD) are in current US dollar.

2015a). All these statistics provide evidence that the country has achieved autonomy in its investment and production.

Figure 7: Breakdown of Aid by Sectors during 2000, 2005, 2010, 2014



Source: Economic Relations Division (ERD) (2015a).

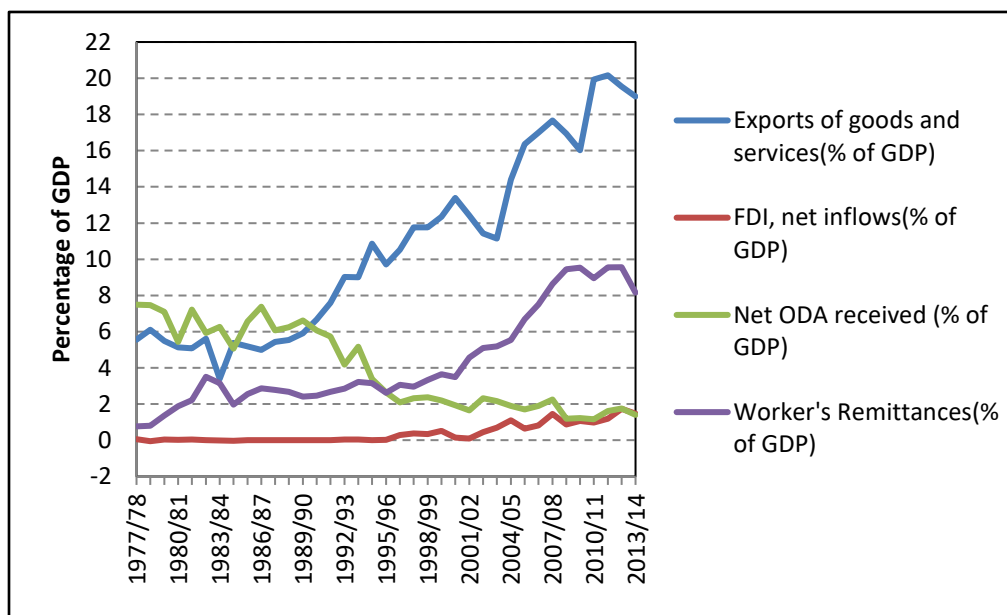
According to ERD (2015b), foreign aid mitigated both the foreign exchange and balance of payments gap in Bangladesh. The country traditionally received large volume of food aid in times of natural calamities such as floods, cyclones, and other unfavorable weather conditions. Nevertheless, with the increase of food production, reliance on food aid has declined considerably although Food for Work program is still visible in the rural parts of Bangladesh. Likewise, commodity support such as raw materials and intermediate inputs narrowed down the balance of payments deficit in the past.

Nonetheless, with the increase of export earnings, tax revenues, and foreign remittances, Bangladesh can now finance the balance of payments deficits with its domestic resources. Hence, foreign assistance in Bangladesh is increasingly relying upon project aid in recent times where the money is used to finance projects included in the ADP. Additionally, budget support allows the recipient governments to fund expenditure in line with its national priorities. Food grains and other commodities produce domestic demand and thus generate local currency which serves

development investments and other welfare services. Finally, technical assistance and program support also facilitate in human capital formation and poverty reduction strategies respectively (ERD, 2015b).

Thus, foreign aid is not the only inflow of foreign currency which mitigates the foreign exchange deficits in Bangladesh. With the rise of export earnings, worker's remittances and foreign direct investments (FDI) in recent years, the role of foreign aid meeting up the balance of payments gap is shrinking, as can be seen in Figure 8. This also suggests that Bangladesh is becoming self-reliant in its domestic resource mobilization.

Figure 8: Inflow of Foreign Currency from Abroad, 1977/78-2013/14



Data Source: World Bank (2016).

III. Literature Review and Assessment

III.1. Foreign Aid and Economic Growth

The relationship between foreign aid and economic growth has been traditionally demonstrated by the Harrod-Domar growth model which is a post-Keynesian model of economic growth and central to the analysis of aid's macro impact. The model gives some insights into the dynamics of growth where the capital shortage is the only growth constraint. The model is discussed below:

Suppose Y be the GDP and S be savings. Savings, S , is a fixed proportion of national income Y such that: $S=sY$; where 's' is the marginal propensity to save. The required level of capital stock, K , for producing an output Y is given by the equation: $K=kY$; where k is the capital-output ratio.

Economic growth occurs when capital stock changes over time. So the capital stock is a key determinant of the economy's output. Investment represents an increase in capital share:

$$\begin{aligned}
I &= \delta K \\
K &= kY \\
\delta K &= k\delta Y \\
I &= \delta K = k\delta Y
\end{aligned}$$

In a closed economy, equilibrium condition reduces to:

$$\begin{aligned}
I &= S \\
\text{Thus, } k\delta Y &= sY \\
\delta Y/Y &= s/k \\
g &= s/k
\end{aligned}$$

This is the Harrod-Domar growth model which states that the growth rate of GDP, g , is proportional to the domestic savings ratio, s and national capital-output ratio, k . According to this model, in order to grow, the economy must save and invest a certain portion of their national income. So the main obstacles to growth in an under-developed country are the relatively low level of savings and thus investments. Therefore, foreign aid can fill up the savings gap and ultimately lead the economy towards self-sustaining growth, such that in the long-run domestic savings will be sufficient to finance the desired growth rate without aid.

Chenery and Bruno (1962) and Chenery and Strout (1966) expanded the Harrod-Domar gap model to the two-gap model. Here the second gap in addition to the savings gap is the ‘foreign exchange gap’. The rationale is such that developing countries need to import goods and services crucial for production, but import requirements usually exceed export earnings in the LDCs. So foreign exchange shortage is another growth constraint which can also be met by foreign aid.

Even though the two-gap model assumes that savings and foreign exchange gaps are independent, and are not substitutes for each other, this is not always true; nevertheless, the hypothesis supports the mathematical analysis of foreign aid and economic growth. The implication is such that at least one of the gaps is prominent for any LDC at a given point of time; hence foreign aid can fill the gap in such situation (Todaro and Smith, 2015, pp. 751-752).

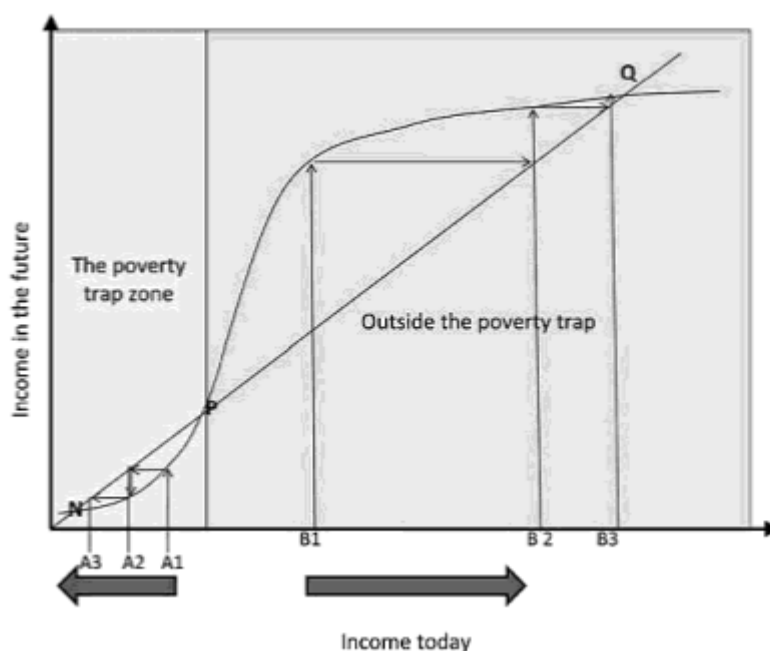
III.1.a. Foreign aid has a positive effect on economic growth

According to Banarjee and Duflo (2011), people in the underdeveloped countries are usually landlocked, malaria infested, hot and infertile for which they lack the capacity to live a productive life and are trapped in poverty. Without a substantial initial investment, it is impossible for them to come out of this poverty trap.

Figure 9 shows that poor people in the underdeveloped countries are in the poverty trap zone, where future income is less than the present earnings and hence over time, they get caught up in poverty at point N. On the contrary, people outside the poverty trap zone become richer eventually as shown in figure 3.1. As per Sachs (2005), foreign aid provides the ‘Big Push’ which can play

an instrumental role to move LDCs out of the poverty trap. For instance, most developing countries need to accumulate capitals and technology to grow, however, such investments are difficult to finance by domestic resources due to low levels of domestic savings in those economies. Hence, the efficient use of the concessional foreign finance shall provide the necessary foreign exchange for investments in basic infrastructure, health, education, technology, industries and so on (Oya and Pons-Vignon, 2010).

Figure 9: The S-Shape Curve and the Poverty Trap



Source: Banarjee and Duflo (2011).

Some empirical studies examining the above scenario also found a positive link between aid and growth. Papanek (1973) conducted a cross-country regression with thirty-four countries during 1950s and fifty-one countries during 1960s in Asia, Latin America and Africa and derived that foreign aid has a positive and significant effect on economic growth in countries with low savings rate and severe balance of payments deficits. Another quite similar study, Dalgaard, Hansen and Tarp (2004) concludes that although geographical factors such as tropical areas, tropical diseases or being landlocked constraints the impact of aid on growth, nevertheless, foreign aid has a substantial positive impact on growth outside the tropical regions.

Besides raising the productivity of both capital and labor, foreign assistance brings with them technological knowledge, technical support, managerial skills, organizational capability, research ideas and market access which are crucial for the long-term growth of the economy (Morrissey, 2001 cited in Sahoo and Sethi, 2013).

Finally, Hansen and Tarp (2000) studied three phases of empirical work and concluded that the aid-growth association was significant in the majority of the cases. In each period, those turning

up with negative results were smaller in number. Hence, the positive effect of aid and growth relationship is robust.

III.1.b. Foreign aid has a negative or no effect on economic growth

The Harrod-Domer and the two-gap models assumed that with given amounts of aid, countries would enhance their rate of savings, foreign exchange, and investments and thus could grow at healthy rates. However, so far the level of aid has more than achieved but the anticipated growth has not.

Easterly (2003) argued that investment and growth do not usually have a constant linear relationship, as stated in the financing gaps model. Moreover, aid supports investment in the aid-recipient countries only if the incentives to invest are favorable in those economies. Since the incentives to save and invest are usually weak in the low-income countries, so the assumption of the models does not hold.

Boone (1996) stated that instead of enhancing the long-term investments, the rationale for Harrod-Domer growth model, aid results in disincentives to save and invests and mobilizes domestic resources through various forms of taxation on the part of the LDC governments. As a consequence, the countries get trapped in indebtedness which was what happened in some African countries during the 1980s and 1990s (Oya and Pons-Vignon, 2010). Moreover, Chile was once in a position to spend half of its foreign reserves for debt repayment (Griffin and Enos, 1970).

A large number of donors including USA, World Bank often tie aid upon conditions that the recipient countries must purchase intermediate and capital goods and services (including consultancy services) from the donors. Because of the low bargaining power, LDCs end up with high real costs of investments, which have little or delayed impact on output (Oya and Pons-Vignon, 2010). Additionally, the countries become more dependent on donors for the spare parts and other materials which limit their foreign exchange earnings in the future (Griffin and Enos, 1970).

One of the major perverse macroeconomic impacts of foreign aid is the problem of Dutch Disease in the LDC. The large inflow of foreign currency appreciates the exchange rate which prevails for a long time even in the absence of aid. The consequence is even worse when the aid is volatile (Oya and Pons-Vignon, 2010).

Most of the African countries are aid-dependent. The ‘vicious cycle of aid’ produces corrupt officials by lending them freely usable currency. The corrupt governments invest the aid not on the welfare enhancing projects but on those where they have more opportunities for rent-seeking and bribing. For instance, 20 cents out of every US \$1 allocated reached the intended primary school in Uganda during the 1990s. As a result of increased corruption and uncertainty, entrepreneurs are reluctant to invest in businesses. Hence, investment stagnates, so as economic growth (Moyo, 2009).

III.1.c. Foreign aid has a conditional effect on economic growth

So far we have seen that the impact of foreign aid on economic growth is a controversial topic. Early literature (from 1960 to 1998) investigating the relationship between aid and growth revealed

two distinctive phenomena: either aid works, or it doesn't. However, following the publication of Burnside and Dollar (2000), most of the more recent literature (1998 to present) found that aid has a conditional effect on economic growth.

The hypothesis of Burnside and Dollar (2000) states that aid affects growth, but the magnitude of the effect depends on some of the characteristics of the recipient countries. The empirical growth model of Burnside and Dollar (2000) includes institutional and policy variables using a panel of 56 countries and six four-year periods from 1970-1973 until 1990-1993. An index of three policy variables is formed and interacted with foreign aid. The policy index is a weighted average of the country's openness, inflation, and budget balance. They estimated the following equation:

$$G_i = \beta_0 + \beta_1 A_i + \beta_2 (A_i * P_i) + \beta_3 \Pi_i + \mu_i, \quad i = 1 \text{ to } n$$

Where, G_i = per capita GDP growth of country i

A_i = Aid/GDP growth of country i

P_i = Policy index of country i

Π_i = Vector of control variables of country i .

The result is such that aid alone is not a determinant of growth since the coefficient β_1 is not statistically significant. However, since $\beta_2 > 0$, this implies that the impact of aid on growth is a positive function of the level of policy.

Collier and Dollar (2002) revisit Burnside and Dollar's result using a different measure of policy and a larger number of countries as well as years to check the robustness of their results. According to Collier and Dollar, measuring policies through three macroeconomic indicators is limited since growth can be influenced by other policies as well. So they used a much broader measure of policy index computed by the World Bank's Country Policy and Institutional Assessment (CPIA). The result of Collier and Dollar is such that aid may be subject to diminishing returns, i.e., growth increases until a certain threshold after which additional unit of support yields smaller and smaller increases in growth. The threshold level depends on the absorptive capacity of the countries; countries having limited absorptive capacity are unable to take up large inflows of foreign capital.

In conclusion, there is no consensus on the cross country regression between foreign aid and economic growth. However, foreign aid certainly causes some degree of growth in the recipient countries to the extent that growth would be a little lower in its absence, even though the magnitude might depend upon various circumstances of the beneficiaries.

II.2. Assessing the Impact of Aid Effectiveness/Ineffectiveness

So far we have seen that there is an endless debate about whether or not foreign aid enhances economic growth in the aid recipient countries, but what matters more for aid effectiveness is how the money is spent, i.e., the ability to use funds wisely and productively generate positive outcomes. Hence donors around the world have suggested various measures about how their funds can be better utilized. One such initiative is the Paris Declaration in 2005.

In 2005, the international community with over 100 signatories met in Paris, to endorse the Paris

Declaration on Aid Effectiveness, with the commitment to undertake practical, action-oriented roadmap to assess aid effectiveness and its impact on development. The Paris Declaration consists of five principles with 56 partnership commitments organized around five principles to enhance the effectiveness of aid. The five pillars of the Paris Declaration are as follows (OECD, 2005):

- Ownership: Developing countries should set their development strategies for enhancing growth and tackling corruption
- Alignment: Donors shall provide development assistance according to recipient countries' policies, institutions, and procedures
- Harmonization: Donors should coordinate and simplify actions and share information to avoid duplication
- Managing for results: Developing countries and their partners should collectively achieve development results
- Mutual accountability: Development partners and recipients are accountable to each other for their actions

The Accra Agenda for Action, organized by the government of Ghana during September 2008, aimed to develop extensive consultation and negotiation among the LDCs and its development partners for full implementation of the Paris principles and set out a schedule to accomplish Paris commitment by 2010. AAA's pledges include aid predictability, aid delivery using the recipient's country system, relying foreign assistance upon mutually agreed conditions and untying aid (OECD, 2008).

Finally, the fourth high-level forum on Aid effectiveness in Busan is a turning point for international development cooperation. The conference urges that aid is an addition to other development finance in LDCs since external support alone cannot break the poverty trap. The declaration created an agreed notion of development cooperation for the first time which is accepted by the conventional donors as well as South-South partners, BRIC (Brazil, Russia, India, and China), private lenders, etc. (OECD, 2012).

III.3. Assessing Bangladesh's Aid Effectiveness Strategies

The government of Bangladesh signed the Paris Declaration on aid effectiveness in 2005 to improve efficiency and coordination of international development assistance. Eventually, all foreign aid was received subject to Paris Declaration principles. Bangladesh consigned itself to follow the principles endorsed in the Declaration by establishing national development strategies as well as various reform programs to enhance ownership; harmonization with donors; proper assessment, monitoring and evaluation of aid programs and so on. There has been significant progress at the macro-level aid effectiveness such as mobilization of external funding relying on MDG, coordination among donors, strengthening the country system and so on (ERD, 2011).

Bangladesh joined the Accra Agenda for Action in 2008 and put forward a statement of intent to develop a Joint Cooperation Strategy (JCS) between the government and the development partners to make the Paris Declaration a reality in Bangladesh. JCS, which was implemented in 2010, laid down the action plan to improve aid delivery system, intensify Bangladesh government's aid management capacity, promote public financial management and thus ensures that the government

and donors' joint efforts lessen poverty and vulnerabilities and increase opportunities for all (ERD, 2013). JCS creates a platform where the recipients and donors can hold each other accountable for greater aid effectiveness (ERD, 2011).

One of the major elements of JCS is the inclusion of a formal collective dialogue scheme between the government and the development partners including Bangladesh Development Forum (BDF), government-development partners Local Consultative Group (LCG), etc. The objective of BDF is to share country's policies and national priorities among donors, civil society, and private sectors and discuss best possible ways of working together. LCG aims to coordinate government-led and development partners supported programs (ERD, 2013).

Bangladesh committed itself to the International Aid Transparency Initiative (IATI) and developed a web-based Aid Information Management System (AIMS) to foster transparency in aid information. Moreover, Bangladesh's Economic Relations Division (ERD) in association with the United Nations Development Program (UNDP) implemented the Strengthening Capacity for Aid Effectiveness Project to increase the effectiveness, precision and accountability in aid allocation and management in Bangladesh to achieve better development results (ERD, 2013).

One of the key features of the Paris Declaration in Bangladesh is the preparation of Poverty Reduction Strategy Paper (PRSP) with obvious priorities, which has become the principal framework for the development partners to provide ODA to Bangladesh. The PRSP emphasizes upon investment, growth, employment, poverty alleviation and prioritizes objectives through a policy framework highlighting pro-poor growth, human development, and governance. Medium Term Budget Framework was build up as part of the PRSP, which links government's budget to its policy objectives. The principle executing mechanism of PRSP is the Annual Development Program (ADP) of Bangladesh, which aims to incorporate all projects, programs and finances of the country (OECD, 2007 and ERD, 2008).

On the contrary, Public Financial Management (PFM) system of Bangladesh is fragile as per World Bank's Aid Effectiveness Review 2006. Lack of proper coordination in fund management at sub-national levels, Union Parishad, the Local Government Division as well as in the line ministries is the reason for such situation (OECD, 2007).

Political imbalance, corruption, fraud, and malpractices weaken public procurement system further. Hence, the use of the country system in aid delivery and disbursement remains limited (ERD, 2008). Capacity constraint is another major obstacle in the government departments of Bangladesh, which obstructs the design and implementation of quality projects. Staffs are unequipped since government officials are not always posted according to their discipline, so the opportunity for specialization declines. Moreover, the relevant line ministries are incapable of articulating programs according to the national and sector level poverty reduction strategies. Ministries or the relevant departments often do not have the reliable sector-wise data for impact evaluation (ERD, 2011).

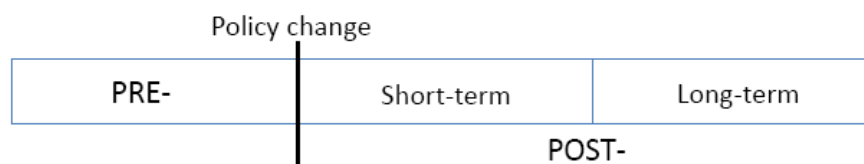
IV. Empirical Analysis

The above assessment of the literature review reveals that Bangladesh signed the Paris Declaration on Aid Effectiveness in 2005 and attended its follow-up conferences in Accra and Busan to

improve the aid-growth relationship of the nation. The country committed to adopting better aid management mechanism, harmonization with donors, enhancement of state systems, and so on to achieve the stated objective. There has been significant progress in line with the Paris commitment in the subsequent years of the declaration. Nevertheless, weak Public Financial Management (PFM) and capacity constraints impede the effectiveness of aid in improving the economic development of the country. Moreover, the country is yet to formulate an aid policy and thus the absence of such policy limits the government's capability to decide the aid-receiving sectors, aid-driven programs, and aid delivery modalities and so on, which is still determined by the development partners. Hence, the focus of this research is to examine whether foreign aid has a substantial effect in raising the economic growth of Bangladesh against its perverse macroeconomic consequences of aid dependency, volatility and Dutch Disease after the signing of the Paris Declaration in 2005, as compared to its situation before it.

IV.1. Methodology

The methodology used in this research is similar to Connors (1979), Noorbakhsh and Paloni (1998) and Noorbakhsh and Paloni (1999), where the before-after approach is used to explain the progress of the variables in the period following the policy change, as well as evaluate the statistical significance of those changes, and then comparing them with the same variables preceding the policy change period, as shown below:



We considered the impact of foreign development assistance on the economic growth and other macroeconomic indicators of Bangladesh, before and after the signing of the Paris Declaration. The period of analysis is from 2000 to 2015, where 2005 is the year of policy change when the Declaration was signed. This sample period is broken down in the following sub-periods.

Pre-Paris Declaration: FY2000/2001- FY2004/2005

Post-Paris Declaration: FY2005/2006 - FY2009/2010 (Short-term)

FY2010/2011- FY2014/2015 (Long-term)

FY2005/2006 - FY2014/2015 (Overall)

The time frame is selected based on the availability of data. The five-year average between 2000 and 2005 is a reasonable approximate to represent the pre-Paris Declaration era. In addition to comparing variables over periods of equal length, the breakdown also includes the longer sub-period between 2005 and 2015 to assess the overall impact of Paris Declaration on aid effectiveness in Bangladesh.

The correlation coefficient between foreign aid and economic growth has been scrutinized to

determine the aid-growth relationship in the above-stated periods. Although foreign aid consists of ODA, private donations, NGO support and much more, this study relies only on assessing ODA,⁴ because other aid consists of a very insignificant portion of total country assistance and hence does not make a significant contribution to economic growth of Bangladesh. On the other hand, real GDP per capita (in 2010 constant US\$) has been used as the indicator of economic growth since it considers the total income of the economy in per capita terms and hence is a better indicator than the total national income.

Ram (2003) showed that there is a significant difference in the result when multilateral and bilateral aids are considered separately in a growth regression. Hence, we examined the correlation coefficient of total aid with GDP per capita; bilateral aid with GDP per capita, and multilateral aid with GDP per capita.

The statistical significance of the correlation coefficient is tested using both the parametric and non-parametric tests and the results are accordingly compared among pre and post-reform periods. The Pearson product-moment correlation coefficient test is conducted to test the null hypothesis that the population correlation coefficient is zero against the alternative hypothesis that the coefficient is different from zero. Similarly, the non-parametric test, Spearman rank correlation coefficient test, is performed with the same null and alternative hypotheses. Non-parametric tests are better than parametric tests when the sample size is small (Fagerland, 2012). Since our sample size is 5 and 10 years, the non-parametric tests are useful for this analysis besides the t-tests.

On the contrary, the flow of external resources increases the risk of various adverse macroeconomic effects. For instance, most African governments are highly aid-dependent by considering aid as a permanent and reliable source of income (Moyo, 2009). To check the aid-dependency in the context of Bangladesh, we will compare the following three ratios during the stated sub-periods:

- Aid/GNI
- Outstanding external debt/GDP⁵
- Aid/Public Investment

The period averages of the above ratios are evaluated to reduce the year to year random fluctuations in the data (Noorbakhsh and Paloni, 1999). Higher ratios predict greater aid-dependence. Additionally, we introduced various statistical techniques to determine the statistical significance of the observed mean difference in the above ratios before and after the Paris Declaration. A paired sample t-test, which is a parametric test, is conducted to examine the average difference in the ratios under the null hypothesis that the population means are the same among the sub-groups against the alternative hypothesis that they are different in the post-reform periods. The non-parametric test for the related paired sample t-test, the Wilcoxon Signed Rank test, is also carried out to verify the similar hypothesis. Although some researchers have used the non-parametric

⁴ ODA figures are not available in real terms in the database of Bangladesh's Economic Relations Division (ERD). In the absence of real values, Iulai (2014) has used the consumer price index (CPI) to adjust the nominal aid figures into real terms, and this methodology has also been adapted here, setting CPI of 2010=100. Since aid money is mostly used to purchase domestically produced consumer goods, the CPI seems to be an acceptable conversion factor in this case.

⁵ To be consistent with the aid data, outstanding external debt has also been converted into real values, using the Consumer Price Index (2010=100). Real GDP is determined using 2010 constant US\$.

equivalent of independent sample t-test,⁶ i.e., the Mann-Whitney U test, its use in the before-and-after analysis is inappropriate. The reason is that the U test assumes that two independent samples come from the same population, but since time series data are usually correlated, the hypothesis of independence does not hold in the before-and-after approach (Noorbakhsh and Paloni, 1998).

UNCTAD (2000) showed that foreign aid receipts are more volatile than exports or other government revenues in the LDCs. Empirical research also demonstrates that the volatility of external support sets back the aid-growth relationship (Oya and Pons-Vignon, 2010). For the purpose of this research, we examined the aid volatility, measured by the coefficient of variation of the total aid disbursed (similar to the method used in Hudson and Mosley (2007)) during the above considered periods, and then tested the significance level accordingly using both parametric and non-parametric tests.

Similarly, the massive inflow of foreign funds enhances the supply of foreign currency compared to its demand, appreciating the domestic exchange rate with harmful effects on the international competitiveness of the economy. This is known as the Dutch Disease (Oya and Pons-Vignon, 2010). The scope for Dutch Disease in the case of Bangladesh has been examined through the correlation coefficient between ODA disbursed by top 5 donors and the appreciation/depreciation rate of Bangladeshi taka against their respective donors' currencies,⁷ before and after the cutoff period. The significance of this pair of correlation coefficient is then tested using both Pearson product-moment correlation coefficient and Spearman rank correlation coefficient tests. Positive correlation coefficient at considerable significance level demonstrates possibilities for Dutch Disease.

IV.2. Presentation of Results

The Pearson product-moment correlation coefficient between foreign aid and GDP per capita of Bangladesh during pre and post-Paris Declaration is compared in Table 3. The significance level for the correlation coefficient is tested with the null hypothesis that the population correlation coefficient is zero against the alternative hypothesis that it is different from zero. One of the main assumptions of Pearson correlation coefficient test is the normal distribution. The Shapiro-Wilk W test (available upon request) has confirmed the normality of all data with a p-value greater than 0.01. Other assumptions such as linear relationship, minimum outliers, and homoscedasticity of the data are also satisfied via scatter plots of foreign aid and GDP per capita (available upon request). The probability of rejecting the null hypothesis is presented with an asterisk (*) beside the coefficient in Table 3.

⁶ See for example, Reichmann and Stillson (1978), Connors (1979), and Killick (1984).

⁷ Since the trade-weighted exchange rate of Bangladeshi taka against US \$ is not available, we could not determine the possibilities of Dutch Disease using the correlation coefficient between total, bilateral and multilateral aid and the appreciation/depreciation rate of Bangladeshi taka calculated from the trade-weighted exchange rate. Instead, we have examined the correlation coefficient of the top 5 donors' aid with the appreciation/depreciation rate of Bangladeshi taka derived from the exchange rate of the respective donors' currencies, since the five largest development partners disburse the majority of the funds in Bangladesh (ERD, 2015).

Table 3: Pearson Correlation Coefficient between GDP per capita and Foreign Aid

Pre-Paris Declaration		Post-Paris Declaration		
		(Short-Term)	(Long-Term)	(Overall)
FY2000/2001-FY2004/2005		FY2005/2006-FY2009/2010	FY2010/2011-FY2014/2015	FY2005/2006-FY2014/2015
GDP per capita:				
Total Aid	-0.5812	0.2143	0.7976	0.0205
Bilateral Aid	-0.974***	-0.8591*	0.6197	0.6157*
Multilateral Aid	0.1143	0.5943	0.2649	-0.4889

NOTES: *Correlation Coefficient significant at 10 percent level

** Correlation Coefficient significant at 5 percent level

*** Correlation Coefficient significant at 1 percent level

Source: Author's computation.

The above table shows that there is hardly any correlation between income per capita and the total development assistance before and after the signing of Paris Declaration in 2005. The significance level is not strong enough to conclude that the relationship between foreign resource flows and economic growth has become stronger in the aftermath of the policy change period.

In the case of bilateral aid, while the correlation coefficient suggests strong negative association at 99 percent confidence interval before 2005, the relationship turned out to be a moderate positive correlation in the overall 10 years after the declaration, which signifies that economy of Bangladesh is progressing with the aid of its bilateral development partners. Similarly, while the affiliation between multilateral aid and economic growth was feeble before 2005, the relationship does not turn out to be stronger after the cutoff period at the 1 percent, 5 percent or 10 percent significance levels.

The Spearman rank correlation coefficient is presented in Table 4. It assesses the statistical dependence between the ranking of GDP per capita and foreign aid (total/bilateral/multilateral) using a monotonic function (whether linear or not). The assumption of the monotonic relationship is verified through a scatter plot (available upon request).

Table 4: Spearman Rank Correlation Coefficient between GDP per capita and Foreign Aid

Pre-Paris Declaration		Post-Paris Declaration		
		(Short-Term)	(Long-Term)	(Overall)
FY2000/2001-FY2004/2005		FY2005/2006-FY2009/2010	FY2010/2011-FY2014/2015	FY2005/2006-FY2014/2015
GDP per capita:				
Total Aid	-0.5	0.1	0.7	0.0061
Bilateral Aid	-1***	-0.9**	0.7	0.5636
Multilateral Aid	0.4	0.3	0.6	-0.6485*

NOTES: *Correlation Coefficient significant at 10 percent level

** Correlation Coefficient significant at 5 percent level

*** Correlation Coefficient significant at 1 percent level

Source: Author's Computation.

The results of the Spearman rank-order correlation coefficient are similar to the Pearson correlation coefficient. The relationship between GDP per capita and total development assistance is almost zero during Pre and Post-Paris Declaration eras. In the case of bilateral aid, the income per capita is strongly negatively correlated before 2005, and although the relationship has improved in the long-term and overall period after Paris Declaration, however, the correlation coefficient is not statistically significant. Finally, the affiliation between multilateral aid and economic growth of Bangladesh turns out to be negatively correlated at a 10 percent significance level in the 10 years following the declaration as per Spearman rank-order correlation coefficient.

Thus, based on the two correlation coefficient tests, we can conclude that the relationship between foreign assistance and economic growth in Bangladesh has not improved after the signing of the Paris Declaration. Moving on to the adverse macroeconomic effects of foreign aid, the table below shows the aid-dependency ratios in Bangladesh.

Table 5: Aid Dependency Ratios during Pre- and Post-Paris Declaration Sub-phases

Pre-Paris Declaration		Post-Paris Declaration		
		(Short-Term)	(Long-Term)	(Overall)
FY2000/2001-FY2004/2005		FY2005/2006-FY2009/2010	FY2010/2011-FY2014/2015	FY2005/2006-FY2014/2015
Aid Dependency:				
Aid/GNI	0.02	0.019	0.015	0.017
Debt Outstanding/GDP	0.004	0.002	0.001	0.002
Aid/Public Investment	0.0036	0.0039	0.0024	0.003

NOTES: The table contains the mean ratio in each period

Source: Author's Computation.

Oya and Pons-Vignon (2010) state that a country is aid-dependent when international assistance corresponds to 15 percent or more of their GNI. According to Table 5, the aid/GNI ratio is only 2 percent before 2005; then it declined slightly to below 2 percent in the aftermath of the Paris Declaration. Thus, aid/GNI ratio suggests that Bangladesh is not aid-dependent in the pre and post-Paris Declaration phases.

The debt to GDP ratio has also declined slightly from 0.4 percent to 0.2 percent and 0.1 percent, respectively in the subsequent periods of the Paris Declaration. The third ratio shows that the share of aid to public investment was only 0.36 percent before 2005, and there was a very slight change in the ratio after 2005.

We have further tested the significance of the difference in the above average ratios using the paired sample t-test where the null hypothesis is that the aid-dependency ratios are the same before and after the Paris Declaration against the alternative hypothesis that they are different. The related paired sample t-test is used to compare the means between two related groups on the same continuous, dependent variable. The assumptions of the paired sample t-test, i.e., the normality of the difference between the two similar groups have been verified through the Shapiro-Wilk W test,

while the absence of significant outliers was determined through outlier labeling rule.⁸

The results of the two-sample t-test is presented in Table 6, which illustrates the significance level for rejecting the null hypothesis that the aid-dependency ratios are equal during Pre and Post-Paris Declaration. In the case of Aid/GNI ratio, the significance level during the short-term, long-term and overall period after the policy change suggest that we can reject the null hypothesis that the aid dependency ratios are similar at 10 percent significance level during the short-term and at 5 percent during the long-term and overall periods.

Table 6: The Paired Sample t-tests for Aid Dependency Ratios

Variables	Periods	t -statistics	Attained Significance (Ha:diff≠0)
Aid/GNI	Short-term	2.4446	0.0709
	Long-term	2.9533	0.0418
	Overall	2.8835	0.0449
Debt Outstanding/GDP	Short-term	18.0628	0.0001
	Long-term	32.3497	0
	Overall	10.928	0.0004
Aid/Public Investment	Short-term	-1.2971	0.2643
	Long-term	3.9252	0.0172
	Overall	1.4758	0.214

NOTES: diff=Variables during Pre-Paris Declaration minus Variables during Post-Paris Declaration

The t-statistics is calculated at 95% confidence interval

Source: Author's Computation.

The same applies for the Debt/GDP ratio, where we can reject the null hypothesis at a probability of 0.01 and conclude that the ratios are not same in the pre and post-reform phases. However, we cannot reject the assumption that the aid/public investment ratio is the same in the subsequent five years and for the overall 10 year period after the Paris Declaration. Nevertheless, the hypothesis can be dismissed at the 10 percent significance level during the long-term following the declaration.

The non-parametric test for the dependent samples t-test is the Wilcoxon Signed Rank test. We also conducted the non-parametric test for the dependent samples t-test, which is the Wilcoxon Signed Rank test for the aid-dependency ratios with the same null and alternative hypothesis. Since our dataset is in ratios and comes from two related groups: before and after the declaration, it satisfies the assumptions of this non-parametric tests that the variables are ordinal, and that the variables come from the two matched pairs of observations. Moreover, given that the above mentioned outlier labeling rule examination showed that the difference between the two related groups tended to be symmetrical in shape, the Wilcoxon Signed Rank test was used to investigate any change in scores from one time point to another, as shown in Table 7.

⁸ The results of these tests are available upon request.

Table 7: Wilcoxon Signed Rank test for Aid-dependency Ratios

Variables	Periods	Sum of Rank		Z-statistics	p-value Exact Sig. (2-tailed)
		Positive	Negative		
Aid/GNI	Short-term	1	14	-1.753	0.125
	Long-term	1	14	-1.753	0.125
	Overall	1	14	-1.753	0.125
Debt Outstanding/ GDP	Short-term	0	15	-2.023	0.063
	Long-term	0	15	-2.023	0.063
	Overall	0	15	-2.023	0.063
Aid/Public Investment	Short-term	12	3	-1.214	0.313
	Long-term	0	15	-2.023	0.063
	Overall	4	11	-0.944	0.438

Source: Author's Computation.

The p-value for Aid/GNI ratio in the Wilcoxon Signed Rank test suggests that the null hypothesis cannot be rejected in all the three phases following the Paris Declaration, i.e., the ratio is the same before and after the declaration. However, for outstanding debt/GDP ratio, the null hypothesis can be rejected at a probability of 0.1 in all the three phases after the Paris declaration. Finally, the p-value of Aid/ Public Investment portrays that although the aid/public investment ratios are significantly different in the long-term; they are not statistically different in the other two periods.

The second negative macroeconomic impact of foreign aid considered in this study is the aid volatility. We measured the aid volatility by the coefficient of variation of total aid disbursed in the prescribed periods as shown in Table 8.

Table 8: Aid Volatility during Pre- and Post-Paris Declaration Sub-phases

Pre-Paris Declaration		Post-Paris Declaration		
		(Short-Term)	(Long-Term)	(Overall)
FY2000/2001-FY2004/2005		FY2005/2006-FY2009/2010	FY2010/2011-FY2014/2015	FY2005/2006-FY2014/2015
Aid Volatility:				
Coefficient of Variation of total aid disbursed	0.19	0.07	0.14	0.11

Source: Author's Computation.

Table 8 portrays that the difference in aid disbursements is 19 percent between 2001 and 2005, whereas the ratio is 7 percent and 14 percent respectively in the subsequent 5 years after the declaration. Nevertheless, the coefficient of variation of total aid disbursement has declined to 0.11

in the overall 10 years after the country has adopted the Paris Declaration policies in 2005.

Since the variables before and after the Paris Declaration consists of two matched pairs of observations, we have further examined the significance of the increase in the average score of aid volatility using the paired sample t-test. The assumption of such test, i.e., the normality of the difference in the distribution is verified with the Shapiro-Wilk normality test and the fact that there is no significant outlier in the gap between the two related groups is noticeable through the outlier labeling rule.⁹

Table 9 seems to indicate that aid volatility has not changed significantly after the cutoff period. The significance level illustrates that in all the three periods: short-term, long-term and the overall period, the null hypothesis cannot be rejected at a probability of 0.1 or below.

Table 9: Paired Sample t Tests for Aid Volatility

Variables	Periods	t -statistics	Attained Significance (Ha:diff≠0)
Aid Volatility	Short-term	0.8409	0.4477
	Long-term	0.9888	0.3788
	Overall	1.0487	0.3535

NOTES: diff=Aid Volatility during Pre-Paris Declaration minus Aid Volatility
during Post-Paris Declaration

The t-statistics is calculated at 95% confidence interval

Source: Author's Computation.

Table 10 presents the results of the Wilcoxon Signed Rank test for aid volatility. Since this variable comes from two related matched pairs of observation, it satisfies the assumptions of this non-parametric test. Additionally, the above mentioned outlier labeling rule showed that the difference between the related groups is approximately symmetrical in shape.

Table 10: Wilcoxon Signed Rank test for Aid Volatility

Variables	Periods	Sum of Ranks		Z-statistics	p-value Exact Sig. (2-tailed)
		Positive	Negative		
Aid Volatility	Short-term	5	10	-0.674	0.625
	Long-term	3	12	-1.214	0.313
	Overall	5	10	-0.674	0.625

Source: Author's Computation.

⁹ The results of these tests are available upon request.

The Wilcoxon Signed Rank test for aid volatility in Table 10 confirms similar results like the parametric test, i.e., aid volatility has not changed significantly in all the three phases following the Paris declaration. Thus, although Table 8 shows that the coefficient of variation declines after the Paris Declaration, such reduction is not statistically significant, as confirmed by both the paired sample t-test and the Wilcoxon Signed Rank test.

The final negative macroeconomic consequences of foreign aid considered in this study is the Dutch Disease, which suggests that international inflows of foreign currency lead to an appreciation of the domestic currency, which then leads to a reduction in various international transactions such as exports and FDI.¹⁰ Table 11 shows that the Pearson product-moment correlation coefficient between total aid disbursed by various donors and the appreciation/depreciation rate of Bangladeshi taka against the respective donors' currencies. The variables of the distribution are approximately normally distributed (as confirmed through a Shapiro Wilk test which is available upon request) and the other assumptions such as linear relationship, minimum outliers, and homoscedasticity of the data were also satisfied through inspecting the scatter plots of foreign aid and GDP per capita (available upon request).

Table 11 also shows that the Pearson product-moment correlation coefficient between total aid disbursed by various donors and the appreciation/depreciation rate of Bangladeshi currency has changed slightly after the Paris Declaration as compared to its situation before it. Nonetheless, the significance of rejecting the null hypothesis that the correlation coefficient is zero is fragile as shown in the above table. Hence, we can conclude that the relationship between external development assistance and appreciation/depreciation rate in Bangladesh is negligible during the pre and post-reform phases.

Table 11: Pearson Correlation Coefficient between the Exchange Rate and Foreign Aid

Pre-Paris Declaration		Post-Paris Declaration		
		(Short-Term)	(Long-Term)	(Overall)
FY2000/2001-FY2004/2005		FY2005/2006-FY2009/2010	FY2010/2011-FY2014/2015	FY2005/2006-FY2014/2015
Appreciation/Depreciation rate				
Aid from IDA	0.2873	-0.2021	0.6843	0.122
Aid from ADB	-0.5638	0.3417	0.6106	0.3383
Aid from Japan	0.2205	-0.7908	0.5858	0.511
Aid from th UN system (excl. UNICEF)	0.7127	0.0248	-0.1926	-0.0278
Aid from UK	-0.3526	-0.2552	-0.5931	-0.1486

NOTES: Appreciation/Depreciation of Bangladeshi taka against the respective donors' currency

*Correlation Coefficient significant at 10 percent level

**Correlation Coefficient significant at 5 percent level

***Correlation Coefficient significant at 1 percent level

Source: Author's Computation.

¹⁰ Oya and Pons-Vignon (2010).

Since all the variables were not normally distributed, the Spearman rank correlation coefficient is a better measure than Pearson product-moment correlation coefficient in this regard. The Spearman rank correlation coefficient in Table 12 shows somewhat similar result like Pearson correlation coefficient that is foreign aid from the top five donors in Bangladesh and the appreciation/depreciation rate of Bangladeshi taka are not very related. Hence, we can conclude that the possibility of aid creating Dutch Disease is limited in Bangladesh.

Table 12: Spearman Rank Correlation Coefficient between the Exchange Rate and Foreign Aid

Pre-Paris Declaration		Post-Paris Declaration		
		(Short-Term)	(Long-Term)	(Overall)
FY2000/2001-FY2004/2005		FY2005/2006-FY2009/2010	FY2010/2011-FY2014/2015	FY2005/2006-FY2014/2015
Appreciation/Depreciation rate				
Aid from IDA	0.2873	-0.2021	0.6843	0.122
Aid from ADB	-0.5638	0.3417	0.6106	0.3383
Aid from Japan	0.2205	-0.7908	0.5858	0.511
Aid from the UN system (excl. UNICEF)	0.7127	0.0248	-0.1926	-0.0278
Aid from UK	-0.3526	-0.2552	-0.5931	-0.1486

NOTES: Appreciation/Depreciation of Bangladeshi taka against the respective donors' currency

*Correlation Coefficient significant at 10 percent level

**Correlation Coefficient significant at 5 percent level

***Correlation Coefficient significant at 1 percent level

Source: Author's Computation.

V. Summary of Findings and Conclusion

The relationship between foreign resource flows and domestic savings/investments is very weak or negligible in Bangladesh during the observation period. Since the signing of the Paris Declaration, there has been a growing concern that the government of Bangladesh should enhance its ownership and take an active role in aid coordination and management. Bangladesh government attempted to play a proactive role in aid management through the formation of the Joint Cooperation Strategy (JCS), the Local Consultative Groups (LCGs) and the Bangladesh Development Forum (BDF), where the donors and the recipient were able to hold each other accountable for their actions (OECD, 2011). However, without a proper aid policy, such initiatives are only in theory but not in practice. As a result, foreign assistance in Bangladesh could not convert to sufficient investment and economic growth, even after joining the Paris Declaration Forum in 2005.

One of the fundamental limitations of the implementation of the Paris Declaration in Bangladesh is the inadequate capacity of the public sector institutions. As a result, enormous amounts of aid are available but unutilized within the economy, leading to the cancellation of further funding from the donor communities (OECD, 2011).

The goal of the Paris Declaration is to reduce aid fragmentation and manage the diversity of cooperation so as to ensure that the funding reaches its required sectors, by eliminating unnecessary transaction costs. Although the government of Bangladesh introduced the Harmonization Action Plan (HAP) in 2006 in line with the Paris Declaration which aims to improve coordination between the recipient and the development partners, however, poor institutionalization and ownership of the public sector resulted in the very little implementation of HAP in Bangladesh (OECD, 2011). Another key reason that the aid money is not converted into productive investment and economic growth is the high level of corruption within the country. Bangladesh stood 144th out of 174 countries on Transparency International's Corruption Perceptions Index, which is why most of its funds are off-budget (Busan Building Block, 2014).

According to the evaluation of the Paris Declaration by the OECD in 2011, Bangladesh could meet only three out of twelve indicators of the Paris Declaration. There is little improvement in ownership and operational development strategies in the case of Bangladesh. Donor procedures often cause delays, resulting in more unpredictable aid than before. Other notifying factors include politicized nature of aid coordination in the line ministries, volatile political environment, and lack of comprehensive capacity development mechanisms and so on (OECD, 2011).

According to Quibria and Islam (2015), foreign assistance is often too small to have any considerable effect in the recipient countries. Same is the case for Bangladesh where the amount of external funding is very insignificant compared to the total output of the economy (as per figure 2.1 and 2.6). However, while the amount of foreign assistance has been reduced to half since the independence, the growth rate of GDP has become more than doubled, suggesting that the country can survive proficiently without external support.

On the contrary, the relationship between bilateral aid and economic growth in Bangladesh is significantly positive in the ten years after the Paris Declaration. Since most of the bilateral donors also endorsed the declaration (OECD, 2011), hence the Paris Declaration was effective in enhancing the GDP per capita through bilateral external assistance, if not for the total foreign aid in Bangladesh.

One of the perverse macroeconomic impacts of foreign funding, i.e., aid-dependency is at a minimum in Bangladesh and has declined further after the Paris Declaration. The limited aid-dependency enables Bangladesh to execute the negotiating power to enhance the impact of the development finance unlike most other aid-dependent countries (Busan Building Block, 2014).

So far the study reveals that Bangladesh has achieved autonomy in its domestic production and also lessened aid-dependency; however, the relationship between aid and growth is approximately zero. According to ERD (2015), most of the international finances coming to the country are for disaster management, climate change adaptation and so on, which has no direct effect with the GDP per capita. That is why the relationship between foreign support and income per capita is fragile.

However, we found that aid volatility has not declined significantly after the Paris Declaration, which means that foreign assistance is still unpredictable in Bangladesh. Despite significant developments in enhancing aid predictability, the rate of disbursement is much lower than its commitment, hence large amounts of the fund remains on the pipeline. Capacity constraints in the government agencies and complicated donor procedures result in 20 percent of the aid being un-

disbursed every year (OECD, 2011).

Quibria and Islam (2015) state that foreign aid has limited price effect in the developing countries like Bangladesh where there are unemployment and inadequate capacity. Hence, the scope of Dutch Disease is less for those countries operating below their productive potentials, which has been confirmed in this analysis. Table 11 clearly illustrates that there is a weak correlation between foreign aid and appreciation/depreciation rate in Bangladesh before and after the Paris Declaration.

To sum up, the macroeconomic impact of foreign aid in Bangladesh is very much mixed. On the positive side, the country is not aid-dependent and external flows have not appreciated the domestic currency. However, on the negative side, foreign assistance is volatile and its relationship with economic growth is approximately zero. Although the country made some contribution to adopt the Paris Declaration principles, such as the formation of the Joint Cooperation Strategy (JCS), the Bangladesh Development Forum (BDF), and the Harmonization Action Plan (HAP), these measures need time to operationalize. Ten years are a very short time to observe any noticeable change in a developing country like Bangladesh where the pace of institutional changes is slow. Notwithstanding all the drawbacks of the external funding, the country is on the ladder of development, with exponentially rising growth rates, implying that it can survive on its own without foreign finance.

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