

SECTORAL ANALYSIS  
**PHARMACEUTICAL**  
INDUSTRY OF BANGLADESH



# SECTOR ANALYSIS **PHARMACEUTICAL** INDUSTRY OF BANGLADESH

A Course Requirement of Managerial Economics (E501)

Prepared for

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Dear Miss:

**Subject: Submission of Term Paper**

We, group 3, would like to take this opportunity to present to you our second term paper titled **“Sector Analysis: Pharmaceutical Industry of Bangladesh”** as part of the Managerial Economics (E501) course requirement. The main purpose of this paper was to present a brief review of the pharmaceutical industry of Bangladesh.

In the development of this paper, we have tried our level best to follow the guidelines you provided us with and to comply with your lofty standards. We sincerely hope that this paper meets your expectations.

**Please note that this report has been prepared under your supervision. Under no circumstances will this report be produced for any other MBA (IBA) course ever. No part of this report will be shared or republished without your authorization.**

Sincerely yours,

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## EXECUTIVE SUMMARY

The main aim of this study was to present a brief review of the pharmaceutical industry of Bangladesh. Data collection method for this paper has been both primary and secondary in nature. This paper is limited to the analysis of the pharmaceutical industry of Bangladesh, so comparisons between the performance of this industry in Bangladesh and that in other countries are beyond its scope.

The pharmaceutical industry of Bangladesh is the most promising in terms of establishing an export-oriented industry and making it more diversified. It is the second highest contributor to the national exchequer. It is the largest white-collar labor-intensive employment sector. The country's pharmaceutical industry is nearly self-sufficient; 98% of demand is met by local production. The industry produces 80% generic drugs, 20% patented drugs. Historical 5 years CAGR is 15.6%, which shows great potential. It has maintained good growth (10-15% last few years). This industry has 1.83% contribution to GDP. The industry is expected to be valued at \$5.11 billion by 2023. It is largely dominated by the top six pharmaceuticals firms as they possess more than 50 percent of the total market share. The market is highly saturated with many local companies operating in the market. Outside the top 20 companies, these 200+ small companies combinedly possess less than 15 percent of the total market share. The top companies are exporting the generic medicines outside the country as well. The export amount is significantly increasing over the years.

The Pharmaceutical industry, being one of the fastest growing sectors, has witnessed a significant slow growth in 2020 due to the global Covid-19 pandemic. This drug market had a growth of 6.5 percent in the third quarter of 2020 in comparison with the previous growth rate of 10-12 percent. After the uplift of countrywide lockdown, and export complications, the industry started to turn around and saw a boom in local and global markets by producing anti Covid-19 medicines and hygiene products. This industry also poses a promising potential of producing, distributing, and exporting Covid-19 vaccines.

Though the pharmaceutical sector of Bangladesh is seeing a steady growth over the years and especially during the Covid-19 pandemic, the sector is plagued by various challenges like dependence on imported raw materials, regulated markets, lack of testing facility, export, marketing and power related issues and also different difficulties that arose with the pandemic. Despite different challenges the pharmaceutical sector has huge opportunities ahead. The patent exemption of drugs worth more than USD 251 million is a huge opportunity for Bangladesh and the possible vaccine manufacturing, API park establishment and government initiatives to eradicate trade barriers make the sector a huge prospect for the upcoming future. Bangladesh can take on these opportunities as it has a strong base of low-cost labor, perceived quality and positive global image about its products, low utility cost, and there is an overall change in the lifestyle, life expectancy and per capita income with the economic growth of the country. These are the main drivers of domestic market consumption growth. New investment in the business, as well as the use of contemporary technologies, has expanded production capacity of the industry.

## 1.0 INTRODUCTION

Since the early 1980s, the pharmaceutical industry of Bangladesh has been making phenomenal contributions to the transformation of the national economy. Historically, Bangladesh has always been a poor country. For much of 1971, the country had to fight for its independence; as a result, over the following years, the economy of the nation was in a shambles. A vast archipelago of poverty and deprivation, Bangladesh was one of the poorest countries in South Asia, described as a “basket case” by the then-U.S. National Security Adviser Henry Kissinger.

Today, as the country celebrates 50 years of independence, it has become a case study in economic development that few would have predicted. Once poorer than India and Pakistan, Bangladesh now has a GDP per capita that closely rivals that of India and significantly exceeds that of Pakistan. Besides being a leading global exporter of RMG, Bangladesh is thriving in the pharmaceutical industry both locally and globally. 300 companies belonging to this industry, several of which conduct research, now meet 97% of domestic demand and are beginning to export globally (Basu, 2021). According to a report titled "Bangladesh Pharmaceutical Market Future Opportunity Outlook 2025" from a Dublin-based market insight and analysis firm, Research and Markets, Bangladesh's pharmaceutical market has been enjoying tremendous growth in recent years and is expected to surpass \$6 billion by 2025 with an absolute growth of 114% from its 2019 levels (Chakma, 2020).

The first part of this paper – **Introduction** - includes its broad and specific objectives, data collection methods, scopes of the analysis, and limitations faced in carrying out the research. The second part - **Sector Analysis | Pharmaceutical Industry of Bangladesh** - briefly describes and analyses the trends observed in the pharmaceutical market in Bangladesh over the last ten years, various challenges and limitations faced by the sector during this period, its future prospect and the impacts of COVID-19 on this industry. The third part – **Recommendations and Conclusion** – presents a summary of the report as well as a few recommendations to help the pharmaceutical industry of Bangladesh reach greater heights of success.

### 1.1 Origin of the Report

This report was assigned to us as by our course instructor, Ms. Tasneema Afrin, as part of the Managerial Economics (E501) course for the MBA program of Institute of Business Administration, University of Dhaka.

### 1.2 Objectives

This paper has been developed with the following objectives in mind.

#### 1.2.1 Broad Objective

In broad terms, the objective of this paper is to present a brief review of the pharmaceutical industry of Bangladesh.



### 1.2.2 Specific Objectives

The specific objectives of this paper are –

- to briefly describe and analyze trends observed in the pharmaceutical market of Bangladesh over the last ten years;
- to briefly describe the various challenges and limitations faced by this sector during this period;
- to discuss the various impacts of COVID-19 on this industry;
- to make predictions as to the prospect of the industry in the upcoming years;
- to identify potential challenges on the way forward as well as ways of overcoming those challenges and
- to offer a few recommendations to help this industry reach greater heights of success.

### 1.3 Methodology

Data collection method for this paper has been both primary and secondary in nature. For primary data, a few professionals in the pharmaceutical industry were interviewed while for secondary data, exhaustive reviews of digitally available news and reports on the official websites of Bangladesh National Portal, Bangladesh Bureau of Statistics (BBS), World Health Organization (WHO), the World Bank, United Nations Development Programme (UNDP), Asian Development bank (ADB) and many more were conducted. Moreover, many national and international journals, textbooks, reference books, newspapers and magazines that explored the topic of the paper were used for the collection of secondary data.

### 1.4 Scope

This paper is limited to the analysis of the pharmaceutical industry of Bangladesh, so comparisons between the performance of this industry in Bangladesh and that in other countries are beyond its scope. The time horizon for this study is 2010 to 2020.

### 1.5 Limitations

This study has its limitations which must be kept in consideration when using it as a reference to further analysis. Firstly, because the paper discusses the performance of the pharmaceutical industry only in Bangladesh, a comparative analysis of how this industry has been doing in Bangladesh and in other countries (especially the neighboring ones such as India and Pakistan) was not included in the paper. Any future work focusing on this particular issue should keep this limitation in mind while using this paper as a reference. Secondly, several important data related to the pharmaceutical industry were not available on the national/local websites such as BBS. Some of these data are available only in physical copies and thus, could only be accessed through visits to the public libraries. However, the second wave of COVID-19 and the resulting lockdown all over the country made this impossible.

## 2.0 SECTOR ANALYSIS | PHARMACEUTICAL

This section briefly describes and analyses the trends observed in the pharmaceutical market in Bangladesh over the last ten years, various challenges and limitations faced by the sector during this period, its future prospect and the impacts of COVID-19 on this industry.

### 2.1 A Brief Overview

#### 2.1.1 General Overview

Bangladesh's pharmaceutical industry is one of the most advanced hi-tech industries in the country. It researches, develops, manufactures, and distributes medicines and pharmaceuticals for medical purposes. Pharmaceutical firms can deal with generic and brand-name drugs as well as medical equipment. They must follow several rules and regulations when it comes to patenting, testing, and guaranteeing the safety and efficacy of medications, as well as selling them. Consumer Health, Animal Health, Nutritional Products, and Medical Devices/Diagnostics are all business sectors in which most major pharmaceutical firms operate.

#### 2.1.2 Market Overview

According to the Bangladesh Association of Pharmaceutical Industries (BAPI) and the Directorate General of Drug Administration (DGDA), Bangladesh had around 257 licensed pharmaceutical factories, with about 150 of them operational in 2011. Currently, there are over 300 pharmaceutical firms in operation. Around 98% of local demand is met by these manufacturing businesses. To fulfill the remaining 2% of demand, specialized products such as vaccinations, anti-cancer medicines, and hormone drugs are imported.

As pharmaceutical firms focus largely on branded generic final formulations, utilizing both imported and domestically produced Active Pharmaceutical Ingredients, around 85% of the medicines supplied in Bangladesh are generic, and 15% are patented (APIs). More than 450 generic medicines are produced in the nation for 5,600 recognized brands. In Bangladesh, however, there were 1,495 wholesale drug license holders and over 37,700 retail drug license holders.

In 2018, the sector had 3,657 allopathic generics, 2,400 registered homeopathic medications, 6,389 registered Unani drugs, and 4,025 registered Ayurvedic drugs, according to the Director General of Drug Administration (DGDA).

#### 2.1.3 Product Overview

Tablets, capsules, liquid preparations, dry suspension, injections, ointment/cream, nasal spray, anti-ulcerates, fluoroquinolones, anti-rheumatic nonsteroid medicines, non-narcotic analgesics, antihistamines, and oral anti-diabetic treatments and granules in sachets have all been created in the nation. Bangladesh can make inhalers, prefilled syringe injections, lyophilized injections, dry-powder inhalers, and sustained-release formulations. On a small scale, Bangladesh produces high-

tech pharmaceuticals such as anticancer therapies, hormone products, enzymes, and coenzymes, although it can only fulfill 4% of Bangladesh's local requirements.

### 2.1.4 Historical Background

Bangladesh's pharmaceutical industry has become one of the country's propulsive industries for export. There was hardly any pharmaceutical industry in Bangladesh before the country's liberation (then East Pakistan). However, a few indigenous pharmaceutical businesses began operations in the 1950s and 1960s. Despite this, the government was unable to increase budgetary allocations for the improvement of the health sector after several years of independence, because the sector was dominated by multinational corporations, while local businesses lacked proper infrastructure, modern equipment, and technology. Furthermore, there was no regulating authority in place.

The majority of the population lacked access to life-saving medications. According to the World Bank's World Development Report, a substantial percentage of Bangladesh's population had limited access to modern medications in the early 1980s. In 1981, the national market for allopathic medicines was at US\$75 million, accounting for less than 0.1% of the global market.

The pharmaceutical industry began to improve in the 1980s. It has grown at a rapid pace during the previous two decades. The growth of this industry was accelerated by the passage of the Drug Control Ordinance in 1982. The pharmaceutical experts' professional knowledge, opinions, and innovative ideas are the driving forces behind this progress. Between 1982 and 2005, the National Drug Policy (NDP) had a significant influence on the establishment and expansion of Bangladesh's pharmaceutical sector. Because the NDP benefited local pharmaceutical businesses, they began to expand their operations. Meanwhile, multinational corporations (MNCs) transferred their commercial interests to local firms.

Table 2.1: Pharmaceutical Industry of Bangladesh Before 2009

| Government Spending            | BDT 1,500 million per year |
|--------------------------------|----------------------------|
| Number of Brands in the Market | 3,500                      |
| Number of Manufacturers        | 177                        |
| Multinationals                 | 8                          |
| Retail Pharmacists             | 16,000                     |
| Number of Wholesalers          | 1,300                      |
| Private Sector                 | 90% available drugs        |
| Government Utilize             | 10% available drugs        |

*Source: Bangladesh Pharmacy Council (BPC), Annual Report - 2009*

### 2.1.5 Economic Overview

#### Growth

There are numerous areas in which Bangladesh may take pride, and the pharmaceutical business is one of them. The pharmaceutical industry is the second greatest contributor to the government's coffers.

According to the Directorate General of Drug Administration (DGDA), the domestic drug market share was 175 crores in 1981 and had risen to 325 crores by 1985. According to an IMS estimate, the size of the Bangladeshi market has increased from BDT 1730 million in 1982 to more than BDT 113 billion (\$1.5 billion) in 2014. With a growth rate of around 11.37% each year.

The domestic market for pharmaceutical goods in Bangladesh has been growing in recent years, with a market size of BDT 260.1 billion (USD 3.1 billion) expected in 2019. (Source: IQVIA Report). However, because the IQVIA study does not contain statistics on homeopathy, unani, ayurveda, or herbal medicine, this number does not reflect the overall market size. In 2020, it is expected to increase by 7.6%, reaching \$3.54 billion. The generic medicine industry is largely controlled by generic pharmaceuticals, which account for 71.4% of total sales. This is followed by over-the-counter medication sales, which account for 21.3% of the overall market, whereas patented pharmaceuticals account for just 7.3% of the total market.

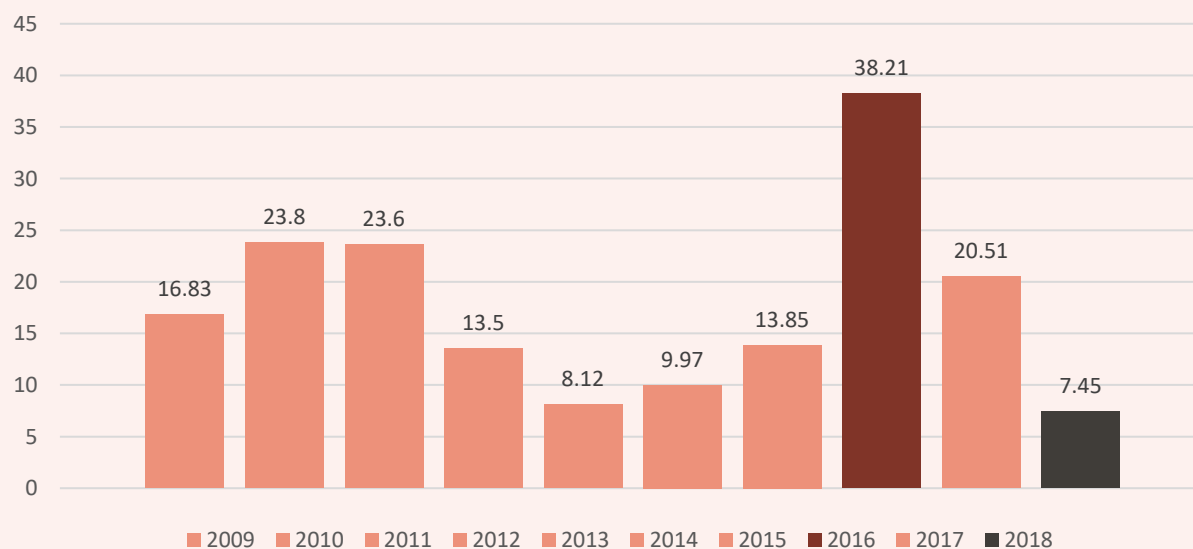


Figure 2.1. Pharmaceutical Industry Annual Growth Rate (%) (2009 – 2018)

Source: International Management System

The pharmaceutical business, Bangladesh's next multibillion-dollar potential, has developed dramatically in the previous five years. According to IMS Health Report, the historical six-year CAGR was 14.6% from 2013 to 2018, and the historical five-year CAGR was 15.6% from 2014 to 2018. Industry growth was sluggish in FY 2018 as there was regulatory pressure for the national

election, so pharma companies can't pass through higher API prices to end consumers. Bangladesh's pharmaceuticals sector is expected to increase 15% year on year to \$5.11 billion by 2023, according to industry analysts, spurred by significant expenditures by local businesses seeking a larger part of the global market. In a few years, Bangladesh will be a significant worldwide center for high-quality, low-cost generic pharmaceuticals and vaccines.

From the graph below we can see the year-by-year increase in the quantum index of our pharmaceutical manufacturing industry.

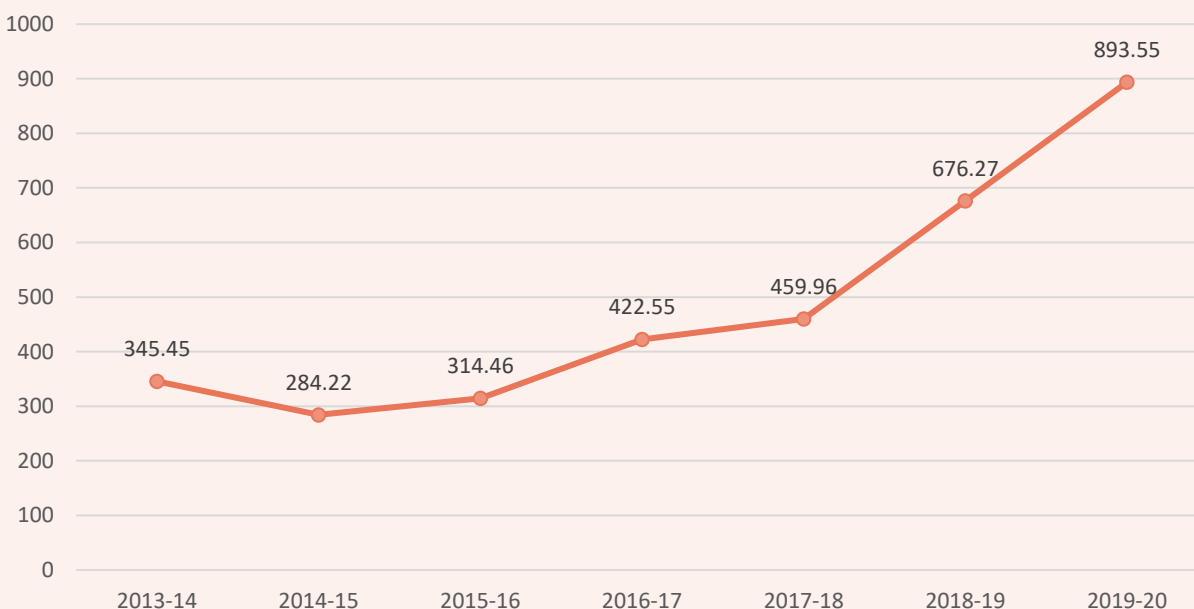


Figure 2.2. Quantum Index of the Pharmaceutical Industry (Base Year 2005-06 = 100)

*Source: Statistical Yearbook Bangladesh 2020*

### Contribution in GDP

According to the Bangladesh Bureau of Statistics, the industry contributed 1.83% in 2017-18 and ranked second in terms of national gross value addition in 2016-17 and 2017-18, only behind Readymade Garments (RMG). The pharmaceutical product was named 'the product of the year' for 2018 by Bangladesh's prime minister on January 1, 2018. According to a recent study published in the Dhaka Tribune, the industry is anticipated to develop at a 15% annual rate to reach 43,435 crore BDT by 2023, owing to increased investment by local firms seeking a larger part of the global market. Bangladesh's pharmaceutical sector is substantially shielded from foreign competition, as comparable medications made domestically are prohibited from being imported. This industry is the country's second-largest revenue generator. At the same time, the industry employs the greatest number of white-collar workers.

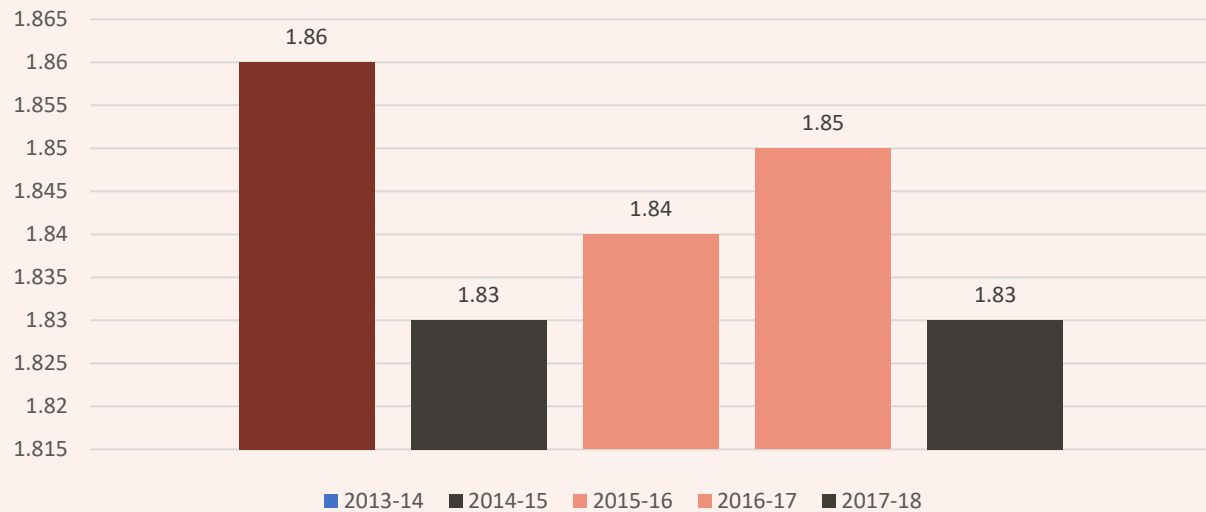


Figure 2.3. Pharmaceutical Industry's Contribution to GDP of Bangladesh

Source: Bangladesh Bureau of Statistics and EBLSL

The graph below illustrates the size and growth of Bangladesh's GDP as well as the size and growth of the pharmaceutical industry from year to year. This graph depicts the period from 2013-14 to 2017-18. Bangladesh's pharmaceutical sector is growing faster than the country's GDP.

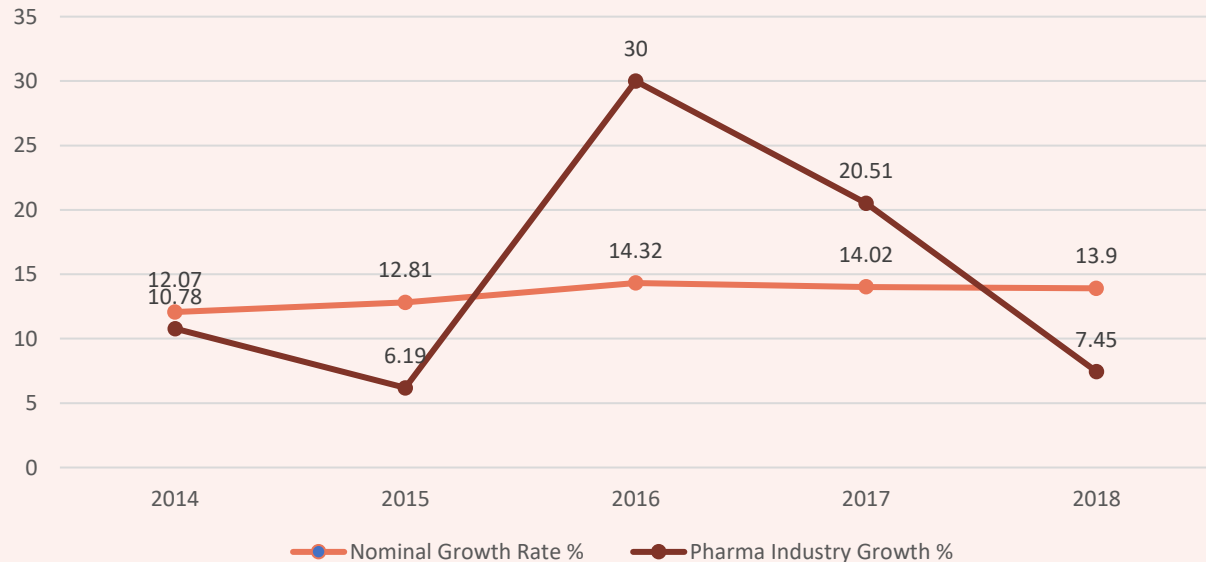


Figure 2.4. Nominal GDP vs. Pharma Industry Growth Rate

Source: IQVIA, Bangladesh Bureau of Statistics and EBLSL Research

Pharmaceutical spending per capita remained low in 2019, at USD 18.9. Until 2014, communicable illnesses made up the majority of the epidemiology of this market (70%); however, the profile is slowly but gradually changing towards non-communicable diseases. Cancer,

musculoskeletal problems, chronic respiratory ailments, and psychiatric disorders are the most common non-communicable diseases.

### 2.1.6 Key Growth Drivers

#### ■ TRIPS and 1982 Drug Control Ordinance

According to WTO's Trade-Related Aspects of Intellectual Property (TRIPS) agreement signed Between 2006 and 2016, 49 Least Developed Countries (LDCs) were permitted to export patent-free pharmaceuticals to any nation under the WTO's Trade-Related Aspects of Intellectual Property (TRIPS) agreement, which was agreed in Doha in 2002. Bangladesh was able to reverse engineer the original copyrighted pharmaceutical to make generic versions of that drug without first obtaining permission from the inventor. Bangladesh also has the option of exporting to any country if the drug is not patented in that country. Bangladesh has been excused from the World Trade Organization's requirements to adopt patents and data protection for pharmaceutical items until January 2033 since it is a least developed nation.

No foreign business could provide knowledge to a local producer if they did not have their own set up in Bangladesh, according to the Drugs (Control) Ordinance of Bangladesh 1982. Furthermore, foreign firms are prohibited from marketing imported medicinal items in the nation as a result of this law. All of these factors have contributed to the expansion of Bangladesh's pharmaceutical industry.

#### ■ Growing GNI Per Capita and Capita Healthcare Expenditure

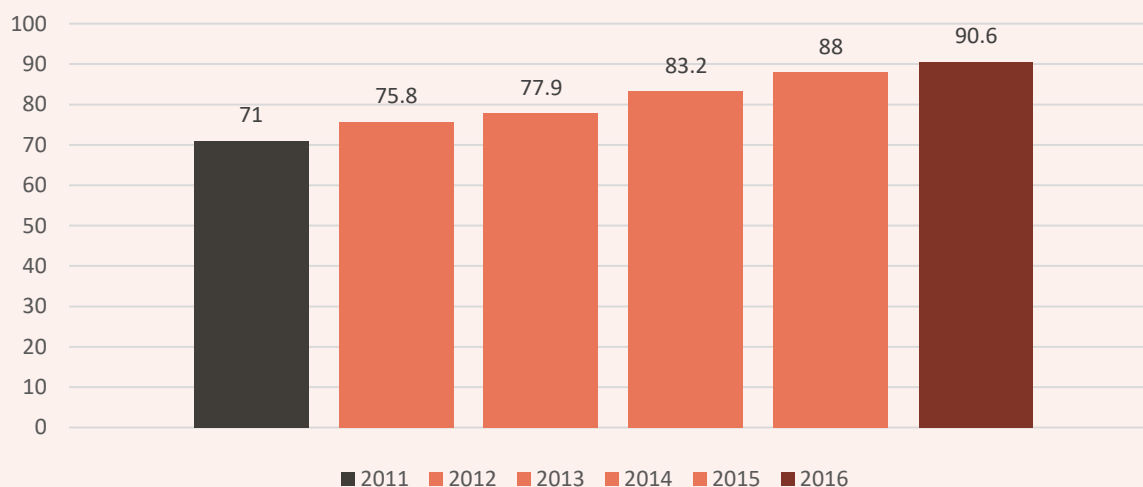


Figure 2.5. Per Capita Healthcare Expenditure, PPP (Current International \$)

*Source: World Bank and EBLSL Research*

In the previous ten years, Bangladesh's per capita healthcare expenditure rose at an average rate of 11.0%, while its gross national income (GNI) per capita expanded at a rate of 6.0%. The

Bangladeshi people's average income has risen. According to World Bank data, per capita GNI increased to \$1909 in the 2019 fiscal year, up from \$1,750 in the previous year. From 2018 to 2019, the average salary increased by 9.08%. People have more money to spend on medical expenses when their income levels rise.

### ■ Population Growth and Rapid Urbanization

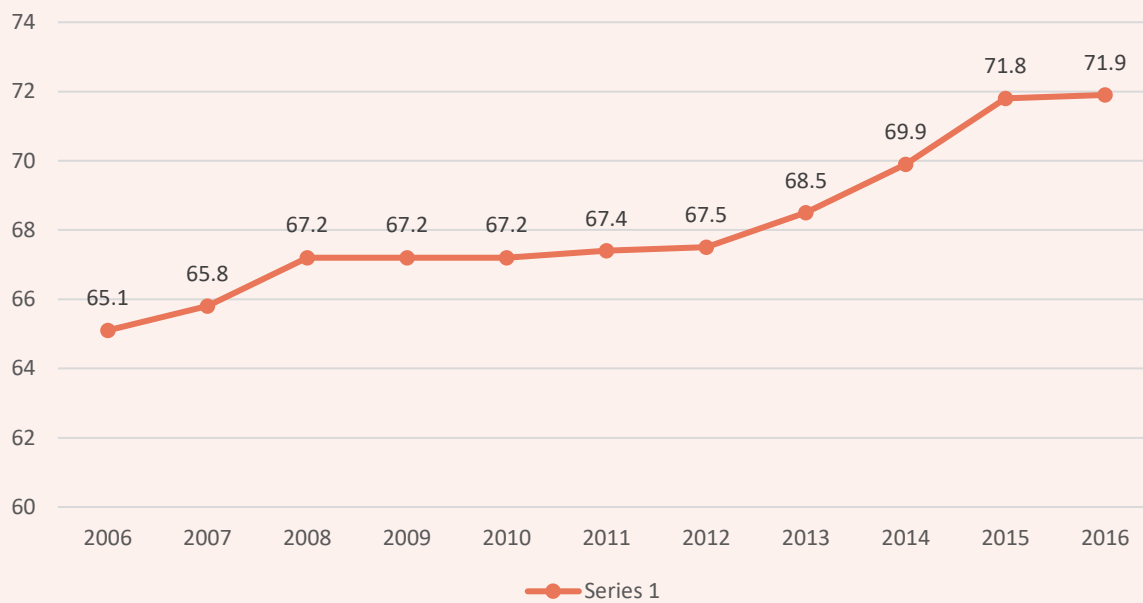


Figure 2.6. Out-of-pocket Healthcare Expenditure (% of Current Healthcare Expenditure)

Source: World Bank and EBLSL Research

Bangladesh's average annual population growth rate from 2012 to 2018 was 1.1%, according to the World Bank and World Meter. Bangladesh's pharmaceuticals sector is growing as a result of this. Out-of-pocket healthcare costs account for 71.8% of healthcare costs. We anticipate that private healthcare spending, as well as out-of-pocket spending, will rise in the midterm as the urban population grows.

### ■ Upward Demand of Generic Drugs

In each of the previous three fiscal years, the country's real GDP growth rate has exceeded 7.5%. During the same period, the pharmaceutical industry grew faster than the overall economy. We estimate that the industry will expand by 15% in the following years. Generic medicines are identical to brand-name pharmaceuticals in terms of dose, intended usage, adverse effects, risk, safety, and strength.

### ■ Increase in Modern Healthcare Facilities

Bangladesh's medical and pharmaceutical institutions are embracing contemporary technologies. This will have a significant impact on Bangladesh's pharmaceutical sector.



### Health Awareness of Mass People & Changing Lifestyle

Through social media, the increasing contribution of Generation X (born 1965-1979) and millennials (born 1980-1994) to the overall population has shifted views on health awareness. People are more health-conscious now than they were previously. They go to the doctor anytime they have a problem, which will help Bangladesh's pharmaceutical industry flourish. The lives of city inhabitants and urban residents are quickly changing.

### Demographic Shift

People's life expectancy has grown considerably. Bangladesh's life expectancy at birth is 72.81 years in 2017, up from 66.4 years in 2002. As people's life expectancies have increased, so has the number of older citizens. Chronic illnesses are anticipated to rise significantly as Bangladesh's lifestyle and environmental variables change. Furthermore, to live a longer life, individuals used to visit a physician regularly and take various medicines according to the doctor's prescription.

### Changing Diseases Profile

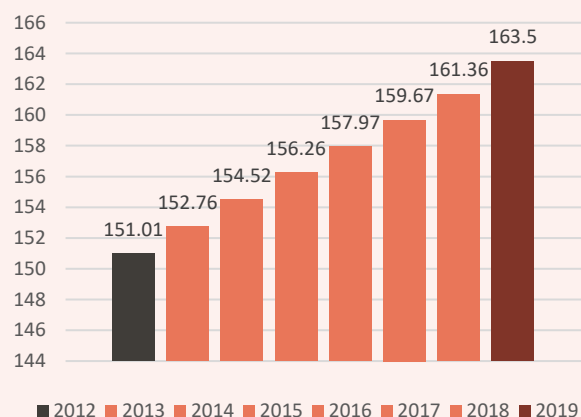


Figure 2.7A. The population of Bangladesh (in Million)

Source: World Bank and EBLSL Research

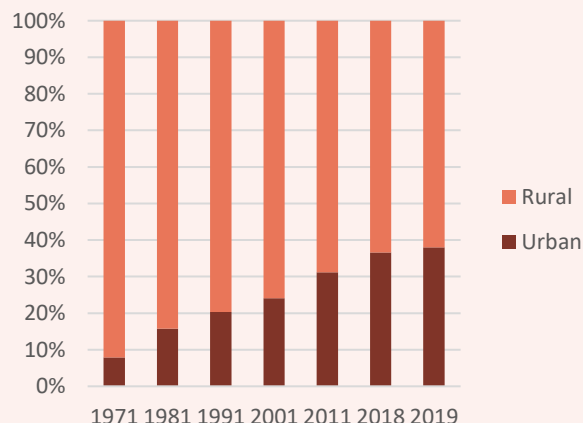


Figure 2.7B. Urban Population (% of Total Population)

Source: World Bank and EBLSL Research

The growth of lifestyle illnesses may be attributed to three primary factors: demographic shifts, lifestyle changes, and increasing urbanization. In 2018, the urban population accounted for 36.863% of the overall population, a figure that is steadily increasing. People who live in cities have greater purchasing power and are more health concerned than those who live in rural areas.

Bangladesh's disease profile is undergoing significant changes. Noncommunicable diseases (NCDs) are on the rise, and acute illnesses are giving way to chronic illnesses. Diabetes, renal failure, stroke, heart attack, and cancer are all major NCDs. The ongoing care necessary for chronic

conditions, as well as the frequently costly therapeutic initiatives, can put a strain on the health system and result in potentially catastrophic out-of-pocket expenses for families.

### **2.1.7 Drug Regulatory Authorities in Bangladesh**

In Bangladesh, two bodies oversee medicines and pharmacies. The Directorate General of Drug Administration (DGDA), which is part of the Ministry of Health and Family Welfare, is the country's drug regulating authority. All operations connected to the import and export of raw materials, packaging materials, manufacture, sale, pricing, licensing, and registration of all types of medicine, including Ayurvedic, Unani, herbal, and homeopathic systems, are regulated by the DGDA.

In 1976, the Pharmacy Ordinance Act created the Pharmacy Council of Bangladesh (PCB) to regulate pharmacy practice in Bangladesh. The International Pharmaceutical Federation and the Commonwealth Pharmaceutical Association are both members of the Bangladesh Pharmaceutical Society. According to the National Drug Policy (2005), current World Health Organization Good Manufacturing Practices (GMP) shall be rigorously observed, and manufacturing units will be examined by the DDA regularly. Restrictions on imported pharmaceuticals (where they are manufactured by four or more local businesses), a prohibition on local manufacturing of roughly 1,700 drugs that are considered non-essential or dangerous, and stringent price limits on 117 major medicines are among the primary regulatory elements.

With only 33 members when it was founded in 1972, the Bangladesh Association of Pharmaceutical Industries - BAPI (Bangladesh Aushad Shilpa Samity in Bengali) has played a critical role in the sector's growth. BAPI is now a highly powerful association, with 144 firms as members.

### **2.1.8 Market Scenario**

Currently 400 pharmaceutical companies are here in Bangladesh. Among these 400 companies, 276 companies are registered and operational. 97% of the requirement of total medicine is met by the companies operating in Bangladesh. Only 3% of the required medicines are imported (Nazim et al.). Unlike the other sectors, the pharma industry is largely dominated by the local players. There were 5 MNCs in the market previously, but currently there are 3 MNCs only after two major MNCs left their business due to possible LDC graduation (figure A1 in Appendix).

Currently the market size is 245 billion. More than 50% of the market share is obtained by the large 6 pharmaceutical companies. These companies are Square, Incepta, Beximco, Healthcare, Oponin and Renata (Haroon, 2021).

The Pharmaceuticals market is concentrated among few local companies only and the entry barrier is higher due to large capital investment and legislative bindings. (EBLSL Research Team, n.d.)

Pharmaceutical companies in Bangladesh usually provide branded-generic products. So, established brands are able to charge premium prices for their products (Faisal, 2019).

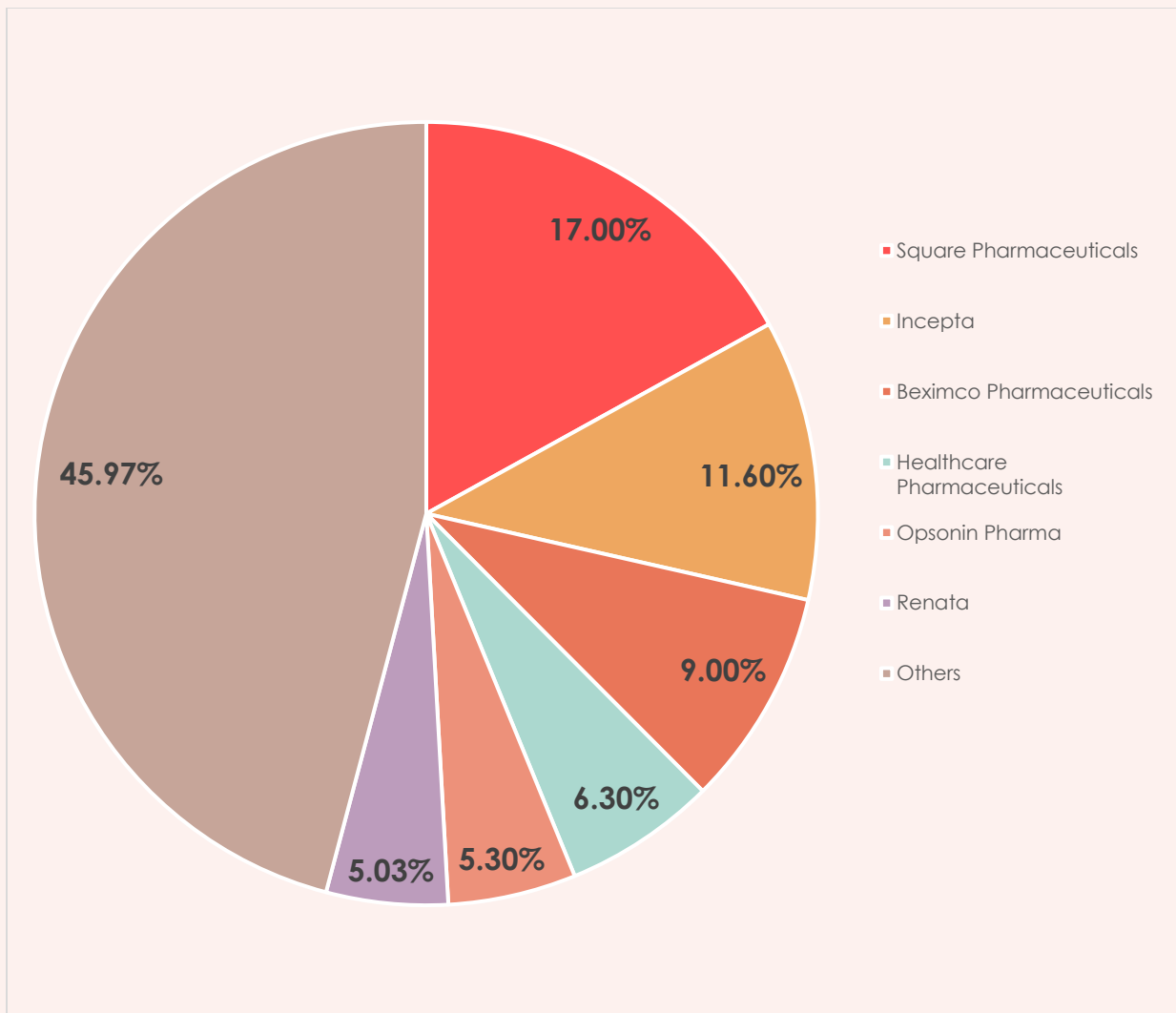


Figure 2.8. Market Share of the Pharmaceutical Companies in Bangladesh

### 2.1.9 Competitive Structure

#### ■ Threat of new entrants-Low

It is highly difficult for any new company to enter the pharmaceutical industry because of heavy capital requirement, regulatory permissions, customer loyalty to the existing brands, and leading players' hold over the distribution channels.

#### ■ Threat of substitute product- High

There are many brands available for the same medicine. Though customers are loyal to the leading brands and are not comfortable trying products from a new company, they easily switch from one

brand to another if they do not find the desired brand. The retailers also tend to switch easily depending on their benefits.

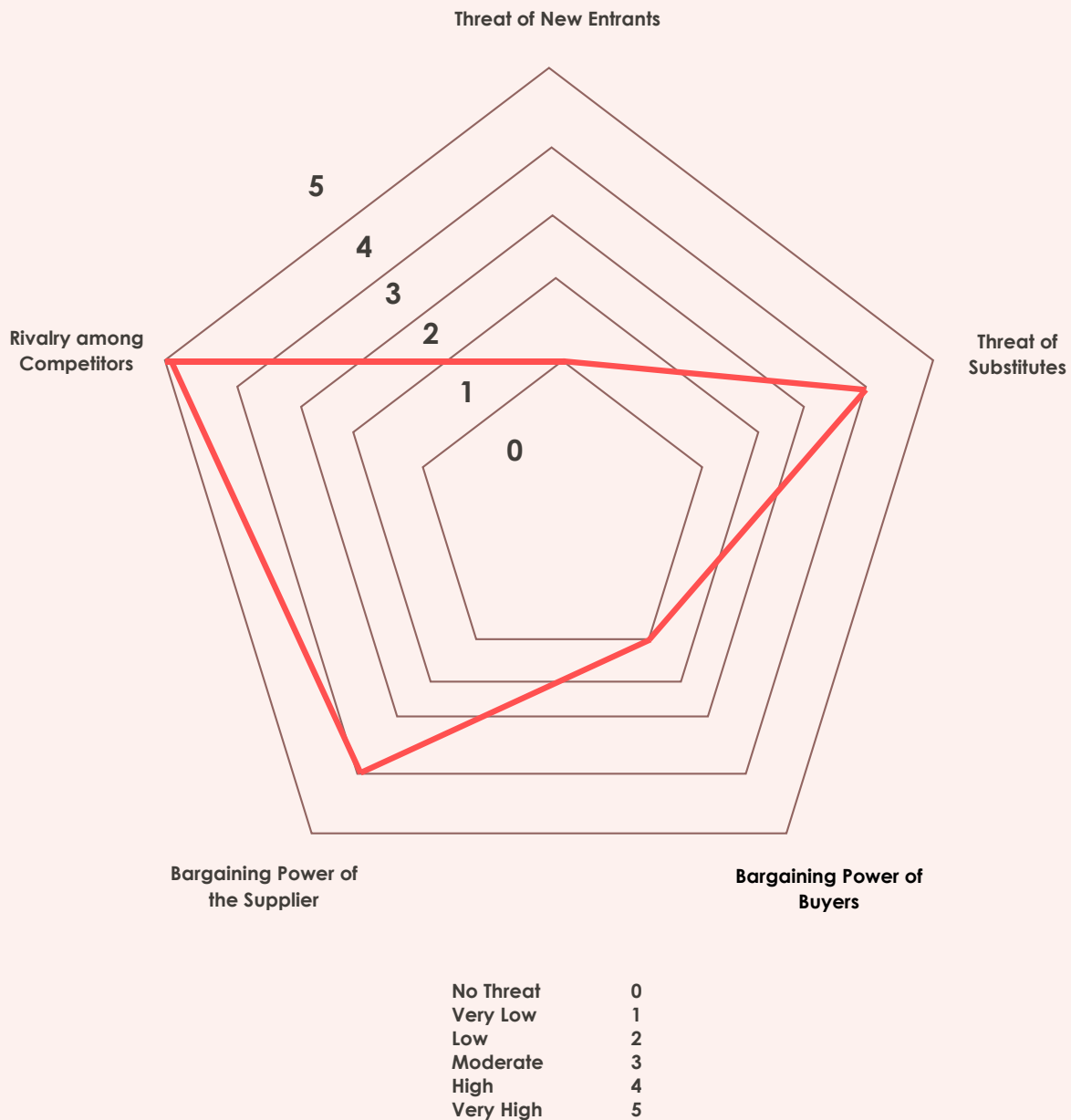


Figure 2.9. Competitive Structure of the Pharmaceutical Industry

### ■ The bargaining power of buyers- Very Low

The customers choose their product depending on the medicine prescribed by the doctors and the companies don't usually vary the prices of the same product much. Also, the customers are scattered and not concentrated.

### ■ The bargaining power of the supplier: High

Bangladesh is highly dependent on China and India for sourcing raw materials. The only alternative source is Europe which costs higher. High switching cost and concentration of the supplier gives them high bargaining power. This may change in future as Bangladesh is building an API park in Munshiganj.

### ■ Rivalry among the competitors: High

Top 20 players dominate the pharmaceutical industries with top 6 market leaders with more than 50% share. Each of them produces all kinds of required medicines with different brand names. Competition is fierce in this industry.

#### 2.1.10 Export Scenario

Prior COVID, in the FY 2018-19, Bangladesh exported 130 million USD of pharmaceutical products. This was a significant growth of 25.6% compared to the approximate 103 million USD of export in the previous year. 1.46% of total annual export earnings depend on this industry (Bhuiyan et al., 2019).

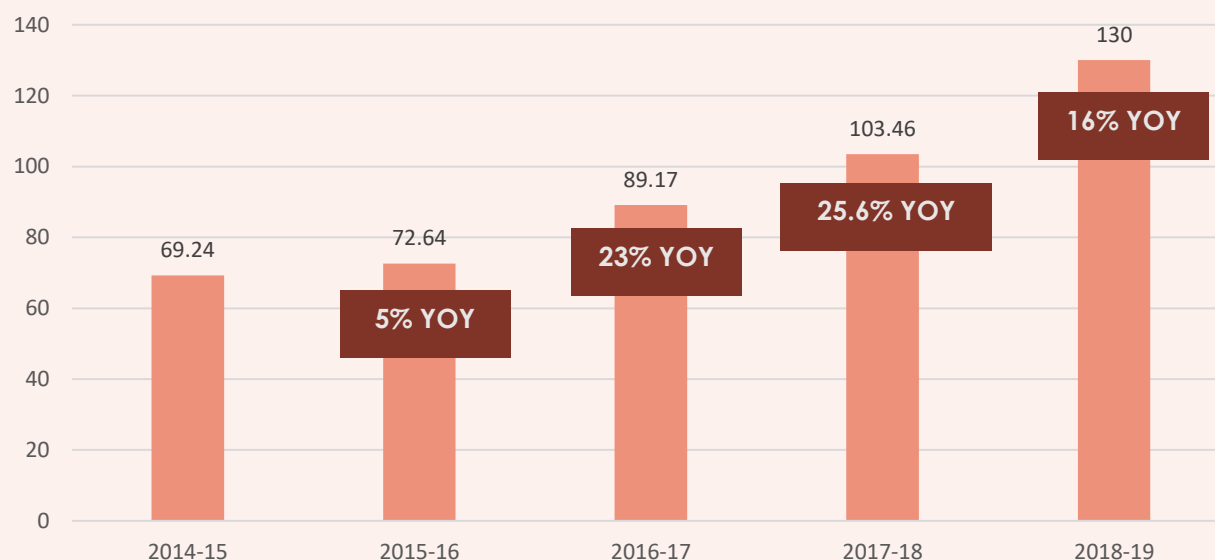


Figure 2.10. Pharma Export in Mn USD and Growth

Source: Export Promotion Bureau

According to Bangladesh Export Promotion Bureau, Bangladesh exported pharmaceutical products to 147 countries in the fiscal year 2018-19. Among 147 exporting countries, the top 7 countries (Myanmar, Sri Lanka, Philippines, Vietnam, Afghanistan, Kenya and Slovenia) constitute 60.32% of total pharma exports. Rest 39.68% comes from other countries (EBLSL Research Team, n.d.).



Figure 2.11. Export Destination of Pharmaceutical Products (in Million USD, 2018-19; 9 Months)

Source: Export Promotion Bureau and EBLSL

An interesting fact is, not all the leading players in the local market are leading in exporting their products. Instead of square, Beximco is the leading player here. Square follows Beximco as the second highest exporter, followed by ACME and Renata. Incepta, Beximco Pharma and Square export their products to 60, 55 and 42 countries respectively. Top three generic drug manufacturers (Square, Incepta and Beximco) have already received approval from USFDA to export drugs to the USA (CFA).

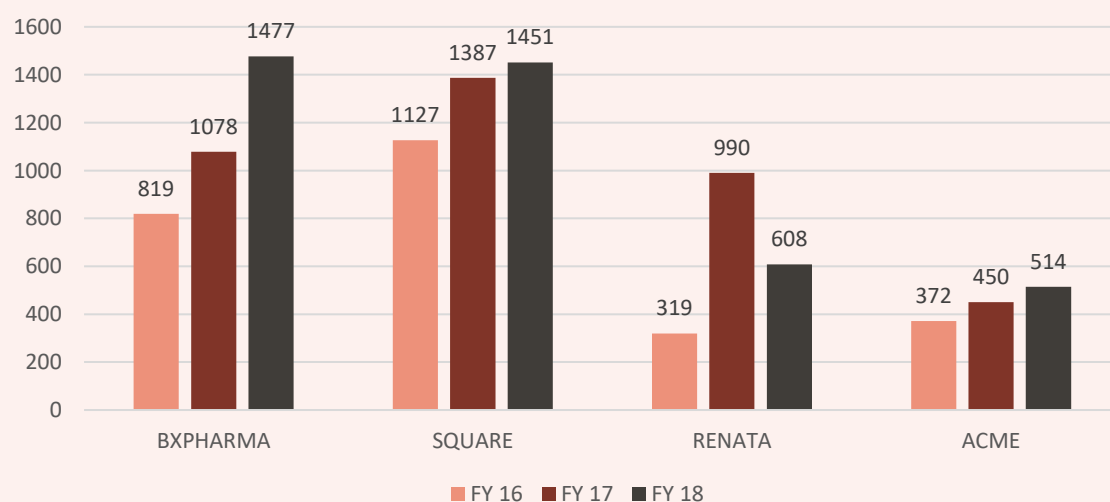


Figure 2.12. Export of Major Players in Mn BDT

Source: Annual Report of Respective Companies and EBLSL

## 2.2 COVID-19: Impacts and Aftermath

### Impacts

Pharmaceutical industry is one of the very few sectors in Bangladesh that at least saw positive growth during this covid-19 pandemic. But the fast-growing industry slowed significantly in 2020 during the initial shock of the pandemic. The life-saving drug market expanded at 6.5% in the third quarter of 2020, down from the previous growth rate of 10-12 percent (Haroon, 2021). The whole country went under lockdown from March 26, 2020 to May 31, 2020 due to the pandemic. From April to July the healthcare system of Bangladesh, centralized in urban areas, was virtually paralyzed. Doctors stopped visiting clinics and chambers for months until July, nurses and other healthcare workers almost stopped providing services to patients during that period. Even people were reluctant to visit doctors and physicians to avoid catching the corona virus. As a result, the sales of prescription drugs dropped, whereas the sales of pharmaceutical industry in the country is mostly dependent on prescription drugs. This has led to the slow growth of this one of the fastest-growing industries of Bangladesh. Although a large number of urban people consumed a lot of vitamins and antibiotics to build immunity against the coronavirus, these drugs are cheaper thus making it difficult to create much value to the totals. Again, generally covid patients do not need specific drugs, only some cheaper drugs have been prescribed at the hospitals and often non-covid patients were neglected to get healthcare services during that period. Furthermore, in the early stage of covid-19 import-export supply chain was disrupted due to the world-wide lockdown, as a result, the industry faced challenges in importing raw materials. Although this also added to the downward situation of the industry, due to proper planning and forecasting, efficient management, and quick alternative source selection the country did not face a medicine crisis.

Although the market dominating players in the industry found their sales volume less-affected, many medium to small companies even saw negative growth. In 2020, the top 15 companies contributed 83.08% of the total sales whereas in 2019, the figure was 79.48%, which means the big players in the industry did well during the coronavirus pandemic (Sadeq, 2020). The big firms have branded products and over-the-counter products, and these products have more or less maintained sales, thus keeping their financial state almost stable.

### Aftermath

However, despite all these challenges pharmaceutical companies tried to keep their regular operation going on and supplied essential drugs to the markets both at home and abroad. After July the industry started to turn around as doctors and physicians returned to clinics and chambers, providing service to the people while maintaining proper hygiene resulting in an increase in countrywide demand for prescribed medicines. The profits soared up to 76% in September compared to the second quarter of 2020 (Haroon, 2021).

Bangladeshi pharmaceutical companies like Beximco Pharma, Incepta, Square, Eskayef and Beacon played a very praiseworthy role in manufacturing anti-covid medicines such as, the generic

version of Remdesivir, Favipiravir, Ivermectin, and the industry earned 150 crores from the export of these medicines. Some of the firms, who produce and sanitizers, Isopropyl Alcohol, Hydroxychloroquine, etc., could bring these products in the market at short notice in adequate quantities, and such hygiene products saw their sales climb up during the initial period of the pandemic as the demand for these products were high and investors bought their shares sensing the rise in income of the companies amid the pandemic. These products also drew the attention of both developing and developed countries, and brought better results in the export market too. With all these, the abundant sale of vitamin supplements and antibiotics has added value to the total sales.

Among the market dominating players in the industry, there is no doubt that Beximco group has been the biggest beneficiary of the global coronavirus pandemic. When the world was shattered by the fear of coronavirus, in May, the drug maker grabbed global headlines for being the first company to market the antiviral drug Remdesivir that showed promising results in treating covid-19 patients. The company has been supplying the drug and other medications to treat covid-19 at home, and exporting to other countries. Three months later it announced a covenant with Serum Institute of India to be the exclusive distributor of Oxford's vaccine in Bangladesh. On November 5, a trilateral memorandum of understanding (MoU) was signed among the government of Bangladesh, Serum Institute of India and Beximco Pharmaceuticals to collect thirty million doses of covid-19 vaccines from Serum (Habib, 2020). After the two announcements, Beximco Pharma's stock has been much coveted among the investors. Beximco Pharma's vaccination agreement with the government boosted investor's confidence, as a result Beximco Pharma has been the top choice for stock investors as they believe the company will make higher profits in the days of administering covid-19 vaccine in Bangladesh. Since June 2020 its share price has been on the rise and soared more than two and a half times. Their latest stock price is Tk 180, in contrast to Tk 70.3 on June 1. Beximco Pharma saw its net profit soar more than 41% in the first nine months of FY20-21 to Tk 370.60 crore and earnings per share (EPS) was Tk8.23 for Jul'20-Mar'21 against Tk5.84 for the same period last year. In just the first six months of its 2020-21 financial year, which runs from July to June, it has logged in more profit than it did in full years since 2012. Beximco is not the only Bangladeshi company offering advanced products in response to the coronavirus pandemic, however, it is unique in producing both COVID-19 drugs and PPE. Beximco flagged off its PPE export with a batch of 6.5 million medical gowns custom made to the specifications of the US Federal Emergency Management Agency. Another reason for the spectacular surge in profit was higher shipments of personal protective equipment (PPE). So, it is no wonder that the share price of Beximco Pharma has been on the rise.

The huge drawback is Beximco Pharma is the sole distributor of Serum's vaccine in Bangladesh. But now India has imposed a ban on vaccine export followed by a severe resurgence of Covid-19 in the country, Bangladesh had to go for alternatives. So local pharmaceuticals are pushing the government to allow domestic production of generic Covid-19 vaccines. Now Beximco Pharma is



in talks with Serum Institute of India about producing the Oxford-AstraZeneca vaccine in Bangladesh, and Incepta is in talks to produce China's Sinovac vaccine. While that initiative is waiting for the government of Bangladesh and WHO's approval, local companies like Renata, Incepta and Orion are taking leads to bring and administer the distribution of Moderna's, China's Sinovac and Russia's Sputnik V vaccines respectively.

## 2.3 Strengths and Challenges

### Strengths

#### ■ Availability of Cheap Labor Force

Bangladesh has a huge population and this is a positive factor when it comes to availing low-cost labor. It is considered as one of the major strengths of Bangladesh's pharmaceutical sector (Chakma, 2020).

#### ■ Quality and Global Image

Bangladesh's produced medicines have a better global image and almost same quality as of India and Egypt (Chakma, 2020).

#### ■ Low Utility Cost

The overall utility cost in Bangladesh is lower than the competitive countries and thus it works as a stronghold for the pharmaceutical sector (Chakma, 2020).

#### ■ Economic Growth

The overall economic growth of Bangladesh has contributed to rise in life expectancy, lifestyle change, increasing per capita income and with that growing number of patient population has been a key driver for the booming consumption of local drugs (Chakma, 2020).

### Challenges

Bangladesh possesses US\$2 billion which is around 1 percent of its GDP from its pharmaceuticals industry which mostly produces off patent generic and on patent medicines and supplies them at home to fulfill almost 98% of the local needs and also exports to over 30 countries. Though the sector is immensely important for the growth of Bangladesh's economy it faces key challenges as Bangladesh is on a transit period from being least developed country to the next stage (Ovi & Mahmud, 2019). The major challenges that Bangladesh's pharmaceuticals sector faces are lack of raw materials (API) supply from the local market, patent relief which is almost on the last stage, accredited drug testing laboratory, bio equivalence test facility and market regulations.

#### ■ High Dependence on Imported API

Bangladesh imports almost 99% of active pharmaceutical ingredients (API), which is the main raw material of this industry, from China and India. To compete in the global market domestic supply

of API is a must. Bangladesh can save up to 70% of its raw materials import cost by producing API locally (Ovi & Mahmud, 2019).

### ■ **Patented Drug Manufacturing**

Bangladesh, a least developed country, enjoys a license free drug manufacturing for the patented drugs as per the TRIPS accord by WTO. This privilege is going to finish very soon when Bangladesh graduates from the LDC status so the open market challenge is going to be a major issue due to the high cost of patented drug manufacturing for the pharmaceutical companies as a whole (EBL Securities Ltd., 2019).

### ■ **Modern Drug Testing Laboratory**

Lack of a modern, well equipped, accredited drug testing laboratory is affecting the export of pharmaceutical companies. As a result of this foreign buyers and regulatory bodies often question the central monitoring as most of the drugs are tested outside of the country (Mohiuddin, 2019).

### ■ **Bioequivalence Test Facility**

In many countries, bio equivalence test of a product is a must to register the product for sale. As there is no such facility here in Bangladesh the companies need to carry out those tests in foreign countries for a huge charge. Thus, many companies do not even want to produce such drugs that requires a bio equivalence test which hampers the export volume of the country (Mohiuddin, 2019).

### ■ **Problem Related to Marketing**

Due to the low or no incentive package for the medical representatives the turnover rate is very high and thus the impact of marketing is not visible in the product prices. Also lack of proper government laws and less effective implementation by the drug administration makes it hard to cover the whole marketing ideas (Bhuiyan et al., 2019).

### ■ **Problem Related to Export**

In the ports lack of use of proper technology and also the irresponsibility of customs officers is a hindrance to the proper and timely export of materials (Bhuiyan et al., 2019).

### ■ **Problem Related to Power Development**

The timely supply of power is a major concern for the factory owners in Bangladesh as the government is lacking experienced manpower and the willingness to support the cause makes it harder to properly maintain the power supply (Bhuiyan et al., 2019).

### ■ Problem Related to Foreign Competition

Foreign companies have better technology and superior instruments which is keeping them ahead of the local companies also the foreign companies have their own local market so they can absorb some losses here and keep moving forward (Bhuiyan et al., 2019).

### ■ Regulated Markets

There are markets which require highly standardized documents to register pharmaceutical products such as the USA, European Union, Australia, Japan and other highly or moderately regulated countries and regions. These criteria are difficult to meet for the majority of the small companies of Bangladesh which are not sophisticated and accredited and often lack proper quality control and standard manufacturing process and above all highly skilled professionals are unavailable (Mohiuddin, 2019). Also, the following challenges are faced while entering into the market of USA, UK and EU:

- i. Buying the Abbreviated New Drug Application (ANDA) for USA market and the Marketing Authorization for UK and EU market is very costly as there is an advance income tax of 30% and 15% vat (Alam, 2019).
- ii. There is a lack of mutual acceptance of Good Manufacturing Practices (GMP) of the Directorate General of Drug Administration (DGDA) (Alam, 2019).
- iii. There is limitation of Capital Account Convertibility which is essential to have an office and get the tax and resident benefit of the target market (Alam, 2019).
- iv. Limitation of sending expenses for the office in the foreign market which is about USD 30000 per year (Alam, 2019).

### ■ Covid-19 Restrictions and Challenges

Due to the emergence of the global pandemic Covid-19 the pharmaceutical companies faced various challenges like the dip in the demand of prescribed medicine due to the lockdown imposed by the government and also complications related to the sourcing of vaccines and also the API sourcing.

The government of Bangladesh contracted with the Serum institute of India for 30 million vaccines but due to the rapid increase of infection in India they stopped the promised supply of remaining 23 million doses of vaccine and it created a huge uproar as people with 1<sup>st</sup> dose of vaccines were due to take the second one but there was no vaccine supply (Das, 2021).

## 2.4 Opportunities and Way Forwards

Bangladesh is on the verge of graduating from its LDC status to the next level in 2026 which was previously 2024 and extended for 2 years upon the government's request due to the adverse impact of Covid-19 in the country's economic conditions. With the graduation Bangladesh will lose all of its quota free and patent free access in the foreign markets. To counter this challenge government

has formed a special committee to oversee the smooth transition and also to find out new opportunities and action plans.

### ■ Patent Exemption and TRIPS Agreement

The intellectual property agreement (TRIPS) by WTO was due to run out in 2016 but has been extended to January 2033 which is a massive relief at this moment for the exporter of Bangladesh's pharmaceutical sector. Thus Bangladeshi manufacturers can produce the generic drugs which is about 80% of the drugs produced in Bangladesh without having to pay for the patent. Along with this more than 1000 products received the necessary registration for export which is also a massive boost for the local pharmaceutical companies.

Another opportunity is upcoming when drugs worth more than USD 251 billion are coming off patent which will allow Bangladesh to produce these even after the completion of TRIPS agreement (Rashid,2019).

### ■ Covid-19 Vaccine and Future Impact

Due to the emergence of Covid-19 the production of vaccine is seen as a huge opportunity for the pharmaceutical sector when Beximco, a private company of Bangladesh went on to discussions with Serum institute of India to produce the Oxford vaccines here in Bangladesh. It is considered as a pathway to enter the global vaccine market (Molla, 2021).

### ■ Tax Exemption by NBR

The National Board of Revenue has issued an order allowing the import of API or the basic drugs by the local pharmaceutical companies without paying any value added tax which will be effective until 2025. This is an opportunity to focus on the local API production and create a strong foothold for the future API markets both local and international (VAT waiver for API producers, 2019).

### ■ Government Initiatives

The government committee formed under the General Economic Division of the Planning Commission has been working relentlessly to implement the growth strategy of the eighth five-year plan (2020-2025) by putting most priority on the diversification of production and market base, by addressing the anti-export bias by easing the trade barriers (General Economics Division, Bangladesh Planning Commission, 2020).

To improve the traction of product diversification the Ministry of Commerce is focusing on the following three trade policy reforms:

- Maintaining export competitiveness-by addressing barriers like tariffs, regulations etc.
- Strategy to reduce anti-export bias
- Strategy to reduce anti-diversification bias

(General Economics Division, Bangladesh Planning Commission, 2020).

### ■ API Park

As mentioned above, the pharmaceutical industry in Bangladesh is heavily dependent on the suppliers for the RAW materials. To reduce this dependency, the Bangladesh government has taken the initiative to build an Active Pharmaceutical Ingredient (API) Park. The project was approved by the National Economic Council (ECNEC) in May 2008. This Park is supposed to be ready in June 2021. The Park is being built under the public-private initiative with the Bangladesh Association of Pharmaceutical Industries (BAPI) (CFA).

## 2.5 Future Prospect

The pharmaceutical industry of Bangladesh has been witnessing significant growth in the last few years. According to a report from a Dublin-based market insight and analysis firm, Research and Markets, the pharmaceutical market of Bangladesh is expected to become a \$6 billion market by 2025 with an absolute growth of 114 percent from its 2019 levels. It is expected to have a compound annual growth rate of more than 12 percent during the 2019-2025 period. A majority of this growth will be contributed by local companies with a market share of more than 90 percent. According to a report by Bangladesh Investment Development Authority (Bida), thanks to the increasing purchasing power of the growing middle and upper-middle classes, the demand for healthcare services is growing at about 21 percent annually. This notable change is due to the consequence of innovation in the science and research and development sector. Rise in life expectancy, growing per capita income, changing disease profile, population growth, lifestyle changes and increasing patient population are some of the key drivers that are boosting consumption in the local market, the Research and Markets said in its report.

In addition, the report said, in the upcoming years, the government of Bangladesh will play a significant role in the rapid growth of the pharmaceutical industry by providing favorable policies for easy drug approval, production and marketing of new products. The government is focusing on reducing the country's dependence on the import of raw materials. The establishment of an API Park will act as a turning point for this purpose. It is expected that the development of the API Park will be complete by the next two years, which will reduce the cost of the import of raw materials. The report said the share of generic drugs is expected to surpass 85 per cent by 2025, which will further strengthen the dominance of local pharmaceutical companies in the market. Moreover, local companies are investing and developing dedicated facilities for specialized drugs for treating diseases such as cancer (Chakma, 2020).

However, Bangladesh is facing a huge issue regarding covid-19 vaccines as Beximco Pharma is the only distributor of the Astrazeneca vaccine that was set to come from India and now India has imposed a ban on vaccine export after only providing three million vaccines followed by a severe resurgence of Covid-19 in the country. So Bangladesh is in need of other alternatives for vaccine collection and production of generic vaccines locally. This has brought a new opportunity for the pharma companies of Bangladesh. But among all the companies only three of them, Incepta,

Popular and Healthcare Pharmaceuticals have the facility to produce the vaccines locally. Also, the production process will be possible only after the government of Bangladesh and World Health Organization (WHO) approves. Beximco Pharma is in talks with Serum Institute of India to produce Oxford's vaccine locally, and Incepta Pharmaceuticals is in talks to produce the sinovac vaccine of China. Furthermore, Beximco, Incepta, Renata, Orion Pharmaceuticals are investing in vaccine import and distribution.

### 3.0 RECOMMENDATIONS AND CONCLUSION

#### Recommendations

The preceding discussion made it clear that the pharmaceutical companies and government should put hand in hand and adopt effective measures to capture the market opportunities and tackle the threats that are looming around and for that the following actions are suggested.

**Market Expansion:** Each and every pharmaceutical company faces the growing demand of drug availability and thus they should take on proper R&D and try to increase their market share. An effective market development plan can bring success in capturing the foreign markets especially in the LDC markets. (Bhuiyan et al., 2019)

**Joint venture establishment:** Joint venture program will be beneficial for the transfer of technology and also attract foreign investment. Necessary policy should be adopted to transform the industries according to the guidelines of WHO for producing generic medicine. New entrepreneurs should be encouraged to establish a plan to meet the demand of patented drugs by getting the compulsory licensing as per the regulations of US FDA and UK MHRA to earn the norms of export in prospective markets under government support and supervision. (Bhuiyan et al., 2019)

**Human Resource:** Human resource is a major factor in gaining the greater market share both in the local market and also in the foreign markets. So to make the efficient human resource necessary development programs and training should be conducted by both the government and industry. (Sultana, 2016)

**Export Promotion:** Export Promotion Bureau of Bangladesh can arrange international fair on a yearly basis to promote the pharmaceutical sector of Bangladesh and also initiatives taken by BAPI should be made more frequent to make the high-level delegation team to gain foreign industry knowledge. (Mohiuddin, 2019)

**E-commerce inclusion:** The boom in E-commerce can play a positive role in gaining market share and thus companies should come forward to tackle the doubts about authentic medical equipment and medicines in online platforms in the customer minds. (Mohiuddin, 2019)

## Conclusion

The main aim of this study was to present a brief review of the pharmaceutical industry of Bangladesh. Data collection method for this paper has been both primary and secondary in nature. This paper is limited to the analysis of the pharmaceutical industry of Bangladesh, so comparisons between the performance of this industry in Bangladesh and that in other countries are beyond its scope.

As with every other sector, the pharmaceutical sector of Bangladesh has its own challenges and opportunities. To address the challenges individual and combined steps and initiatives from both the industry owners and government should be taken. In case of the opportunities the entrepreneurs and government both work together towards a sustainable growth in future while keeping in mind the limitations and strengths of the sector. The covid-19 pandemic is a war and it has challenged the dimension of almost every wing of the pharmaceutical industry of Bangladesh, and of course the industry got hurt. The industry saw slow growth, officials and workers were infected and suffered, but they remained fearless and got the courage to face all the challenges. The industry has proven itself during the pandemic and is ready to respond to any situation, and bring better outcomes both for the people and for the industry itself. Government has already taken some initiatives collaborating with the industries that are going to open more opportunities for this industry in the upcoming years. If such positive approaches combine with the discussed recommendations like a focus on R&D and developing better human resource, this industry can be one of the major strengths of the economy of Bangladesh.



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## APPENDICES

Table A1: Comparison of GDP growth and Pharmaceutical industry growth in Bangladesh

|                                     | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 |
|-------------------------------------|---------|---------|---------|---------|---------|
| <b>GDP (BDT billion)</b>            | 13,437  | 15,158  | 17,329  | 19,758  | 22,505  |
| <b>Nominal Growth Rate (%)</b>      | 12.07   | 12.8    | 14.3    | 14      | 13.9    |
| <b>Pharma Market (BDT Million)</b>  | 105,864 | 119,548 | 156,401 | 187,556 | 205,118 |
| <b>YoY Pharma Market Growth (%)</b> | 8.5     | 13      | 31      | 20      | 9       |

Source: IQVIA and Bangladesh Bureau of Statistics

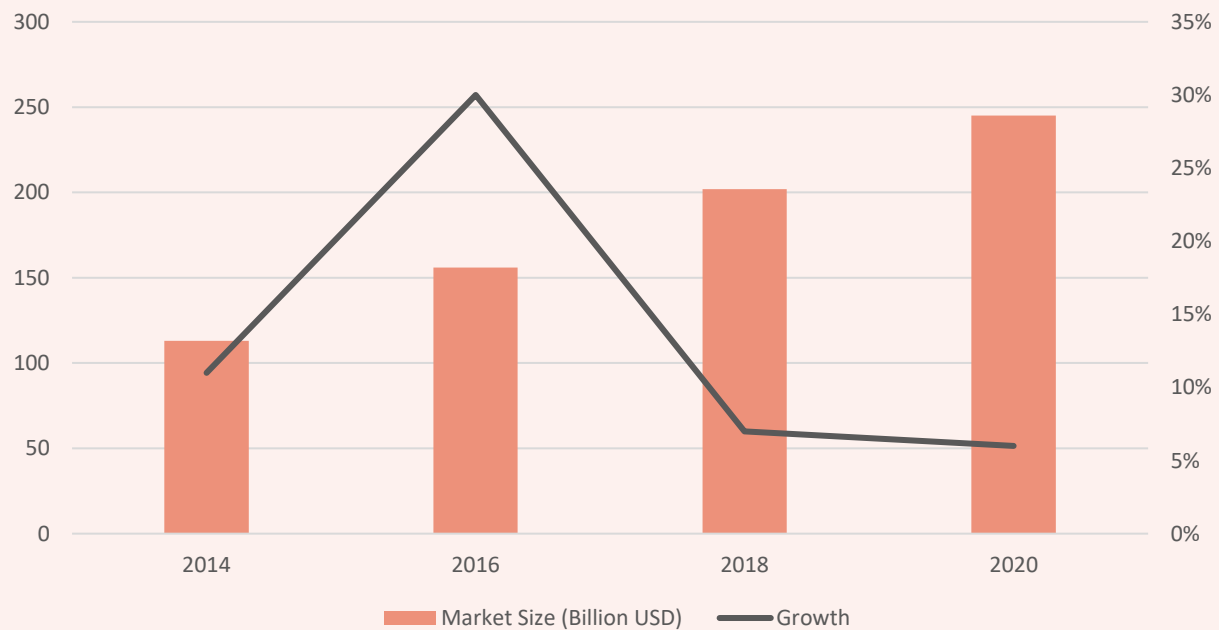


Figure A1. Market Size of the Pharmaceutical Industry

Source: CFA Institute Asia Pacific Research Exchange