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Foreign Trade of Bangladesh-In the Context of the Growth Rates of Export and Import and Impact to the Country's Economy

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Abstract

During the last few years, the economy of Bangladesh did tremendous success and achievement in all the sectors and which is reflected in the overall economy (GDP) of the country. According to the provisional data of Bangladesh Bureau of Statistics (BBS), GDP of Bangladesh has grown at the rate of 7.28 percent for the fiscal year 2017 (July 2016-June 2017) which is slightly higher than previous estimates of 7.24 percent. For such record growth of the economy of Bangladesh, foreign trade has played a vital role to raise the economy. BY analyzing, the time series data from the fiscal years 1994 to 2016(FY1994 to FY2016), it is found that the foreign trade of Bangladesh especially, constant growth rate of export was the key factor of success in the overall economy. By using the least square regression method, it found that the overall export growth rate of export was higher than the import which was 16.11% and 14.8% respectively. The export has raised its share to GDP almost double (13.67%) in FY2016 than in FY1994 (7.24%), whereas the import has gained its ratio to 18.1% of GDP in FY2016 from 12.4% in FY1994. Although RMG is a very significant contributor (almost 69%, excluding EPZ) of total export, on an average the growth rate of RMG was only 0.82% per year.

Keywords: Bangladesh, Export, Foreign trade, GDP, Growth rate, Import

Introduction

The development in the economy of Bangladesh has become the role model for the developing countries of the world which has been identified as one of the next eleven emerging market economies of the 21st century in a research paper produced by Goldman Sachs investment bank and economist Jim O'Neill. Bangladesh has the potential to become the world's 23rd largest economy by 2050, overtaking countries such as Netherlands, Australia, Spain, Thailand and Malaysia (PricewaterhouseCoopers-PwC 2017). According to the provisional data of Bangladesh Bureau of Statistics (BBS), GDP of Bangladesh has grown at the rate of 7.28 percent for the fiscal year 2017 (July 2016-June 2017) which is slightly higher than previous estimates of 7.24 percent. The growth rate of GDP eventually has passed 7 percent growth in the fiscal year 2016 which was wedged in the range of 6-7 percent growth rate for nearly a decade. For such record growth of the economy of Bangladesh, foreign trade has played a vital role to raise the economy. GDP of Bangladesh was largely depended on agricultural sector but the scenario has been changed due to massive and dramatic expand of RMG sector. In this paper, it is tried to analyze the overall situation and growth of the foreign trade namely export and import for the fiscal years FY1994 to FY2016.

Garments products (including woven and knit wear) are the main export items of Bangladesh but there are also other products such as leather, foot wear, raw jute, jute products, pharmaceutical products, ceramic products, and petroleum by products also contribute in the export. The main buyers of the export items are United States, Germany, United Kingdom, France, Spain, Italy, Canada, Belgium, China, and Japan.

On the other hands, as a developing country, Bangladesh is no different in terms of meeting its demands through foreign goods which has been portrayed in this analysis through different aspects of economy over the years., Bangladesh mainly import the items as food grains like Rice and Wheat; other food items like Milk & Dairy Products, Spice, Oil seeds, Edible oil, Pulses (all sorts), Sugar; and other commodities like Clinker, Crude Petroleum, Petroleum Products, Chemicals, Pharmaceutical Products, Fertilizers, Dyeing & Tanning Materials, Plastic & Rubber articles thereof, Cotton Yarn, Textile & articles thereof, Staple fibers, Iron & Steel; and Capital machinery (Bangladesh Bank 2015-16). According to Bangladesh Bank (FY2016), the import payments of Bangladesh with ten countries are China, India, Singapore, Japan, Indonesia, South Korea, United Sates of America (U.S.A), Malaysia, Brazil and Hong Kong of around 41% import payment of Bangladesh is made with China (26.3%) and India (14.8). The import of Bangladesh reached the peak of $38.3 billion in 2015, making it the 54th largest importer in the world whereas in 1995, the amount was about $4.58 billion. This significant growth of import over the last 20 years (more than 8 times) is reflected in the GDP of Bangladesh.

Literature Reviews

Export have a huge impact on the economy of a Nation like a developing country, Bangladesh whose huge percent of yearly Budget depends on Export that is on the foreign currencies. On the other hand, Bangladesh needs to import lots of foreign goods and materials to keep pace of economic development as well as to meet its necessary demands. Ready-made garments (RMG) industry that now ranks second in export in the world. Bangladesh's export performance so far presents signs of strength in its export basket (Sattar 2015). The growth of export earnings was of 8.9 percent (USD 33441 million) in the FY20116 (2015-16) which was 15.1% of the GDP (Annual Report 2015-16, Bangladesh Bank). Manufactured goods were the main drivers for such higher growth. Among the major sectors of exports, woven garments and knitwear (representing 84.9 percent of total export) petroleum by-products, raw jute, engineering products, vegetables, footwear supported overall export performance in FY2016, while shrimps, tobacco, fruits, cut flower, fish and home textile slowed down the pace of that performance(Annual Report 2015-16, Bangladesh Bank). The massive expand of RMG through the 90s made the RMG as the biggest contributor of the country's export (Shahriar et al. 2014). Imports grew at a rate of 5.5 percent making import items of USD 39715 million in FY2016, which was 17.91% of the GDP (Bangladesh Bank 2015-16).

The industrial production and exports are co-integrated which is found by linking the exports and economic growth in Bangladesh (Al Mamun and Nath 2005). Ullah et al (2009) analyzed export-led-growth by time series econometric techniques from1970 to 2008 for Pakistan and reveal that export expansion leads to economic growth.

Export, Inflation and Real exchange rate have important and affirmative consequence on the growth rate of the national economy of Pakistan over the years 1980 to 2009 (Usman et al. 2012).

The overall growth of the economy of Bangladesh has been influenced by the growth rate of export and import for the short period of time which is explored by studying the trade policy and economic growth for Bangladesh (Chaudhary et al. 2007).

There is a very interesting study that the growth of export and import has opposite impact on the growth rate of China, where the import has significant positive effect while the export has negative on the economy of China (Li et al. 2010).

Li and Wang (2009) suggest that growth of export could greatly promote economic growth in short time, while that of import did not impact economic significance.

The counties like United States, Germany, United Kingdom, France, Spain, Italy, Canada, Belgium, China, and Japan are the main destination of the export products. But the countries with large population can be a good market for Bangladesh such as Australia, Brazil, Chile, China, India, South Korea, Mexico, Russia, South Africa and Turkey. In addition, Malaysia, New Zealand, Norway, Saudi Arabia, and Thailand are also rising markets for Bangladesh (Kabir 1988).

During the fiscal years 1989-90 to 2003-04, the export of Bangladesh has increased to 6.7 times whereas the import grew by 4.3 times (Islam 2006). Thus, the growth of export outplayed the import during the 14 fiscal years.

Import is very important to pick up GDP. The Domestic producers are revolutionized and increased their productivity with the increased of imports of final and intermediate goods (MacDonald 1994). Similarly, export also plays very vital role for the flourish of different indicators of the GDP. Piana (2001) found the link that the GDP, and employment can be promoted by increasing export of a country. It is also established the linkage (Thangavelu and Rajaguru 2004) between import, trade and output growth (GDP) of a country. It is advised that the trade greatly influences the production and growth in the economy of a country, whereas import links the virtual relationship between trade and production and growth in the economy. As the developing countries rely on the capital goods and foreign capital for their economic development, imports have positive impact on the economic growth (Anoruo and Ahmad 2000).

On the other hand, exports influence very substantially the economic growth of a country, especially when a country is reached some level of economic achievement (Vohra 2001). This is also supported by Adam Smith, who first reveal the association between international trade and economic growth and pointed out development is the key factor for the ling-time growth whereas the degree of development is controlled by the scope of the market (Li et al. 2010). The foreign trade is not only the engine of economic growth but also a maid of economic growth (Kravis 1970). It is also explained (Love 1994) that the engine theory makes divisive arguments by exploring the positive relationship between the trade growth and economic growth of developing countries whereas the growth of export is constrained by the economic growth of developed countries (Jung and Marshall 1985).

Form the time series data (1976 to 2005) analysis, it is observed that indicates exports, imports and remittance cause GDP growth in the short run but has no long run impact (Ahmed 2009).

The International Monetary Fund (IMF 2015) forecasted that by 2020 the balance on current account for Bangladesh would be -1.2% of the real GDP, which means the trade deficit (export-import) will be 1.2% of the real GDP.

This is for it necessary to analyze the trend of export and import as well as it has to be tried to establish a relation between the growth rates of export and import of Bangladesh.

Methodology

In our analysis, we will mainly focus on the growth rates. There are many methods to calculate the growth rates. The following two methods will be used to calculate the growth rates: In the following arithmetic growth rate, geometric growth rate and the least-squares regression (log-linear) growth rate is discussed shortly. In the article, the arithmetic growth rate will be used to calculate the year to year or annual (one year) growth rate; and for the overall or average growth rate over the years, the least-squares regression (log-linear) growth rates will be applied.

Arithmetic Growth Rates

In order to compute the growth rate of one year, the arithmetic method will be used due to the simplistic assumptions (OECD, 1997). The percent change of growth rate from one year to another year is calculated from the formula:

$$r_t = \frac{(Y_t - Y_{t-1})}{Y_{t-1}} \times 100$$

Where:

r_t=the growth rate in year t
Y_t =the value in year t
Y_{t-1}= the value in the previous year

Geometric Growth Rates

The Geometric growth rate for the values say $Y_0, Y_1, \ldots\ldots Y_n$ over the period of n is:

$$r = \left(\frac{Y_n}{Y_0}\right)^{\frac{1}{n}} - 1$$

Where:

r = the growth rate over the year n
Y_n = Represent the value at end year n
Y_0 = the beginning year value
n = the number of periods between the beginning period and the end period
(that is $n - 0 = n$)

To get the percentage growth rate, it will be multiplied by 100.It is noted that for 1-period interval geometric and arithmetic growth rates are equal, as the arithmetic and geometric formulae become equal.

The geometric growth rate formula is derived from the compound growth formula of

$$Y_n = Y_0(1 + r)^n$$

If the starting year and ending year is considered as Y_1 and Y_n respectively, the geometric growth rate for the values $Y_1, Y_2, \ldots\ldots Y_n$ over the period of (n-1) will be

$$r = \left(\frac{Y_n}{Y_1}\right)^{\frac{1}{n-1}} - 1$$

n -1= The number of periods between the beginning period and the end period (that is n-1)

Like the arithmetic growth rate, the geometric growth also considers only the first and last observation of the time series, and not the intermediate values.

Geometric growth rate is widely used for indicators on economic phenomena, such as GDP or trade (Kakwani 1997, Mawson 2002, OECD 1997, The World Bank, 2015).

Least Squares Regression (Log-Linear) Growth Rates

The regression method takes into consideration all of the data points in the series; thus, it is the least likely of all the methods to suffer from any biases due to a randomly high or low beginning or ending year (Mawson 2002). It is also known as the log-linear least squares regression method as the equation used to identify the time trend is obtained through a logarithmic transformation of the compound growth equation:

$$Y_t = Y_0(1 + r)^t$$

Where Y_0 is the value of the variable Y at time 0 (beginning year); Y_t is the value of the variable Y at time t and t is the time at which the variable has been last recorded, taking values such as 0.1, 2, …n; and r is average growth rate over the n-period time series.

By taking natural logs on both sides and letting

$$\alpha = \ln Y_0 \text{ and } \beta = \ln(1 + r)$$

And then adding a disturbance term ε, the equation is now transformed into the following equation:

$$\ln Y_t = \alpha + \beta t + \varepsilon$$

Then by utilizing the Ordinary Least Squares (OLS) method, we obtain an estimate of the slope coefficient $\hat{\beta}$ and as a result, the compound rate of growth by regression method is obtained as follows**:**

$$r = e^{\hat{\beta}} - 1$$
$$\text{Or } r = \exp(\hat{\beta}) - 1$$

To get the percentage growth rate, the value obtained needs to be multiplied by 100.

The least-squares growth rate can be used for any type of indicator, as it does not assume that there is a pattern in the way that growth has occurred over the year or years (Kakwani 1997, Mawson 2002, OECD 1997, The World Bank, 2015).

Results: Analyses the Foreign Trade

Export and Import

In this article, the export and import of Bangladesh has been analyzed from the year 1993-94 (1 July 1993 to 30 June 1994) to 2015-16 (1 July 2015 to 30 June 2016) that is from the fiscal year FY1994 to FY2016. By using the least square regression method, it found that the overall export and import of Bangladesh have been grown at the annual rate of 16.11% and 14.8% respectively from the FY1994 to FY2016. So the annual growth rate of export has outplays the import over the last 22 years. To get the in depth knowledge about the growth rate, it is necessary to analyze the growth rate of the overall export and import from year to year. The year-to-year growth rates (the growth in the current year compare to the previous year) of export and import is shown in Figure 1:

Figure 1. *Year to Year Growth of the Export and Import of Bangladesh*
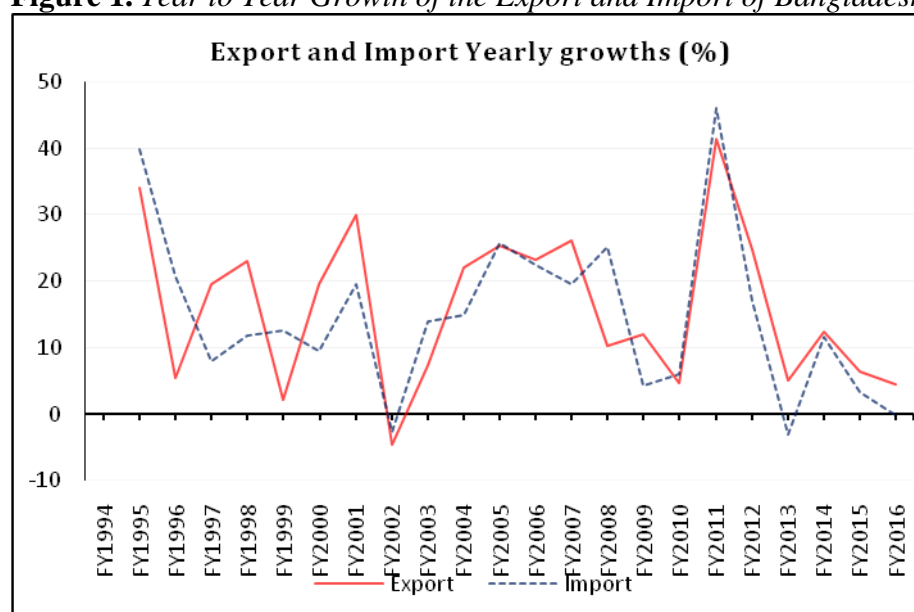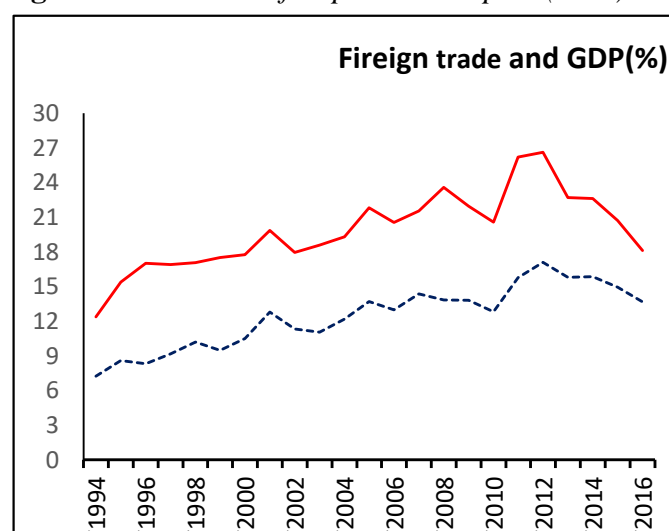

Source: Author.

From the above figure 1, it is clearly visible that the year-to-year growth rates of export and import were not stable over the last 22 years. Although from the FY2010 to FY2016 export and import have almost same pattern of growth rates, but from the FY1995 to FY2019 most of the cases they have different patterns in growth. The highest rates of growth of export and import were in FY2011, which were 41.39% and 46.14% respectively.Both the export and import have experienced the negative growth rates in the FY2002, which were -4.58% and 2.62% respectively.

In the FY2013 and FY 2016, the export grew positively (5.06% and 4.54%) whereas the growth rates of import werenegative (-3.07 and -0.11%) in the same fiscal years. This might be the cause that the growth rate of export has outplays the import over the last 22 years.

Foreign Trade and GDP

Foreign trade plays an import role to raise the overall production, which is known as the gross domestic product (GDP) of a country. In this case, the GDP at Current Market Price is considered. Due to the sharp growths of export and import over the last 22 years; the ratios of export and import over the GDP of Bangladesh has also been changed significantly, which is depicted in Figure 2.

Figure 2. *The Ratio of Export and Import (in %) To GDP of Bangladesh*

Source: Author.

In FY1994, export was 7.24% of the GDP (at current market price) whereas in FY2016, it has raised to 13.67% of GDP, which means the export has increased its share to GDP almost double over the last 22 years. On an average, the ration of export to GDP has increased to 3.19 % from the FY1994 to FY2016. On the other hand, the import was 12.4% of the total GDP in FY1994 whereas in the fiscal year 2016, the import rose to 18.1% of GDP. From the time series data, it is found that the share of import to GDP rose on an average at the rate of 1.99% per year during the last 22. Thus, it can be concluded that export has been gaining its share to GDP during the last 22 years faster than its counterpart import due to higher growth rate than the import.

Share of Items in Export

The major items of export and the export from the export processing zone (EPZ) of Bangladesh are analyzed by calculating the growth rates over the years FY1994 to FY2016.

RMG

The annual growth rate (by the least square regression method) of Readymade Garments (including Knit Wear & Hosiery), RMG was 17.06% over the last 22 years, (from FY1994-FY2016). This is evident that the fantastic growth RMG sector is one of the key factors behind the high growth rate of overall export (16.11%) over the last 22 years. It is also found that the share of RMG was 69% (excluding EPZ) of the total export in FY 2016, which was 57% in FY1994. This is illustrated in the Figure 3.

Figure 3. *The Share of RMG to the Export (in %) of Bangladesh for FY1994 to FY2016*
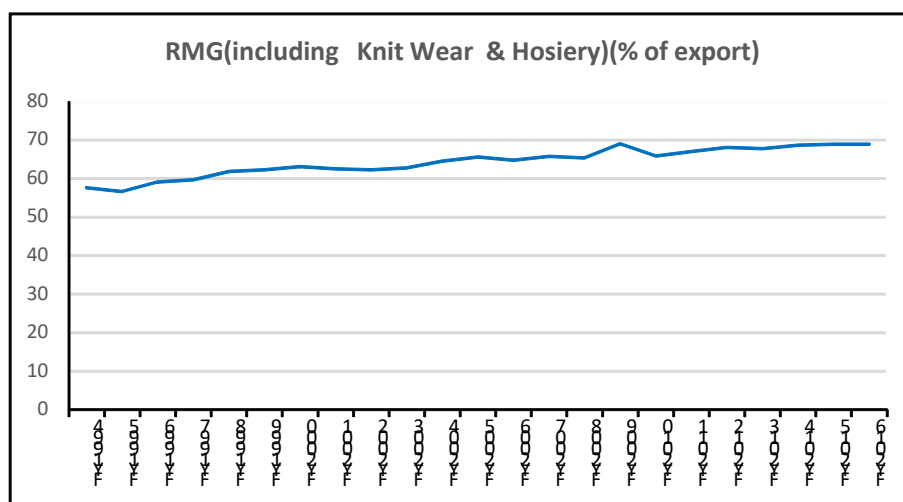
Source: Author.

It is also important to notify that on an average the growth rate of RMG was only 0.82% per year although it is a major contributor (almost 69%, excluding EPZ) of total export. It might be the share of RMG to the total export is exhausted.

Share of other Items in Export

The trends of growth and the contributions of the other items to the total export over the FY1994 to FY2016 are summarized in Table 1. The performance of EPZ is also shown in the Table 1.

Table 1. *Rates of Growth and Share over the Year FY1994 to 2016 in Export of Bangladesh*

Export Items	Growth rate (%)	Share in Export (%) in FY1994	Share in Export (%) in FY2016	Growth of Share to Export (%)
RMG	17.06	57.62	68.88	0.82
Jute	9.1	12.37	2.94	-6.04
Fish & Shrimp	6.46	10.34	1.27	-8.31
Leather	8.57	6.45	0.9	-6.5
Tea	-10.2	1.79	0.006	-22.66
Export from EPZ	20.34	4.2	17.98	3.68

Source: Author.

From Table 1, it is observed that the highest growth was from the EPZ which is 20.34%, followed by the RMG, which is 17.06%. The growth rate of tea was negative and thus lost the share to the total export hugely. It is interesting to notify that the contributions (growth rate) to the total export are positive whose growth rates are above (as for example RMG and EPZ) the overall growth rate of export and contributions (growth rate) to the total export are negative whose growth rates are below (Jute, Fish, Tea and Leather). The year to year share of the items whose growth rates are below the growth rate of export is illustrated in Figure 4.

Figure 4. *Share of Jute; Fish & Shrimp; Leather; and Tea to the Export (in %) of Bangladesh for FY1994 to FY2016*
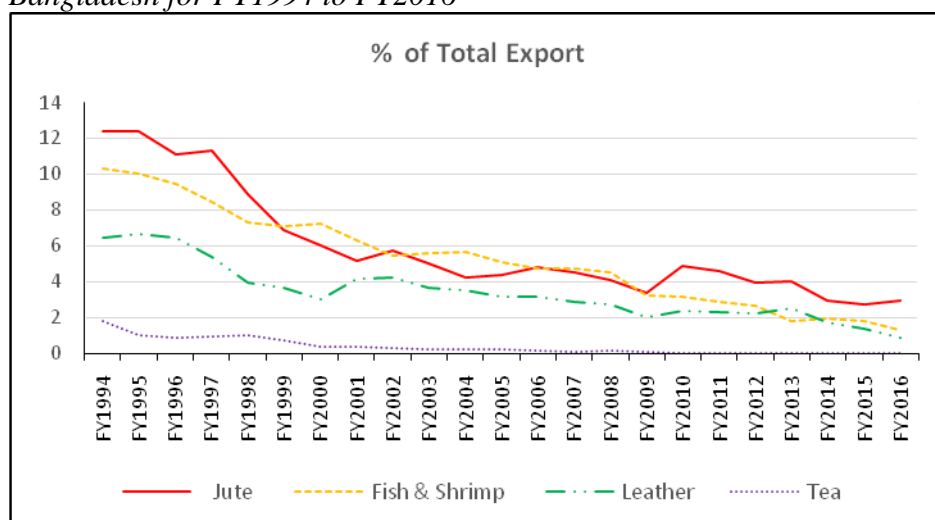
Source: Author.

As the shares to total export fallen consistently almost every year, the policymakers should identify the reasons and will take the necessary steps to increase their contribution which will be very helpful to boost the total export and thus flourish the economy of the country.

Analyses the Import of Bangladesh

Bangladesh mainly import the items as food grains like Rice and Wheat; other food items like Milk & Dairy Products, Spice, Oil seeds, Edible oil, Pulses (all sorts), Sugar; and other commodities like Clinker, Crude Petroleum, Petroleum Products, Chemicals, Pharmaceutical Products, Fertilizers, Dyeing & Tanning Materials, Plastic & Rubber articles thereof, Cotton Yarn, Textile & articles thereof, Staple fibers, Iron & Steel; and Capital machinery. Let us summarize the growth rates of items of the import of Bangladesh for the fiscal year 1994 to 2016. The grow rates are calculated by using the least square regression method over the last 22 years from the years FY1990 to FY2016. The summary of the analysis is shown in the Table 2 as follows:

Table 2. *Summary of the Import Items over the Years FY1994 to FY2016*

Import Items	Growth (from FY1994 to FY2016)	Share to Import in FY1994 (%)	Share to Import in FY2016 (%)	Growth of Share (from FY1994 to FY2016)
1. Rice	8.67	0.239	0.297	-5.31
2. Wheat	15.12	3.37	2.29	0.314
3. Milk & Dairy Products	13.18	0.883	0.563	-1.38
4. Spices	18.67	0.525	0.509	3.41
5. Oil seeds	12.28	0.954	1.301	-2.17
6. Edible oil	16.58	2.79	3.32	1.59
7. Pulses (all sorts)	19.55	0.668	1.16	4.17
8. Sugar	28.29	0.310	1.65	11.79
9. Clinker	23.60	0.262	1.105	7.70
10. Crude Petroleum	14.02	2.79	0.951	-0.65
11. Petroleum Products	20.23	4.008	5.68	4.77
12. Chemicals	16.13	3.44	4.21	1.20
13. Pharmaceutical Products	14.46	0.358	0.299	-0.26
14. Fertilizers	18.64	3.22	2.60	3.38
15. Dyeing & Tanning Materials	17.22	0.859	1.361	2.14
16. Plastic and Rubber articles thereof	17.53	2.69	4.54	2.41
17. Cotton	20.87	1.72	5.37	5.32
18. Yarn	14.51	4.01	4.11	-0.22
19. Textile and articles thereof	10.82	20.06	10.29	-3.43
20. Staple fibre	18.50	0.740	1.50	3.26
21. Iron & Steel	17.85	3.10	6.99	2.69

22. Capital machinery	18.48	3.10	7.62	3.24
23. Import for EPZ	17.45	2.89	7.78	2.34
25. Others	11.37	37.05	24.55	-2.95
Total Import	14.76	100	100	

Source: Author.

From the Table 2, it is observed that the growth rates of items which are below the overall growth rate of import (14.76%) have experienced negative growth to share to the total import as for example Rice (-5.31%); Milk & Dairy Products (-1.38%); Oil seeds (-2.17%); Crude Petroleum (-0.65%); Pharmaceutical Products (-0.26%); Yarn (-0.22%); Textile and articles thereof (-3.43%); and Others (-2.95%). The highest growth was achieved by Sugar (28.9%) followed by Clinker (23.6%); Cotton (20.87%); Petroleum Products (20.13%); Staplefibers (18.5%); Capital machinery (18.48%); Iron & Steel (17.85%) and import for EPZ (17.45%) and thus gained positive growth rate of ration to total import over the years FY1994 to FY2016. If the items are summarized, it is observed that the annual growth rate of all Food items was 15.3% of which 11.8% was for Food grains (rice & wheat); and 17.4% was for Food items (others than food grains); and the commodities (other than food items) grew at the rate of 14.7% per annum. It is also found that the share of food items increase by 0.48% whereas the share of commodities (other than food items) has slightly deceased to 0.05% during the last 22 years.

Discussion

Over the last 22 years, the foreign trade of Bangladesh has developed tremendously and plays very import role to raise the economy of Bangladesh. Especially, constant growth rate of export was the key factor of success in foreign trade. By using the least square regression method, it found that the overall export and import of Bangladesh have been grown at the annual rate of 16.11% and 14.8% respectively from the FY1994 to FY2016. So the annual growth rate of export has outplays the import over the last 22 years. On the other hand, export was 7.24% of the GDP (at current market price) in FY1994, whereas in FY2016, it has raised to 13.67% of GDP, which means the export has increased its share to GDP almost double over the last 22 years. On an average, the ration of export to GDP has grown up 3.19 % per annum from the FY1994 to FY2016. On the contrary, the share of import to GDP at the rate of 1.99% per year during the last 22 and thus gain its ratio to 18.1% of GDP in FY2016 from 12.4% in FY1994. Thus, it can be concluded that export has been gaining its share to GDP during the last 22 years faster than its counterpart import due to higher growth rate than the import.

The growth rate of RMG was only 0.82% per year although it is a major contributor (almost 69%, excluding EPZ) of total export. It might be the share of RMG to the total export is exhausted. The highest growth was from the EPZ which is 20.34%, followed by the RMG, which is 17.06%. The growth rate of tea was negative and thus lost the share to the total export hugely. It is interesting to notify

that the contributions (growth rate) to the total export are positive whose growth rates are above (as for example RMG and EPZ) the overall growth rate of export and contributions (growth rate) to the total export are negative whose growth rates are below (Jute, Fish, Tea and Leather).

By analyzing the time series data during the FY1994 to FY2016, it is found that the import of Bangladesh has gained mixed experienced. The highest growth was achieved by Sugar (28.9%) followed by Clinker (23.6%); Cotton (20.87%); Petroleum Products (20.13%); Staple fibers (18.5%); Capital machinery (18.48%); Iron & Steel (17.85%) and import for EPZ (17.45%) and thus increased their ration to total import over the 22 years. On the other hand, Rice (-5.31%); Milk & Dairy Products (-1.38%); Oil seeds (-2.17%); Crude Petroleum (-0.65%); Pharmaceutical Products (-0.26%); Yarn (-0.22%); Textile and articles thereof (-3.43%) lost their share to total import due to lower growth rates than the overall growth rate of import during the FY1994 to FY2016. If the items are summarized, it is observed that the annual growth rate of all Food items was 15.3% of which 11.8% was for Food grains (rice & wheat); and 17.4% was for Food items (others than food grains).

Conclusion

By analyzing the time series data during the FY1994 to FY2016, it found that the overall export growth rate of export was higher than the import and the ration of export to GDP has increased to 3.19%, whereas the share of import to GDP rose on an average at the rate of 1.99% per year during the last 22. Thus, it can be concluded that export has been gaining its share to GDP during the last 22 years faster than its counterpart import due to higher growth rate than the import. The share of RMG to the export has increased to only 0.82% over the last 22 years although RMG itself, which indicates that the share of RMG to export has reached to the ceiling. The share of EPZ in the total export has increased significantly during the last 22 years. The policymakers should identify the reasons whose shares to total export fallen consistently almost every year; and will take the necessary steps to increase their contribution which will be very helpful to boost the total export and thus flourish the economy of the country. The share of food items in total import increased due to the high growth rate of import of sugar (28.9%), whereas the share of commodities (other than food items) in total import has slightly deceased.

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