

Does Current Account Increase the Economic Growth in Bangladesh? The Analysis of GMM Technique

Md. Hasanur Rahman^{1*}, Azer Dilanchiev²

¹Department of Economics, Comilla University, Cumilla-3506, Bangladesh;

²Department of Economics, International Black Sea University, Georgia

*Email: hasanur.cou@gmail.com

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Abstract

Current account balance has played a role to enhance economic growth in Bangladesh. The major concentration of this study is to analyze the current account components of the balance of payment (BOP). This paper deals with quarterly base data from 2012Q3 to 2019Q4. The Generalized Method of Movement (GMM) technique has been implied to measuring the current account impact on economic growth. Four models have been developed where the estimated models deal with the current account balance (CAB) as the key variable. The result of model-1 represents that the current account has a negative relationship with economic growth in consideration of merchandise goods export and import. Model-2 to 4 represents that the current account has a positive impact on economic growth in Bangladesh. The sufficient current account is expected towards the purpose of financial and economic development where trade balance and service account have a significant role.

Keywords: BOP, Current account, Economic growth, GMM estimations

Introduction

The balance of payment (BOP) is a measurable proclamation expected to give a nitty-gritty record to a given timeframe of an economy's exchanges with the remainder of the world. Their primary devices are the current account and the financial account. Using of BOF in foreign monetary standard is a leading and an antagonistic component. The BOP has presented some undefined time frame, sum up global exchanges for typically one year, and set up in solitary money, where the domestic currency of the nation is concerned. Wellsprings of a country's assets are recorded as certain or surplus merchandise, for example, fares or credits and venture receipts. The utilization of assets for imports or speculations abroad is accounted as deficit sign.

When all elements of the BOP sheet in Bangladesh are used, it must amount to zero and there should be no net surplus or deficit is expected. For example, if a nation imports more than it exports, the trade balance of BOP will be in deficit, but in other cases, the short decline will have to be compensated either by the depletion of reserves or by the receiving of loans from other nations. For example, the funds obtained from its foreign investment. The current account balance scenario of Bangladesh in FY 2000-01 was -5957.3 (BD taka in cores), where the volume was increased to 8916.3 cores in 2011-12. The current account had fallen to -33489.1 cores in FY 2018-19.

An economy being a net debtor to the rest of the world reflects a current account deficit. The reason is, when a nation spends more than it saves, it uses the resources of other economies to fulfill its requirements for domestic consumption and investment (Thomas, 2018). Consequently, intervention to reduce a large current account deficit (CAD) usually means increasing exports (goods leav-

ing a country and entering countries abroad) or decreasing imports (goods coming from a foreign country into a country). This is characteristically achieved directly through import caps, quotas, or duties (although they can also restrict exports indirectly) or through export subsidization. By manipulating the exchange rate to make exports cheaper for foreign purchasers, the balance of payments will be indirectly strengthened. This is done mainly by the devaluation of the domestic currency. The government increases its expenditure to support the domestic producers.

When all types of payments are included, the overall BOP sheet will still balance though imbalances on individual BOP items, such as the current account are possible. This can contribute to capital hoards being accumulated by surplus countries, while deficit nations are increasingly indebted (Mann, 2002). Historically, there have been numerous approaches to the questions of how to correct the disparity. And there have also been debates about whether governments should be concerned or not. A common dissection was between visible and invisible records, particularly in the older balance sheets. Imports and exports of physical goods are reported by visible trade (entries for trade in physical goods outside services are now also referred to as merchandise balance). Invisible trade will document the foreign purchase and sale of services; it would often be grouped as invisible earnings with transfer and factor earnings.

Whatever, the current account balance deals with the export and imports occurring in the economy. If there is less imports of an economy, we will call it a surplus balance of the current account. On the other hand, if there is an expansion in imports, CAB will be deficit. One of the two segments of BOP, the other being capital account, involves stock fares and imports and undetectable export and imports (Moreno-Brid, 2003a). Product export and imports speak to acknowledge sections as these exchanges offer ascent to claims on foreign in financial terms. Product imports have appeared in the CAB as charge passages where, these exchanges prompt an ascent in foreign reserve claims on the nation of origin. Also, the imperceptible exports (services) have appeared as credit passages and undetectable imports have appeared as debit section.

Moreover, the main objective of this study is to measure the impact of current account balances on economic growth in Bangladesh. The specific objectives are presented below:

- 1) To analyze the components of the current account balance
- 2) To estimate the impact of the current account balance on economic growth in several aspects

Balance of payment explanatory components item

As per the 6th edition of the IMF Balance of Payments Manual (BPM) from the fiscal year 2012-13, Bangladesh Bank has been adopting a new classification system for BOP presentation. The BOP is a statistical statement for a given time, as specified by the International Monetary Fund, showing: a) dealings in products, services, and revenue between the economy and the rest of the world; b) adjustments in the monetary gold of the economy, SDRs and other financial claims and liabilities to the rest of the world; c) transmit and counterpart entries.

According to BPM6, the regular sections contained in the Bangladesh BOP statements are divided into three key categories: 1) Current Account 2) Capital Account and 3) Financial Account. The current account comprises: (a) goods and services, (b) primary income, and (c) secondary income by offsetting the provision or acquisition, without quid pro quo, of the real or financial capital of an economy for immediate consumption. The financial account displays financial asset and liability transactions. Other classifications that are applied to certain components of financial accounts are the institutional sector and the maturity of financial instruments.

Current Account Analysis

Merchandise Goods Export

Recording of goods infers arrangement or obtaining of genuine assets of an economy exchanging with the remainder of the world. The credit sections of the streams measure the given conjugal genuine assets, while the charge passages represent obtaining of genuine assets from the remainder of the world. Goods cover the general products, net fares under merchanting and non-monetary gold. Merchanting is characterized as the acquisition of merchandise by an inhabitant of the assembling economy from a non-occupant along with the resulting resale of similar products to another non-occupant without the products being available in the accumulating economy (Ahmed *et al.*, 2009).

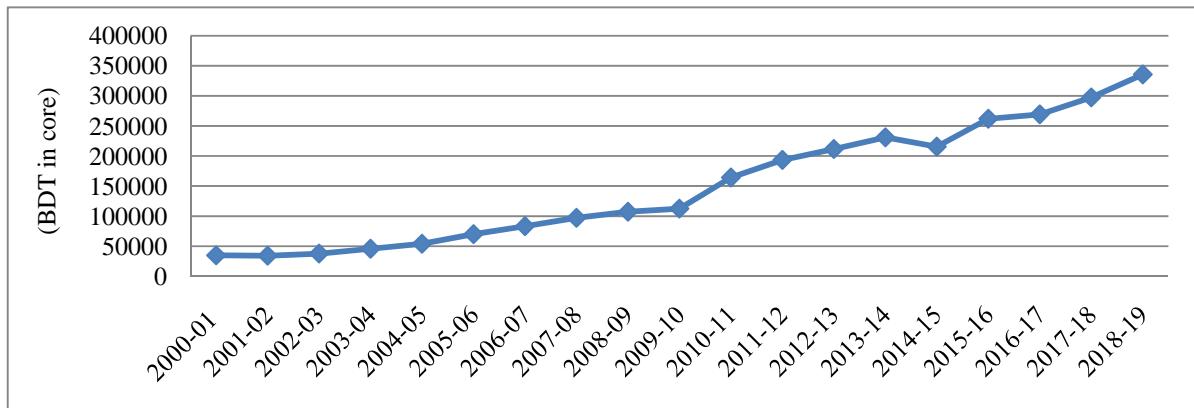


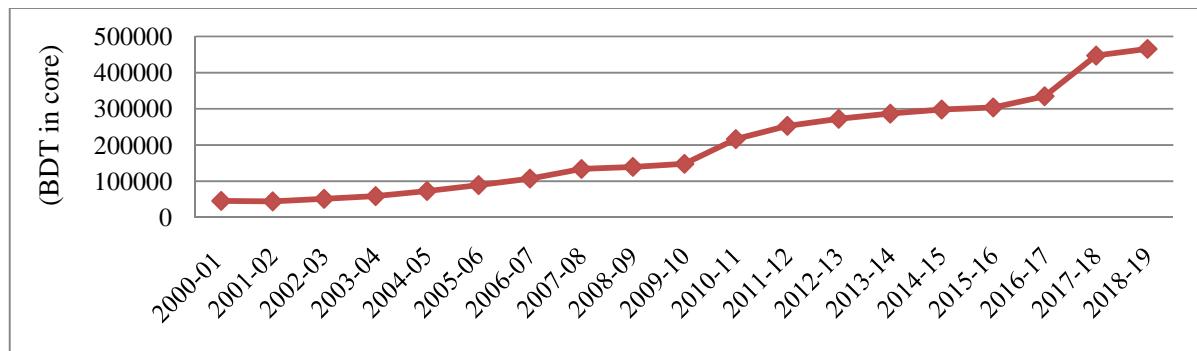
Figure 1. Merchandise Goods Export

Source: Bangladesh Bank (BB)

At the point of rising as an independent nation, Bangladesh had a generally close economy with the exchange proportion at short of what one-seventh. From that point, through product exports and imports of Bangladesh have expanded extraordinarily in amount and assortment (Rahman *et al.*, 2020). In the early years, the nation's exports were generally expanded by RMG, crude jute, and a couple of jute great things, and other merchandise. From Figure 1, the export amount in 2000-01 was 34599.6 cores, the amount increased to 230946.3 cores in 2013-2014, and the volume increased to 335633.3 cores in 2018-19. That shows a positive rate of growth. The 2007 global economic downturn arose from the sub-prime crisis in the US housing market. In 2007, the inability to anticipate and control the astronomical growth of highly toxic assets triggered a full-scale financial crisis in the United States. At the same time, however, Bangladesh is achieving a positive rate of export growth. Due to the 10th national election and political instability, the export volume in 2014-15 has a decreasing slope.

Goods Import

A nation's imports are intimately identified with the strength of the economy. It is outstanding that a nation's imports change significantly more than the gross domestic product, with the impact of a move in the development pace of Gross domestic product falling excessively on imports. The business area, along with these lines, endures the worst part of any financial variances. The worldwide economy's downturn in 2007-08 pointing to reduced import interest for the primary economies, including the principal markets of Bangladesh, the EU, China, and the US.

**Figure 2. Merchandise Goods Export**

Source: (BB)

Figure 2 indicates that there was a positive import pattern from 2000-01 to 2018-19. From the beginning of 2001-2002, the core amount of imports was 44206.2. Because of natural disasters, the economy faced a significant shortage in 2007, which is why domestic production decreased and imports of importable products increased. Import growth volume increased to 147983 cores in 2009-2010. In FY 2018-19, the import amount increased to 465793 cores. Either way, no nation is economically self-dependent on the modern economy. Each country sells its excess products to other countries and imports from other countries the required products. Bangladesh is a poor country which is dependent on agriculture and industrialism. Bangladesh must import food and other essential commodities.

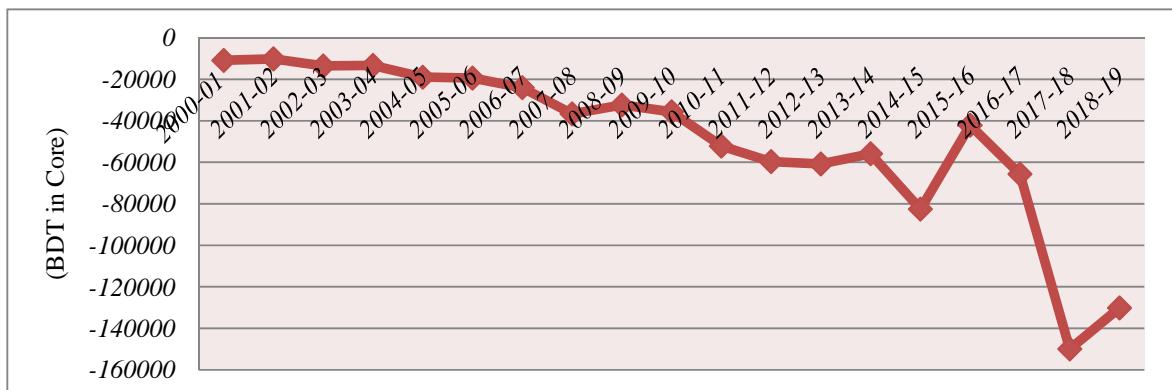
Net Trade Balance

The net trade balance is measured as the total value of exported goods and services minus the total value of imported products.

A trade surplus means that $X > M$, therefore aggregate demand (AD) will increase.

A trade deficit means that $M > X$, therefore AD will fall. There is a net leakage from the circular flow of income.

If $X = M$, then the trade balance is zero. Whatever the trade balance of the Bangladesh economy has been presented in Figure 3.

**Figure 3. Net Trade Balance of Bangladesh's Economy**

Source: (BB)

A negative trade balance in the economy is depicted in Figure 3. A trade gap implies that $M > X$ will fall, so AD will fall. There is a net leakage from the income's circular flow. With an economic imbalance pattern, the trade deficit has risen at a steady pace. At the end of 2019, however, the trade balance is heading towards the equilibrium situation predicted for the economy of Bangladesh.

Comparison between Merchandise Goods Export and Import

The speed of economic advancement of a country works as one of the most basic issues in financial discussion. A country can quicken the pace of financial development by advancing fares of merchandise and ventures. The volume of imports is contrarily identified with its general cost and changes decidedly with total interest (genuine Gross domestic product development). The higher relative value prompts replacement away from imports essentially decreasing the dollar estimation of imports as volumes decay. However, Figure 4 presents that both export and import trend are closed and upward sloped but has negative trade balance where import greater than export in the economy.

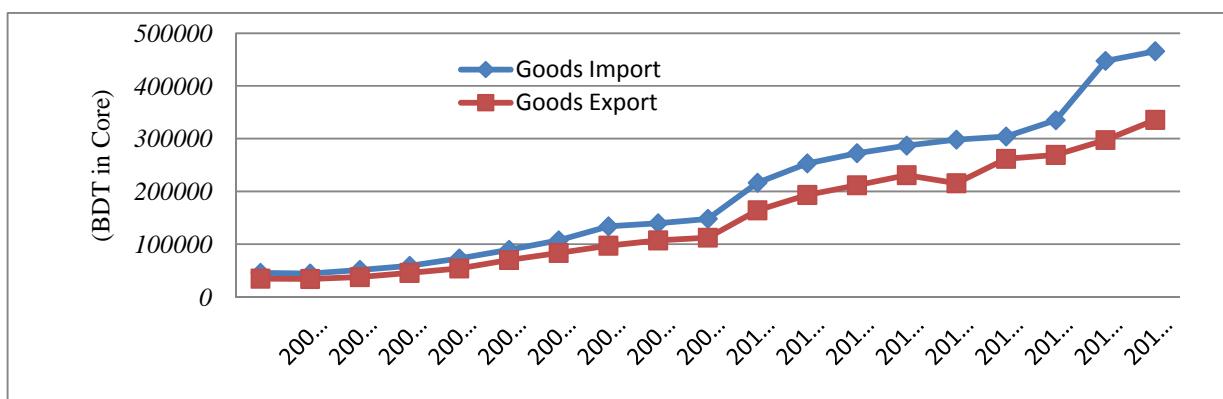


Figure 4. Comparison between Merchandise Goods Export and Import

Source: (BB)

Service Account Theory

Service recording means the provision or procurement of economic resources exchanging with the rest of the world. Credit entries measure the provision of services, and debit entries measure the purchasing of services from the rest of the world.

- 1) Manufacturing services on physical inputs: It covers processing, assembly, labelling, packing, and so forth. It is undertaken by enterprises that do not own the goods concerned here.
- 2) Maintenance and repair services: Maintenance and repair services cover maintenance and repair work by residents on goods that are owned by non-residents (and vice-versa).
- 3) Transportation: Includes all transportation activities (sea, air, rail, road, and other) undertaken by non-resident citizens and vice versa, covering the carriage of passengers, the transfer of goods (freight), the chartering of crew vessels, and other associated support and similar services.
- 4) Insurance services: Credit entries cover net premium on direct insurance and reinsurance assumed by resident insurance companies. Debit entries cover premium on merchandise insurance on imports, which are not available separately but are included in the freight.
- 5) Telecommunications: Telecommunications services encompass the broadcast or transmission of sound, images, data, or other information by telephone, radio and television cable

transmission, via satellite, e-mail including business network services, teleconferencing, and support services.

Services account Receipt

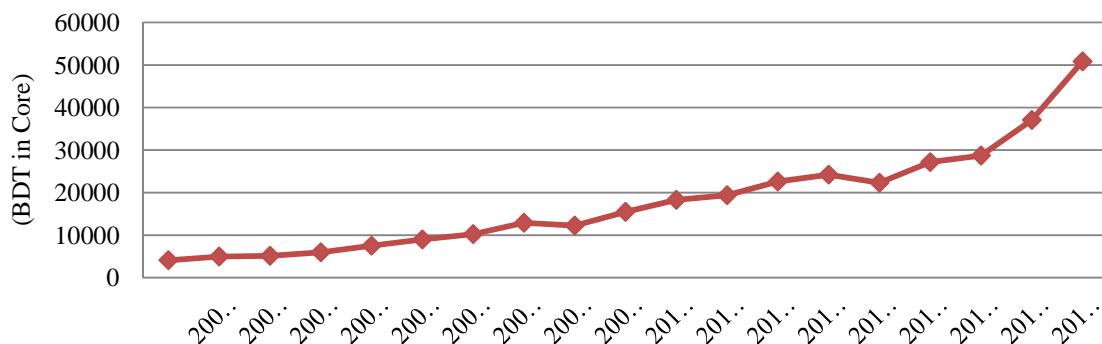


Figure 5. Services account Receipt

Figure 5 shows the service account receipt in the Bangladesh economy. Receipt account shows an upward trend in the economy, where in FY 2018-19 service account receipt 50849.1 cores. Receipt account shows a downward growth rate in FY 2008-09 because of the 9th national election and political instability. Another recessionary occurred in FY 2014-15 due to political instability.

Services Payment

The administration uses foreign strategic missions and global associations in Bangladesh and the essential charge sections are the uses identifying with Bangladesh conciliatory staff, discretionary and exchange mission, and military uses abroad.

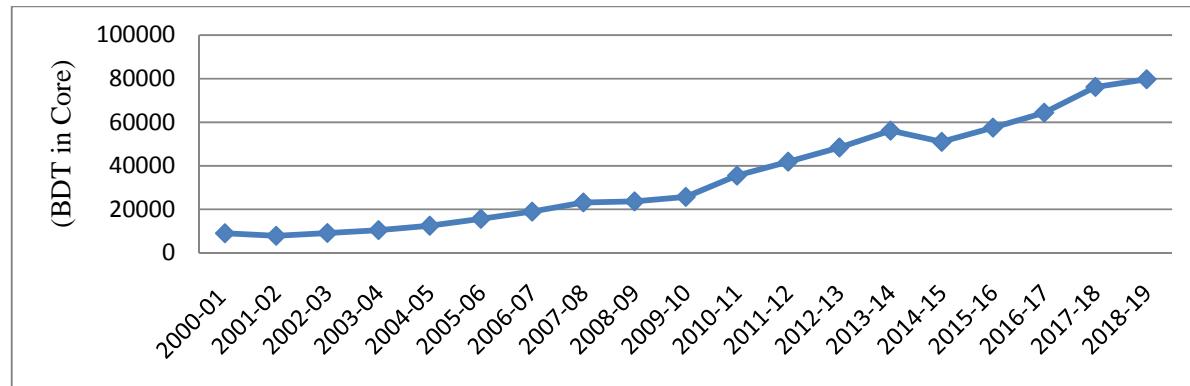


Figure 6. Services Payment

Source: (BB)

Figure 6 explains the services payment in terms of BD TK. For the beginning of FY 2000-01 volume was 9027.4 cores. The trend line shows an upward slope where the volume increases to 35500.6 cores in 20010-11. The service account payment had been increased to 79728 cores in FY 2018-19. The service account payment has increased concerning the expansion of the economy.

Comparison between Services Account Receipt and Payment

The second big group of the current account is utilities. Both the production of services and the foreign trade are distinct from the production and trade of products. Foreign trade in products is conducted for development. Goods may be manufactured in one economy and subsequently shipped to the citizens of another economy. It may or may not be identified when production take place. On the other hand, the production of a commodity is related to an agreement which is made before the time of production between a particular producer in one economy and a specific consumer or group of consumers in another.

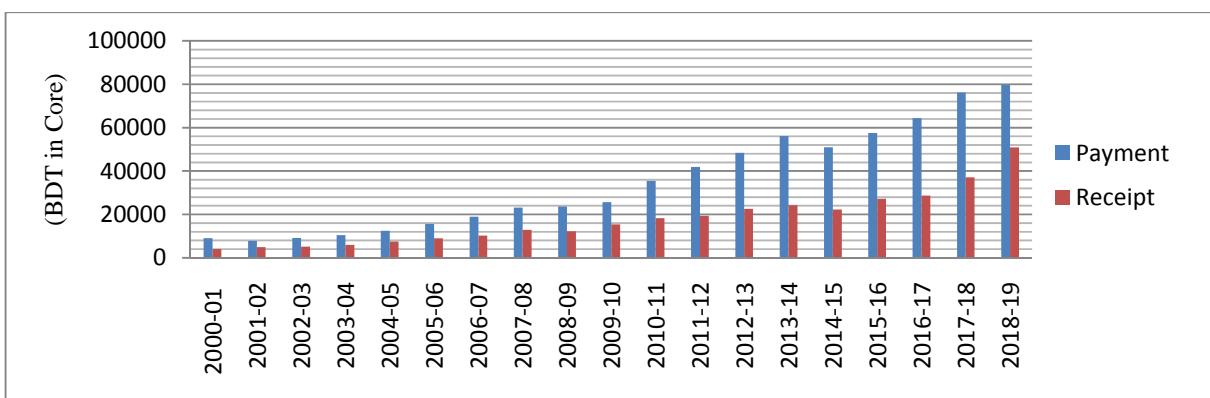


Figure 7. Comparison between Services Account Receipt and Payment
Source: (BB)

Exchanges can be defined as the most frequent and meaningful transactions found in the balance of payments. A transactor (economic entity) supplies another transactor with an economic value and receives an equivalent value in exchange. The economic values supplied from one economy to another can be narrowly classified as actual resources (goods, services, revenue) and as financial products.

$$\text{Services account receipt} < \text{service account payment} = \text{net services account negative}$$

Services account receipt and payment are upward sloped and very closed to each other in the economy. Figure 7 states that the trend line for the payment account take more expensive than the receipt account. So, receipt < payment = negative net value for services.

Primary Income Receipt and Payment

Primary income is the return received by resident institutional units for their contribution to the production process or the provision of financial assets to non-resident institutional units and the leasing of natural resources. The primary income component of the Balance of Payments is restricted to income received from the provision of two production factors, labor, and capital. Therefore, money received from labor is referred to as employee compensation, while capital earned income is called investment income.

Income receipts apply to employee benefits paid to overseas resident employees and investment income (direct investment receipts, portfolio, and other investment receipts, reserved asset receipts). Bangladesh's primary income receipt in 2014-15 was 553.9 cores and in 2018-19 it was increased to 3522.8 cores.

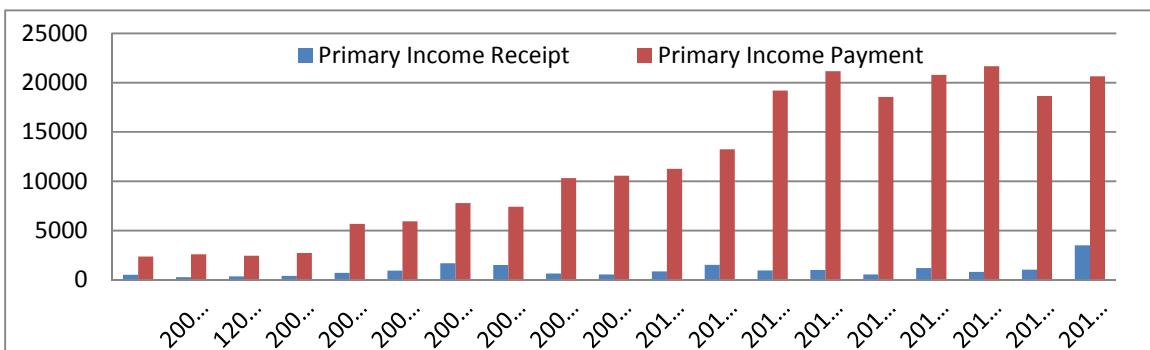


Figure 8. Primary Income Receipt and Primary Income Payment
Source: (BB)

Primary income payments are employee benefits and investment income (direct investment payments, portfolio contributions, and other investments) accrued to non-resident employees. The payment is large than the primary income receipt which means an economic deficiency and disequilibrium situation in the BOP.

Current Transfers (Net)/ Total Secondary Income (Net)

Secondary income covers two broad headings as official and private income. The secondary income includes official grants for food and commodities for immediate use and technical assistance. It also involves remittances from staff, other gifts, and contributions, etc. Private income is just some kind of income that a private citizen or a household gets, mostly derived from professional activities.

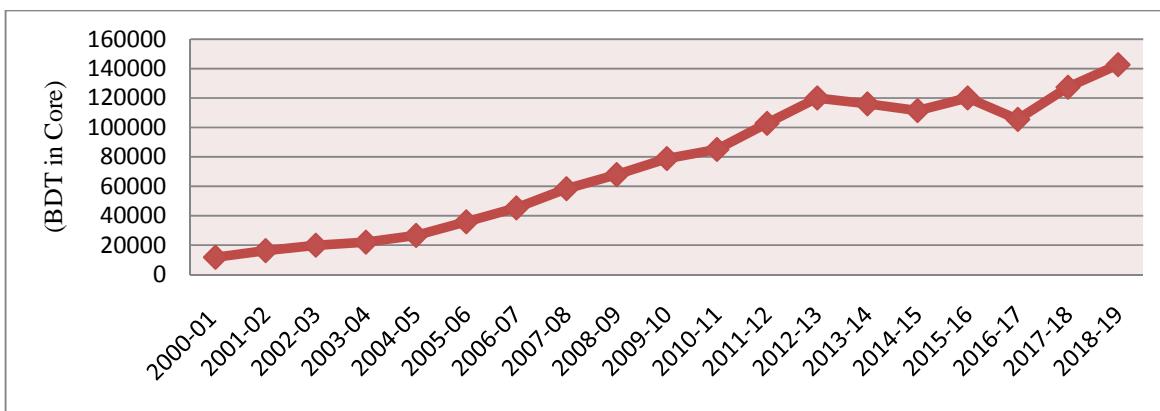


Figure 9. Total Secondary Income (Net)
Source: (BB)

Figure 9 explains the total secondary income (net). For the beginning of FY 2000-01 volume was 11714.5 cores. The trend line shows an upward slope where the volume increases to 85060.3 cores in FY 20010-11. The total secondary income had been increased to 142660.8 cores in FY 2018-19. Total secondary income has been increased concerning the expansion of economy and time.

Current Account Balance (CAB)

We clarify that the current account is generally exchanged (other than those in budgetary things) including monetary qualities and happen among inhabitant and non-occupant substances. Additionally CAB is covers the counterbalances to current monetary qualities gave or obtained without remuneration. In particular, significant orders are goods and services, income, and current transfers.

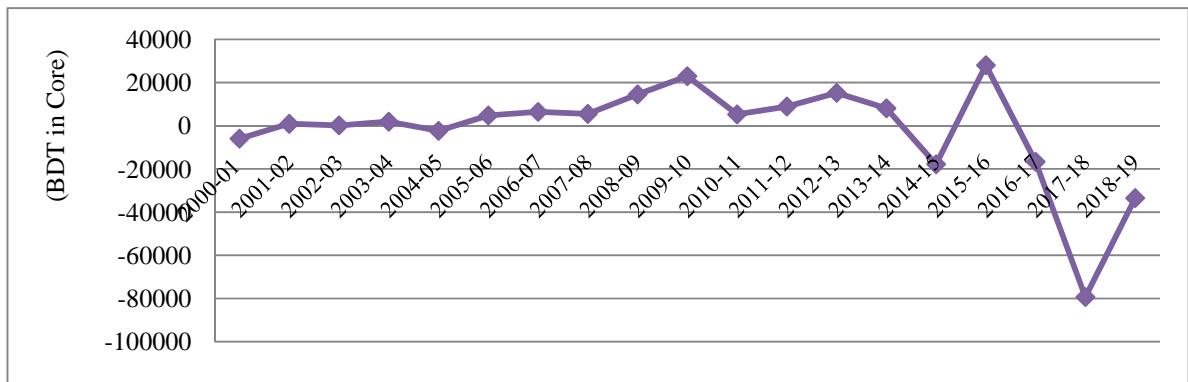


Figure 10. Current Account Balance (CAB) Overview

Source: (BB)

Figure 10 presents the current account trend for Bangladesh's economy. A volatile trend has been shown through the period of FY 2000-01 to 2018-19. At the early of FY 2000-01, the current account volume was negative -5957.3 where the volume increases to 275.3 cores in 2010-11. The current account had been fallen to -33489.1 cores in FY 2018-19 which means the trend of the current account is volatile and a stable and positive scenario is expected for economic betterment in Bangladesh.

Literature Review

There is a few research held in this subject area in Bangladesh. The impact of the current account on economic growth has never been examined by other researchers. This study will be able to open a new window in the BOP section in this economy. There are important previous work has been presented in Table 1.

Table 1: Brief of Previous Research

Name of the Author	Type of Data, Country, and Duration	Framework of the Study	Variables	Results
Pradhan <i>et al.</i> (2012)	Time series data; Bangladesh; 1997-2010	VECM	Current account, Remittances	Remittances accelerate current account and current account cause to economic growth
Rana <i>et al.</i> (2019)	Time series data; Bangladesh; 1987-2017	VAR, FMOLS	Exchange rate, BOP, GDP, International trade	Long-run relation among the variables

Name of the Author	Type of Data, Country, and Duration	Framework of the Study	Variables	Results
Mehmood (2012)	<i>Panel data; Bangladesh and Pakistan; 1976-2009</i>	<i>Regression analysis</i>	<i>GDP, Export, Import, Service, Ext. debt, Savings, FDI</i>	<i>Export, Savings and FDI have positive impact on GDP in Pakistan and Export, import and service have positive impact in Bangladesh</i>
Trachanas and Katrakilidis (2013)	<i>Panel data; European Countries; 1971-2009</i>	<i>Twin-deficits, Asymmetric cointegration</i>	<i>Fiscal and Current account</i>	<i>Fiscal account deficit has impact on current account deficit</i>
Love and Chandra (2005)	<i>Time series data; Bangladesh; 1975-2003</i>	<i>VAR</i>	<i>Export, Income, GDP</i>	<i>Long and short-run causality among the variables.</i>
Fasanya and Olayemi (2018)	<i>Time series data; Nigeria; 1980-2012</i>	<i>ARDL Model</i>	<i>BOP, Economic growth</i>	<i>Long-run association between the variables</i>
Ramakrishna (2011)	<i>Time series data; India; 1970-71 to 2000-01</i>	<i>Least Squares</i>	<i>Trade, BOP, GDP</i>	<i>Trade openness speed up the BOP</i>
Piersanti (2000)	<i>Panel data; OECD Countries; 1970–1997</i>	<i>Granger-Sims causality</i>	<i>Current account and Budget</i>	<i>The deficit of current account accelerate budget deficit</i>
Sarode (2012)	<i>Time series data; India; 1997-2011</i>	<i>Granger causality</i>	<i>The current account, Capital account, FDI</i>	<i>The negative relation between FDI and current account where the positive impact on capital account</i>
Reed et al. (2019)	<i>Time series data; Iran; 1974-2015</i>	<i>VAR Framework</i>	<i>Government debt, Current account, Budget</i>	<i>Government debt reduce the budget and current account deficit</i>

Source: Author selection.

Methodology

To measure the impact of current account balances on economic growth in Bangladesh, this study used the quarterly basis time-series data from 2012Q3 to 2019Q4. The data has been collected from Bangladesh Bank (BB) and International Financial Statistics (IFS). Explanations of each variable are presented in Table 2.

Table 2. Variable Descriptions

Variable name	Variable details	Data source
LNCAB	Current Account Balance (BD Taka in Core)	Bangladesh Bank (BB)
LNGEXP	Merchandise Goods Export (f.o.b) (BD Taka in Core)	(BB)
LNGIMP	Merchandise Goods Import (f.o.b) (BD Taka in Core)	(BB)
LNPIPAY	Primary Income Payment (BD Taka in Core)	(BB)
LNPIREC	Primary Income Receipts (BD Taka in Core)	(BB)
LNSIOF	Secondary Income Official (BD Taka in Core)	(BB)
LNSIPRI	Secondary Income Private (BD Taka in Core)	(BB)
LNSPAY	Service Account Payment (BD Taka in Core)	(BB)
LNSREC	Service Account Receipt (BD Taka in Core)	(BB)
EG	GDP at current market price proxies (BD Taka in Core)	International Financial Statistics (IFS)

Model Construction

This study investigates the impact of current accounts (merchandise, service, primary income, and secondary income) on economic growth. The simple 1st model considers the current account with merchandise goods export and import account.

$$EG = f(GEXP, GIMP, CAB) \quad (1)$$

$$EG_t = \beta_0 + \beta_1 GEXP_t + \beta_2 GIMP_t + \beta_3 CAB_t + \varepsilon_t$$

$$LnEG_t = \beta_0 + \beta_1 LnGEXP_t + \beta_2 LnGIMP_t + \beta_3 LnCAB_t + \varepsilon_t$$

Where, economic growth (EG) is measured by the GDP at the current market price, GEXP presents the export of the goods (BD Taka in core), GIMP presents goods import (BD Taka in core) and CAB presents the current account balances (BD Taka in core). CAB is used as the endogenous factor in measuring the impact on economic growth. Mania and Rieber (2019) and Hernández et al. (2019) also used current account balances are one of the determinants of economic growth.

$$EG = f(SPAY, SREC, CAB) \quad (2)$$

$$EG_t = \beta_0 + \beta_1 SPAY_t + \beta_2 SREC_t + \beta_3 CAB_t + \varepsilon_t$$

$$LnEG_t = \beta_0 + \beta_1 LnSPAY_t + \beta_2 LnSREC_t + \beta_3 LnCAB_t + \varepsilon_t$$

Model-2, measuring the impact of the current account balance on economic growth with considering service account. Service account payment has present in terms of SPAY, and service account receipt has present in terms of SREC. The service sector is the greatest contributor on GDP in Bangladesh besides agriculture and industrial sector and the service account is the key determinants of the current account balance (CAB) and this model investigate how CAB impact on economic growth.

$$EG = f(PIPAY, PIREC, CAB) \quad (3)$$

$$EG_t = \beta_0 + \beta_1 PIPAY_t + \beta_2 PIREC_t + \beta_3 CAB_t + \varepsilon_t$$

$$LnEG_t = \beta_0 + \beta_1 LnPIPAY_t + \beta_2 LnPIREC_t + \beta_3 LnCAB_t + \varepsilon_t$$

In model-3, primary income is added with current account balance to examine the role of current account balances to enhance economic growth. The term PIPAY estimates the primary in-

come payment (BD Taka in core) and PIREC estimates the primary income receipt (BD Taka in core). The concentration of 3rd model is to investigate the impact of CAB on EG with consideration to PIPAY and PIREC.

$$EG = f(SIOF, SIPRI, CAB) \quad (4)$$

$$EG_t = \beta_0 + \beta_1 SIOF_t + \beta_2 SIPRI_t + \beta_3 CAB_t + \varepsilon_t$$

$$LnEG_t = \beta_0 + \beta_1 LnSIOF_t + \beta_2 LnSIPRI_t + \beta_3 LnCAB_t + \varepsilon_t$$

The final concentration is presented in model-4 where secondary income has been added to measuring the impact of the current account balance on economic growth. Secondary income alludes to moves recorded yet to be determined of BOP, whatever point an economy gives or gets products, income, service, or monetary things without remuneration through the official or private channel (Moreno-Brid, 2003b). SIOF presents the secondary income through the official channel (BD Taka in core) and SIPRI the secondary income through the private channel (BD Taka in core).

Unit Root

ADF Test

The simple unit root stochastic process follows the procedure

$$X_t = \theta X_{t-1} + \varepsilon_t \quad \text{where, } -1 \leq \theta \leq 1 \quad (5)$$

$$X_t - X_{t-1} = \theta X_{t-1} - Z_{t-1} + \varepsilon_t \quad (6)$$

$$X_t - X_{t-1} = (\theta - 1) X_{t-1} + \varepsilon_t \quad (7)$$

$$\Delta X_t = \partial(X_{t-1}) + \varepsilon_t \quad (8)$$

Where; $\partial = (\theta - 1)$ and the 1st difference operator is Δ

if $\partial = 0$ then $\theta = 1$ meaning that the series have unit root as the condition of H_0 .

$$\text{if } \partial = 0 \text{ then; } \Delta X_t = X_t - X_{t-1} = \varepsilon_t \quad (9)$$

Whatever ε_t is error term means the stationary at 1st differences.

Now ADF determination has taken the following forms:

$$\Delta X_t = \alpha_1 + \alpha_2 t + \partial(X_{t-1}) + \alpha_t \sum_{i=1}^f \delta X_{t-i} + \varepsilon_t \quad (10)$$

Where; ADF δX_{t-1} is the lagged order criteria and ε_t is a residual term.

Table 3. Model Structure

LNCAB	 Economic Growth (EG)
LNGEXP	
LNGIMP	
LNPIPAY	
LNPIREC	
LNSIOF	
LNSIPRI	
LNSPAY	
LNSREC	
Where, GDP at current market price proxies of economic growth	

Results

Descriptive Statistics

The descriptive statistics demeanour with all deliberated variables like as current account, economic growth, goods export, import, service account payment and receipt, primary income re-

ceipt and payment, secondary income officials and private for minimum maximum value, mean, standard deviation, skewness and kurtosis are prominently recounting in Table 4.

Table 4. Descriptive Statistics

Variables	Mean	Me-dian	Maxi-mum	Mini-mum	Std. Dev.	Skew-ness	Kurto-sis	Jarque-Bera
LNCAB	12.01	11.72	13.42	11.54	0.59	1.31	3.17	9.99**
LNEG	14.25	14.23	14.75	13.20	0.35	-0.54	3.41	1.95
LNGEXP	11.36	11.14	12.72	10.82	0.58	1.34	3.19	10.54**
LNGIMP	11.61	11.37	13.05	11.06	0.60	1.23	3.13	8.84**
LNPIPAY	8.82	8.60	10.03	8.19	0.58	1.34	3.09	10.53**
LNPIREC	5.83	5.61	8.17	4.69	0.83	1.08	3.61	7.30**
LNSIOF	4.86	4.73	6.42	3.23	0.84	0.21	2.34	0.88
LNSIPRI	10.59	10.34	11.87	10.09	0.57	1.40	3.18	11.55***
LNSPAY	9.94	9.72	11.29	9.30	0.59	1.29	3.16	9.79**
LNSREC	9.18	8.89	10.84	8.59	0.63	1.16	3.12	7.84**

Note: *, **, *** presents 10%, 5%, 1% significance level

The standard deviation of economic growth (GDP at current market price) is 0.35 with skewness and kurtoses are -0.54 and 3.41 respectively. The mean value of economic growth is 14.25 with 14.75 maximum and 13.20 is least values. Merchandise goods export has presented export with an average value of 11.36. The heights and lowest values of this variable are 12.72 and 10.82 respectively. Std. Dev. of this variable is 0.58, where the skewness and kurtosis are 1.34 and 3.19. Merchandise goods imports represent the mean value of 11.61 with a standard deviation of 0.853. Skewness and kurtosis are 0.258 and 2.211 respectively. Service account payment that's presents the mean value 9.94 with maximum and minimum value is 11.29 and 9.30 respectively. The average value of service account receipt is 9.18 with a maximum value of 10.84 and the lowest amount value of 8.5. The standard deviation is 0.63. Secondary income official which demonstrates the mean value of 4.86, maximum value 6.42, and the minimum is 3.23 with std. dev. 0.84 where secondary income private shows mean value 10.59 with std. dev. 0.57. Primary income payment presents the mean value of 8.82, where the maximum 10.03 and the lowest value are 8.19. The std. dev of primary income payment and receipt are 0.58 and 0.83 respectively. The overall measurement is concluding that there is no discrepancy in the selected variables.

Unit Root Test Results

Dickey and Fuller (1979) test has been assigned to test the unit root of those data series. This technique takes the decision based on two key elements like t statistics and p values.

Table 5. Unit Root Test

Test Variables	ADF	
	At Level	At 1 st difference
CAB	-2.31	-3.92**
EG	-1.46	-15.18***
GEXP	-0.98	-3.17**
GIMP	-2.61	-3.82**
PIPAY	-2.40	-4.58***

Test	ADF	
Variables	At Level	At 1 st difference
PIREC	-1.58	-3.48**
SIOF	-1.21	-11.25***
SIPRI	0.61	-1.96**
SPAY	1.04	-2.03**
SREC	-0.10	-3.81**

Note: *, **, *** presents 10%, 5%, 1% significance level

Table 5 presents the result of the stationarity test where the estimation considers trend and intercept. The robustness of the ADF test is measured by considering the Akaike information criterion (AIC). H_0 assumes, the variable has unit root and the H_1 assumes variable has no unit root. However, the variables have a unit root at the level when we take 1st differences then the variable has stationary. The indication clarifies that the variables have the level of integration I(1). The quality test ocean between series has been presented in Table 6.

Table 6. Test for Equality of Means between Series

Test for Equality of Means Between Series			
Method	Df	Value	Probability
Anova F-test	(9, 340)	709.07	0.00
Welch F-test*	(9, 137.95)	784.04	0.00

*Test allows for unequal cell variances

Analysis of Variance			
Source of Variation	Df	Sum of Sq.	Mean Sq.
Between	9.00	2539.56	282.17
Within	340.00	135.30	0.40
Total	349.00	2674.86	7.66

GMM Regression Estimations by Considering Current Account

This study aims that the current account as the key variable to explain economic growth. The estimated econometric result of constructed models 1-4 employing GMM estimations have been presented in Table 7. The initial model considers the impact of current account balances on economic growth by considering the merchandise goods export and import. Econometric evidence of model-1 shows that merchandise goods import has a positive and significant impact on economic growth where export has a negative and insignificant impact. The current account balances harm economic growth due to the imbalance scenery of trade balance. As a developing country, the economy faces a negative trade balance in case of import is greater than export.

The second column of Table 7 presents the GMM results of model-2. The 2nd model introduced service account; service account payment and service account receive with current account balances. Model 2 indicates that the coefficient of service account receive is 2.00 percent and positive with a 5% significance level to explain economic growth. The current account balances display a coefficient of 2.13 which is positive and significant. That means the current account increases the economic growth by considering service account because service is the key contributor to GDP with agriculture and industry.

Model-3, which attempts to examine the role of primary income on economic growth by considering key variable current account in Bangladesh and the result, is depicted in Table 7 in column 3. The primary income payment and receipt have been analyzed in this model and the expected result has shown negative but the key term current account, has a positive and significant impact on economic growth. The coefficient of the current account is 0.92 and consideration at a 5 percent level which indicates the current account still positively impacts to increase economic growth.

Table 7. GMM Estimation Results

Variables	Estimated Models			
	Model 1	Model 2	Model 3	Model 4
<i>LNEG</i>	-0.22			
<i>LNGEXP</i>	5.23***			
<i>LNGIMP</i>	-5.07***	2.13**	0.92***	1.34***
<i>LNCAB</i>		0.08		
<i>LNSPAY</i>		2.00**		
<i>LNSREC</i>				
<i>LNPIPAY</i>			-0.89***	
<i>LNPIREC</i>			-0.01***	
<i>LNSIOF</i>				-0.17***
<i>LNSIPRI</i>				-1.16***
<i>C</i>	16.93***	20.64***	11.14***	11.38***

Note: *, **, *** presents 10%, 5%, 1% significance level

Column 4 in Table 7 presents the model-4 which indicates the secondary income officials and private with key factor current account. The secondary income officials and private have a negative association with economic growth where the impact of the current account is still positive on economic growth which indicates the country's economic mobility during this study period. The overall estimation declares that the components of the current account have fluctuations in several dimensions but the impact of the current account is positive in the case of models 2 to 4 except model-1.

However, Table 8 presents the evidence of the robustness of GMM model estimations. The R^2 , Adj. R^2 and probability of J-statistics have been used to explore those selected models. R^2 of model-1 is 0.48 and Adj. R^2 is 0.43 with J stat in a 1% level of significance. The R^2 and Adj R^2 for model-2 are 0.48 and 0.44 respectively. In model-3 estimated R^2 is 0.42 and adj. R^2 is 0.36 with J statistic in 5% level. R^2 for model 4 is 0.69 with Adj. R^2 0.66.

Table 8. Evidence of GMM Model Estimation

	R^2	Adj. R^2	Pro. J stat.
Model 1	0.48	0.43	0.00
Model 2	0.48	0.44	0.00
Model 3	0.42	0.36	0.03
Model 4	0.69	0.66	0.00

Diagnostics Test Results

For diagnostic tests, two parameters are used, known as the normality test (NT) and the regressor endogeneity test (RET). Current account balance (CAB) is used in GMM projections as an

endogenous component. The IV diagnostics are exogenous, H_0 is the CAP, and the CAP role hypothesis is not exogenous.

Table 9. Diagnostic Test

Model	Test Statistics	Hypothesis	J - stats/J-B	Decision
			(p-value)	
Model-1	Regressor endogeneity test (RET)	$H_0 = \text{CAB is exogenous}$	0.02	Repealed the H_0
	Normality Test (NT)	$H_0 = \text{Residuals are normal (RN)}$	0.08	Accept H_0
Model-2	(RET)	$H_0 = \text{CAB is exogenous}$	0.02	Repealed the H_0
	(NT)	$H_0 = (\text{RN})$	0.05	Accept H_0
Model-3	(RET)	$H_0 = \text{CAB is exogenous}$	0.03	Repealed the H_0
	(NT)	$H_0 = (\text{RN})$	0.23	Accept H_0
Model-4	(RET)	$H_0 = \text{CAB is exogenous}$	0.04	Repealed the H_0
	(NT)	$H_0 = (\text{RN})$	0.01	Repealed H_0

The diagnostic test is summarized in Table 9, considering J-statistics for endogeneity testing and J-B statistics for normality testing for decision-making. The J-B is 0.08 to support the H_1 and J-stat is 0.02 to support the task hypothesis (H_1) as the current account balance (CAB) is endogenous for model-1. The H_0 is rejected in model-2 in case of endogeneity test and H_0 is accepting in case of J-B statistics. For model-3, CAB shows endogenous effect means rejected H_0 and residual is normal. The H_0 is rejected in model-4 in the case of endogeneity test and also H_0 is rejected in case of J-B statistics which is a weakness in model-4.

Conclusion

Research in Bangladesh's economy has shown that export growth has risen less than import growth on average, leading to a rise in the trade deficit, sufficient to cause the financial crisis (Kibria and Hossain, 2020). The change needed to address the trade deficit has reduced the GDP growth lower than it actually would otherwise export-import balance will be preserved. For financial expansion and economic growth, the balance of payments is therefore important (Shastri, 2019). Current study is conducted to measure the impact of current account balances on economic growth. The quarterly based data from 2012Q3 to 2019Q4 has been used to estimate the econometric output. The GMM estimation has been used to measure the output of constructed models. There are four models developed considering the current account balance as a key factor of this study. The result of model-1 presents that the imports have positive impact on economic growth and export also has positive coefficient but the result is not significant. The current account in this model has negative impact. There are several reasons behind this such as import is greater than export in this economy, lack of savings and investment, shortage domestic production and lack of specialization. Trade deficit influences the current account balances largely (Edwards, 2004). In model-2 the service account receipt is positively explained the economic growth where the impact of current account is positive which is expected. In model-3, concentration is taken in current account balances concerning the primary in-

come receipt and payment where the current account has also a positive impact on economic growth. The secondary income is included in model-4 where the current account still positive and significant to increase the economic growth. The recommendation of this study is that we need to diminish current account deficiency over the long haul to quicken the attempts towards auxiliary economic reformation with industry and service sectors that help in boosting the market size, progresses development potential, and carries steady and feasible streams into the economy.

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