

# SCENARIO ANALYSIS OF WHOLESALE AND RETAIL TRADE IN BANGLADESH: AN EMPIRICAL EVIDENCE

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## ABSTRACT

Wholesale and retail trade is considered as one of the essential activities contributing to the domestic product, labour force and linkage between producers and consumers. The main objective of the study is to assess the status of input cost, gross output, gross value added of wholesale and retail trade in Bangladesh during the period of COVID-19 pandemic and also compare the volatility between wholesale and retail trade. The secondary data of wholesale and retail trade survey-2021 with 15,258 establishment have been collected from Bangladesh Bureau of Statistics (BBS). Both the quantitative and qualitative methods were applied in this study. Scenario analysis was employed to find the current status of input cost, gross output, gross value added of wholesale and retail trade in Bangladesh. The study reveals that industrial cost was increased due to several constraints, including market issues, high labour costs, transportation issues, and logistical shortcomings. The findings of the volatility between wholesale and retail trade represent that retail businesses have more flexibility in expenses, while wholesale enterprises often have more output and value added. Finally, it has been found that gross output significantly depends on gross value addition, whereas COVID-19 affects all scenarios. The findings of this study would be helpful for the planners and policy makers of the trade sectors to take appropriate policies regarding wholesale and retail trade in Bangladesh.

**Keywords:** COVID-19, Establishment, Gross Output, Gross Value Added, Trade

## 1. INTRODUCTION

The term retail trade is a buyer to customer (B2C) marketing strategy used for selling goods to customers. Another term wholesale trade is business where bulk goods are sold to other companies at a reduced price. Here (B2B) marketing strategy used for selling goods business to business. Wholesale and retail trade services are vital to the efficient and effective flow of goods from business to business and producer to customer. Here, wholesalers act as marketing intermediaries that neither produce nor consume the finished product, but instead sell of goods and commodities to the retailers or the businesses or organization users. While retail trade is the business activity associated with the sale of goods to the final consumer

or the ultimate customer. It is the link between wholesalers or manufacturers and the customers of the product.

The study has been considered 19 (nineteen) major sectors to appraise the gross domestic product (GDP) in national accounts. The Wholesale and Retail Trade sector is one of the major sectors which directly contribute in our national economy. The share of retail and wholesale trade in gross domestic product (GDP) now stands at the third highest at 14 percent after the industry and agriculture sector. So, those are gradually becoming the main driver of the economy with their growing contribution to GDP.

The Bangladesh Bureau of Statistics had been conducted the survey based on Wholesale and Retail Trade in 1992-93, 1993-94, 1995-96, 1997-97 and 2002-03 under the integrated program. The last Wholesale and Retail Trade Survey was conducted on 2020. Wholesale and Retail Trade data was required for national accounting for compiling the GDP of Bangladesh and formulating different national policies and administration purposes. The conception of wholesale and retail trade is based on the activity primary relating to the sale of goods and commodities and repair services (motor vehicles and motorcycles, auto- rickshaws and rickshaws) also incorporated here as a permanent establishment. However, based on mentioned surveys around 65 to 75 per cent of all wholesale and retail traders in Bangladesh have been suffering from poor business due to a lack of customers, economic crisis and complications of COVID-19 during the height pandemic in 2020.

During December 2019 corona virus disease (COVID-19) was detected firstly in Wuhan, China. Later it has been spread out Worldwide tremendously and the World Health Organization (WHO) has declared it as a pandemic. The COVID-19 outbreak isn't only a health crisis but also invading our societies and economies in different nature and it varied from society to society, country to country as well. Due to the COVID-19 pandemic world trade and commerce, education, and other activities have been interrupted. The global supply chain has been broken down for countries lockdown situations. At that time, trade and commerce institutions of Bangladesh has been suffering parallelly by this outbreak. trade and commerce institutions of Bangladesh have to face tremendous losses. However, the COVID-19 pandemic may be changing the trends in the retail and wholesale sector and affecting the labor force of the retail and wholesale sector. In order to gain evidence on the impact that COVID-19 has had on the employment of men and women in the retail sales sector in Bangladesh, the International Labor Organization (ILO), in collaboration with the Asian Development Bank (ADB), commissioned.

The major objective of this study is to find out the scenario of wholesale and retail trade in Bangladesh. The specific objectives of this research are to evaluate the current status of input cost, gross output, gross value added of wholesale and retail trade in Bangladesh; to determine the impact of Covid-19 on input cost, gross value added and employee's status of wholesale and retail trade in Bangladesh; and to give policy options for future potentiality of wholesale and retail trade in Bangladesh.

There are several segments of the research paper. Initially, the statement of the problem and literature review are provided based on a past study. Then, researcher methodologies that are applied to the current research are described. After that, the paper is presented with the results and interpretations. Next, the discussions, conclusion, and implications sections incorporate the consequences of the present research and its linkups with the previous studies. At the end of the segment, the shortcomings and potential directions of the research are stated.

## 2. PROBLEM STATEMENT

The COVID-19 pandemic has had a significant impact on the Bangladesh Retail and Wholesale Market owing to the lockdown and restrictions imposed on travel and movement. It led to a decrease in demand for many products, resulting in a decline in sales and revenue. Many retailers have been forced to close their businesses temporarily, while others had to reduce staff and working hours. Consequently, the situation has also led to high prices of some goods as suppliers take advantage of the reduced demand. Of the 18.87 lakh wholesale establishments, 22.93 per cent suffered from a lack of customers, 17.81 per cent were affected by the economic crisis and 33.66 per cent were directly impacted by the pandemic. Moreover, the situation is challenging for the Bangladesh Retail and Wholesale Industry.

The little study was done in individual level to find the scenario of retail and wholesale trade in micro level. But, so far, no in-depth research has been published to find the impact and magnitude of COVID-19 on cost, gross output, and gross value addition in wholesale and retail sector in Bangladesh. This study may be one of the first initiatives at this regard.

## 3. RELEVANT LITERATURE REVIEW

A literature review is an overview of the previously published works on the related topics. It may also include a discussion of methodological issues and suggestions for future research. The review of related literature gives the researcher an understanding of the research methodology, which refers to the way; the study is to be conducted. It helps the researcher to know about the tools and instruments which proved to be useful and promoting in the previous study. It also provides insight in to the statistical methods through which validity of result is to be established.

D'Acquisto et al. (2015) found that the indicate dynamics at play in network providers and content providers, pricing strategies when coping with various content kinds (free and pay-per-use). With the possibility for collusion in non-neutral circumstances that may not be in the best interests of consumers, the decisions made by these providers can have a variety of implications on their revenues and the retail prices that consumers can pay. Then, Kuzman et al. (2017) found that a thriving wholesale market is an indicator of national, regional, and city determination to meet the interests of lessors, buyers, consumers, and the city itself. The construction of wholesale markets represents a move toward modern infrastructure centers with a wide range of benefits for economic and other institutions.

Next, Arci et al. (2018) to efficiently operate an electricity market, accurate short-term forecasts of wholesale electricity prices and demand are essential. These forecasts influence decisions related to unit commitment, security assessment, operational costs and system security. Then, Hassani & Dost (2020) the research underscores the multifaceted impact of covid-19 on the global economy, with significant repercussions for international trade, GDP growth, labor income, and China's pivotal role in global trade. These findings highlight the interconnectedness of the global economy and the importance of understanding the ripple effects of a global crisis like the covid-19 pandemic.

Then, Hameli (2018), the retail sector serves as a bridge between producers and consumers, with retailers playing a crucial role in product distribution.

Retailing has evolved over time, and it can be broadly categorized into in-store retailing and non-store retailing. In addition, to the classification methods mentioned above, the paper briefly touches on shopping malls, which are collections of retail businesses organized as a unit in planned and managed locations. Overall, the retail sector is a diverse and dynamic part of the economy, offering a wide range of business types and serving the needs of customers through various channels.

After that, [Alam \(2020\)](#) mentioned that, retailing in Bangladesh is undergoing significant changes with the risk of supermarkets, e-commerce growth, and multichannel adoption. These Shifts align with established retail change theories, placing the country in the fourth wave of retail development. Given its economic significance, it is crucial for stakeholders and policymakers to closely monitor and adapt to these evolving trends for sustainable sector growth.

Therefore, [Nithya & Chirputkar \(2020\)](#), the research underscores the multifaceted impact of covid-19 on the global economy, with significant repercussions for international trade, GDP growth, labor income, and China pivotal role in global trade. These findings highlight the interconnectedness of the global economy and the importance of understanding the ripple effects of a global crisis like the COVID-19 pandemic. Further, [Hoque et al. \(2020\)](#) proposed a conceptual model for evaluating highlights how the COVID-19 pandemic has had profound and lasting consequences on the tourism sector in China, affecting not only domestic tourism but also international tourism and the broader economy. the study underscores the need for strategies to revive and adapt the tourism industry in the post-pandemic era.

After that, [Okolo \(2021\)](#) mentioned that the determinants of new firms entering the Swedish retail and wholesale trade markets. The findings suggest that incumbent firms engage in strategic behavior to hinder nor entrants. Factors such as high profits, absence of a single dominant incumbent, and regional characteristics play crucial roles in entry behavior. Interestingly, despite a recession, there's a notable increase in the number of firms, suggesting they may be adapting to market changes through mechanisms like capital and labor investments.

After reviewed some related literatures, it is clear that the previous researchers have been tried to focus the situations of retail and wholesale trade in micro level, but this research has been tried to mentioned the same area in macro level based on authentic data and information.

## **4. METHODOLOGY OF THE STUDY**

This section provides detail description of the data sources, study population, descriptive statistics, methods of economic investigation and methods of multivariate and 3SLS.

### **4.1. SOURCES OF DATA**

The secondary data of Wholesale and Retail Trade Survey 2021 need to be collected to achieve the objectives from Bangladesh Bureau of Statistics (BBS). Here, those data are more organized and well decorated.

#### **4.1.1. SAMPLE DESIGN**

The probability stratified random sampling procedures were used to draw the samples from the target population in the Wholesale and Retail Trade Survey 2021. The survey was conducted based on Economic Census 2013, Business Directory

2019 and Sample list frame. Stratification was done based on the persons employed and number by BSIC (Bangladesh Standard Industrial Classification) at 4-digit level. Based on Economic Census 2013, a list of wholesale and retail trade establishments was prepared and updated. The Business Directory 2019 comprised 10 or more total person engaged of all establishments in the country from where using only wholesale and retail trade establishments' part irrespective of manpower engaged.

#### **4.1.2. STUDY POPULATION OF BBS DATA**

The 2021 BBS survey is conducted as part of the study. The sample size was determined as 15,800 permanent wholesale and retail trade establishments for the final survey.

#### **4.1.3. STUDY POPULATION AND SAMPLE SIZE OF THE STUDY**

Primarily in BBS 2021 data, study population consists of 15800. This study found that some variables consist of missing cases. After removing all missing cases of selected variables, the study population consists of 15258 samples.

### **4.2. DESCRIPTIVE STATISTICS**

The state of wholesale and retail commerce in Bangladesh has been assessed using descriptive statistics. In this study, mean, standard deviation, standard error, and coefficient of variation were employed. Tabular presentations (frequency, percentage), graphical presentations (pie chart, bar chart), and these measurements were also used to express the people of establishment. For exploring the current scenario arithmetic mean, standard deviation, coefficient of variation, standard error are used.

### **4.3. METHODS OF ECONOMIC INVESTIGATION**

#### **4.3.1. COST**

The cost of something is the amount of money that is needed in order to buy, do, or make it. Cost has been calculated by using formula. Such as,  $TC \text{ (total cost)} = TFC \text{ (total fixed cost)} + TVC \text{ (total variable cost)}$ .

#### **4.3.2. GROSS OUTPUT**

Gross output is the measure of total economic activity in the production of new goods and services in an accounting period. It can be measured by formula.  $\text{Gross value of output} = \text{Value of the total sales of goods and services} + \text{Value of changes in the inventories}$ . The sum of net value added in various economic activities is known as GDP at factor cost.

#### **4.3.3. GROSS VALUE ADDED**

GVA is the output of the country less the intermediate consumption, which is the difference between gross output and net output. To calculate the Gross Value Added we can use formula:

$GVA = GDP + SP - TP$ . Here,  $SP$  = Subsidies on Products and  $TP$  = Taxes on Products.

#### 4.4. COMPUTATIONAL SOFTWARE AND PAPER WRITING

This research paper is written by using Microsoft Word-13. In this study, the entire analysis is done by using STATA and Excel-13 is used for analysis. This software's are used to construct frequency table and bivariate analysis.

### 5. RESULTS AND DISCUSSIONS

#### 5.1. PROFILE OF THE SAMPLES

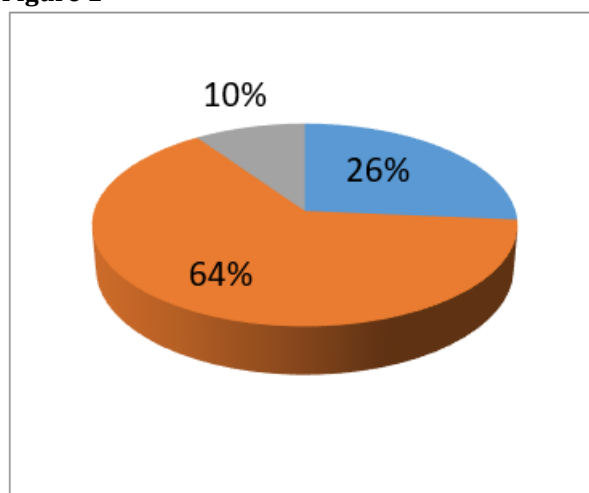
Wholesale and Retail trade has a direct effect on economics. [Table 1](#) summarizes the frequency distribution of the type of sample business and also indicates that the 26.37% establishments are engaged in wholesale business, 63.96% establishments are engaged with retail and 9.67% are engaged with sale and repair of motor car and motor cycles.

**Table 1**

Table 1 Frequency Distribution on Different Types of Establishments		
Type of Business	Number of Establishments	
	Number	(%)
Wholesale	4,023	26.37
Retail	9,759	63.96
Sale and Repair of Motor Car and Motor Cycle	1,475	9.67
Total	15,257	100

Source Field Survey

**Figure 1**



**Figure 1** Distribution of the Types of Establishments in Percentage

From [Table 2](#), it is found that 0.33% ownership is governmental, while 99.25% ownership is private and 0.1% is private ownership. This study found that 0.24% is local and foreign type, 0.09% belongs to fully foreign.

**Table 2**

Table 2 Frequency Distribution on Types of Ownership		
Types of ownership	Number	(%)
Government	50	0.33



Private	15144	99.25
Private ownership	15	0.1
Local and Foreign	36	0.24
Fully Foreign	13	0.09
Total	15258	100

Source Field Investigation

In Table 3, the individual establishment reported that individual highest percentages 92.69% had risk of COVID-19 and 7.31% had no risk of COVID-19.

**Table 3**

**Table 3** Frequency Distribution on the Perception About COVID-19

Perception about COVID-19	Number	(%)
No Risk	1,116	7.31
Risk	14,142	92.69
Total	15,258	100

Source Field Investigation

Table 4 presents that, in February 2020, 15,159 out of 15,258 establishments were operational at the start of the corona crisis. Gradually, when the impact of covid-19 increased in March and April, most of the establishments closed due to the lockdown.

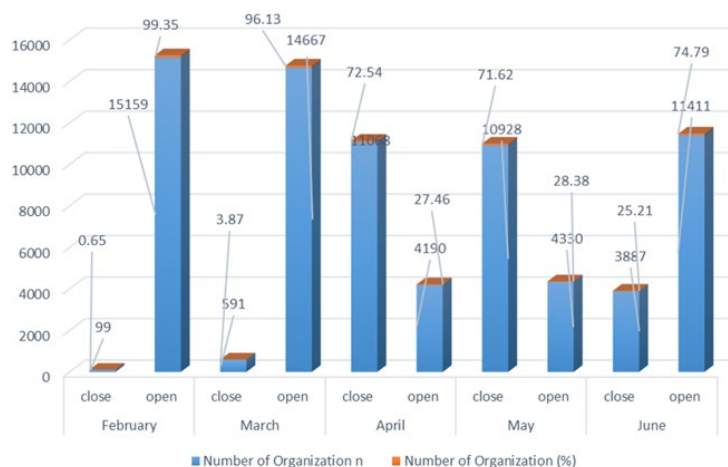
**Table 4**

**Table 4** Frequency Distribution on Opened and Closed Establishments During COVID-19

Months	opened and closed establishments		
		Number	(%)
February	Closed	99	0.65
	Opened	15159	99.35
March	Closed	591	3.87
	Opened	14667	96.13
April	Closed	11068	72.54
	Opened	4190	27.46
May	Closed	10928	71.62
	Opened	4330	28.38
June	Closed	3887	25.21
	Opened	11411	74.79

Source Field Survey

In March 14,667 establishments remained open but in April 4190 remained open and 11,068 establishments were almost closed. The number of establishments closed in May stood 10928 and only 411 were opened. In June, the lockdown began to relax slightly and institutions gradually opened. In June, the number of open establishments is 11,411 and 3,847 establishments remain closed. In short, the wholesale and retail business are facing the problem of solvability to the effect of COVID-19.

**Figure 2**

**Figure 2** Distribution of Opened and Closed Establishments in Percentage

## 5.2. SCENARIO ANALYSIS OF WHOLESALE AND RETAIL TRADE

Table 5 indicates that mean of sectors of operating expenses are found highest for rent expenditure (328502.5) and lowest for capital expenditure (7347.662). Here, the higher the coefficient of variation is for rent expenditure (20.12), the lowest coefficient of variation is for communication expenditure (7.52). The lowest coefficient of variation (7.52) means, the expenditure is running with more stability and consistency. From the table we can comment that the higher the coefficient of variation, the greater the level of dispersion around the mean.

**Table 5**
**Table 5 Scenario Analysis on Sectors of Operating Expenses**

Sectors of operating Expenses	Mean	Variance (in million)	Standard deviation	Correlation of var.	Standard Error
Rent expenditure	328502.5	4370000	6609904	20.12132	53511.41
Capital expenditure	7347.662	1630	127835	17.39805	1034.906
Transport expenditure	87725.38	54100	735713.9	8.386557	5956.075
Repair expenditure	27932.78	7720	277763.7	9.944004	2248.675
Communication expenditure	8995.382	458	67667.38	7.522458	547.8108
Fuel expenditure	98423.34	112000	1057606	10.74548	8561.995

**Table 6**
**Table 6 Scenario Analysis on the Types of Business by Capital Lack**

Type of business	Sum. Stat. a	Gross output	Gross value added	Cost	Non industrial cost	Value added fixed cost	Total employee	Wages and salaries
Wholesale	Mean	8.08x10 <sup>7</sup>	7607791	7.32 x10 <sup>8</sup>	315031.4	7292759	10.67749	1995291
	SD	1.71 x10 <sup>9</sup>	1.19 x10 <sup>8</sup>	1.69 x10 <sup>9</sup>	2502681	1.19 x10 <sup>8</sup>	25.53923	1.54 x10 <sup>8</sup>
	SE	3.69 x10 <sup>7</sup>	2560451	3.65 x10 <sup>7</sup>	53911.55	2557433	0.5501538	331940.4



	CV	21.18802	15.62362	23.13348	7.944226	16.27931	2.391874	7.722845
Retail	Mean	2.58 x10 <sup>8</sup>	4251753	2.15 x10 <sup>8</sup>	372088.9	3879664	7.471568	958586.5
	SD	1.10 x10 <sup>8</sup>	3.35 x10 <sup>7</sup>	9.80 x10 <sup>7</sup>	3606783	3.28 x10 <sup>7</sup>	36.91094	4016697
	SE	1646004	499110.7	1460679	53754.8	489340.9	0.5501135	59864.09
	CV	4.280977	7.87647	4.548624	9.693337	8.462918	4.940186	4.190229
Sale and Repair	Mean	3.26 x10 <sup>7</sup>	6154287	2.65 x10 <sup>7</sup>	162065.4	5992221	6.743363	942697.2
	SD	9.75 x10 <sup>7</sup>	6.96 x10 <sup>7</sup>	6.17 x10 <sup>7</sup>	1289215	6.96 x10 <sup>7</sup>	13.25354	3240305
	SE	3743849	2674676	2370810	49512.02	2672257	0.5089992	124443.2
	CV	2.989319	11.3164	2.333349	7.954907	11.61195	1.96542	3.43727
Total	Mean	4.26 x10 <sup>7</sup>	5413604	3.72 x10 <sup>8</sup>	335912.4	5077692	8.346149	1261698
	SD	9.33 x10 <sup>8</sup>	7.27 x10 <sup>7</sup>	9.22 x10 <sup>8</sup>	3159192	7.25 x10 <sup>7</sup>	32.34539	8990729
	SE	1.09 x10 <sup>7</sup>	849050.8	1.08 x10 <sup>7</sup>	36887.22	846062.1	0.3776699	104977.2
	CV	21.90242	13.4322	24.78767	9.404809	14.27039	3.875487	7.125893

Sum. Stat. Summary Statistics

From the [Table 6](#) we found that, when there is lack of capital in Wholesale, Retail and Sales and Repair the highest mean value of Gross Output is in Wholesale business and the highest Correlation of Variation is in wholesale business. From the [Table 6](#) we also found that, the highest mean value of Gross value added is in Wholesale and the highest CV is in wholesale business. The highest mean value of cost is in wholesale business and highest correlation of variation is in wholesale business. The highest mean value of non-industrial cost is in retail business and the highest value of CV is in retail business. The highest mean value of value-added fixed cost is in wholesale business and highest correlation of variation is in wholesale business. The highest mean value of total employee is in wholesale business and highest correlation of variation is in retail business. The highest mean value of wages and salaries is in wholesale business and highest correlation of variation is also in wholesale business.

In conclusion, these statistics give an overview of the characteristics and financial performance of various business kinds depending on their capital resources. Retail businesses have more flexibility in expenses, while wholesale enterprises often have more output and value added. Businesses that are involved in sales and repairs fall between these two groups, and the aggregate average values offer a complete picture of these companies as a whole. Business analysts, politicians, and investors that want to comprehend the economic environment of various sectors can benefit from these.

**Table 7**

Table 7 Scenario Analysis on the Types of Business by no Lack of Customer								
Type of business	Sum. Stat. a	Gross output	Gross value added	Cost	Non industrial cost	Value added fixed cost	Total employee	Wages and salaries
Wholesale	Mean	3.64x10 <sup>7</sup>	4880314	3.16x10 <sup>7</sup>	247543.7	4632770	11.46489	2181947
	SD	1.11x10 <sup>7</sup>	3.20x10 <sup>7</sup>	9.57x10 <sup>7</sup>	2347810	3.17x10 <sup>7</sup>	32.00128	1.69x10 <sup>7</sup>
	SE	2682706	771887	2305642	56561.42	764493.5	0.770947	406475.2
	CV	3.056493	6.56521	3.033202	9.484427	6.849764	2.791242	7.732723
Retail	Mean	2.18x10 <sup>7</sup>	2372245	1.94 x10 <sup>7</sup>	208345.7	2163900	30.03874	792637.1
			4.80 x10 <sup>7</sup>	1.08 x10 <sup>7</sup>	2172284	4.78 x10 <sup>7</sup>	1412.925	4070936

	SD	1.12x10 <sup>7</sup>	807533.5	1819942	36530.91	804262	23.76091	68460.21
	SE	1884668	20.24217	5.579827	10.42635	22.10124	47.03675	5.13594
	CV	5.148547						
Sale and Repair	Mean	1.55x10 <sup>7</sup>	1916994	1.36x10 <sup>7</sup>	133377.5	1783616	5.28268	699236.1
	SD	4.56 x10 <sup>7</sup>	8339587	4.14 x10 <sup>7</sup>	1346024	7991267	13.1195	3287579
	SE	1842550	337107.8	1672345	54409.8	323027.8	0.530324	132892.5
	CV	2.939387	4.350347	3.044177	10.09184	4.480374	2.483493	4.701672
Total	Mean	2.54x10 <sup>7</sup>	3060848	2.24 x10 <sup>7</sup>	212034.6	2848814	22.00715	1190631
	SD	1.07 x10 <sup>7</sup>	4.12 x10 <sup>7</sup>	9.98 x10 <sup>7</sup>	2156013	4.10 x10 <sup>7</sup>	1096.656	9748138
	SE	1397831	537855.1	1302248	28138.14	535057.7	14.31246	127223
	CV	4.213625	13.46417	4.462909	10.16821	14.39105	49.8318	8.187373

Sum. Stat. Summary Statistics

From the [Table 7](#) we found that, when there is no lack of customer in Wholesale, Retail and Sales and Repair the highest mean value of Gross Output is in Wholesale business and the highest Correlation of Variation is in retail business. From the [Table 7](#) we also found that, the highest mean value of Gross value added is in Wholesale and the highest CV is in retail business. The highest mean value of cost is in wholesale business and highest correlation of variation is in retail business. The highest mean value of non-industrial cost is in wholesale business and the highest value of CV is in retail business. The highest mean value of value-added fixed cost is in wholesale business and highest correlation of variation is in retail business. The highest mean value of total employee is in retail business and highest correlation of variation is in retail business. The highest mean value of wages and salaries is in retail business and highest correlation of variation is also in wholesale business.

**Table 8**

Table 8 Scenario Analysis on the Types of Business by Lack of Customer								
Business type	Sum. Stat. a	Gross output	Gross value added	Cost	Non industrial cost	Value added fixed cost	Total employee	Wages and salaries
Wholesale	Mean	6.31x10 <sup>7</sup>	4484013	5.87x10 <sup>7</sup>	164385.8	4319627	6.24	882453.5
	SD	1.66x10 <sup>9</sup>	1.12x10 <sup>8</sup>	1.64x10 <sup>7</sup>	2053710	1.12x10 <sup>8</sup>	12.88588	3858479
	SE	3.45x 10 <sup>7</sup>	2332999	3.42x10 <sup>7</sup>	42822.82	2330423	0.268689	80454.86
	CV	26.23019	24.95236	27.93476	12.49323	25.87333	2.065045	4.372445
Retail	Mean	1.43x10 <sup>7</sup>	2192087	1.21x10 <sup>7</sup>	194191.3	1997896	4.821469	579239
	SD	7.17x10 <sup>7</sup>	1.91x10 <sup>7</sup>	6.27x10 <sup>7</sup>	3073046	1.84x10 <sup>7</sup>	20.95374	2825601
	SE	909278.6	242688.9	795284	38955.54	232651.1	0.265621	35818.79
	CV	5.011945	8.733575	5.176476	15.82484	9.186122	4.345925	4.878126
Sale and Repair	Mean	2.25x10 <sup>7</sup>	4367319	1.81x10 <sup>7</sup>	116143.2	4251176	4.67555	544809.1
	SD	8.39 x10 <sup>7</sup>	6.16 x10 <sup>7</sup>	5.06x10 <sup>7</sup>	1800556	6.15x10 <sup>7</sup>	6.249933	1171198
	SE	2855514	2096953	1721367	61291.62	2094877	0.21275	39868.03
	CV	3.734094	14.1052	2.794205	15.50289	14.47621	1.336727	2.149739
Total	Mean	2.70x10 <sup>7</sup>	2953717	2.41 x10 <sup>7</sup>	179711.4	2774005	5.155657	650374.7
	SD	8.22 x10 <sup>7</sup>	6.05 x10 <sup>7</sup>	8.13 x10 <sup>7</sup>	2755431	6.03 x10 <sup>7</sup>	18.32296	3013929
	SE	8489156	624395.4	8391439	28441.28	622078.8	0.189128	31109.48
	CV	30.43085	20.48005	33.77143	15.33253	21.72593	3.553953	4.634142

Sum. Stat. Summary Statistics

Table 8 shows, when there is lack of customer in Wholesale, Retail and Sales and Repair the highest mean value of Gross Output is in Wholesale business and the highest Correlation of Variation is in wholesale business. Highest mean value of Gross value added is in Wholesale and the highest CV is in wholesale business. The highest mean value of cost is in wholesale business and highest correlation of variation is in wholesale business. The highest mean value of non-industrial cost is in retail business and the highest value of CV is in retail business. The highest mean value of value-added fixed cost is in wholesale business and highest correlation of variation is in wholesale business. The highest mean value of total employee is in wholesale business and highest correlation of variation is in retail business. The highest mean value of wages and salaries is in wholesale business and highest correlation of variation is also in retail business.

**Table 9**

Table 9 Scenario Analysis on the Types of Business by no Economic Downward								
Business type	Sum. Stat. a	Gross output	Gross value added	Cost	Non industrial cost	Value added fixed cost	Total employee	Wages and salaries
Wholesale	Mean	2.88 x10 <sup>7</sup>	3085194	2.57 x10 <sup>7</sup>	165466	2919728	8.441321	1501238
	SD	8.61 x10 <sup>7</sup>	2.39 x10 <sup>7</sup>	7.66 x10 <sup>7</sup>	1979386	2.35 x10 <sup>7</sup>	21.42644	1.44x10 <sup>7</sup>
	SE	1819308	504493.8	1618934	41812.83	497121.5	0.452615	304469.8
	CV	2.98755	7.740952	2.977125	11.96249	8.060113	2.53828	9.600984
Retail	Mean	1.57x10 <sup>7</sup>	1953950	1.38 x10 <sup>7</sup>	117909.9	1836040	4.824937	573995.2
	SD	9.41x10 <sup>7</sup>	2.01 x10 <sup>7</sup>	8.68 x10 <sup>7</sup>	2043813	1.97 x10 <sup>7</sup>	20.86329	3002242
	SE	1180133	252164.6	1089243	25644.01	246652.9	0.261775	37669.55
	CV	5.98468	10.28551	6.308019	17.33369	10.70679	4.324054	5.230431
Sale and Repair	Mean	1.73x10 <sup>7</sup>	1699848	1.56 x10 <sup>7</sup>	157425.8	1542422	4.855543	628950.3
	SD	4.39 x10 <sup>7</sup>	6551317	3.96 x10 <sup>7</sup>	2059180	5937159	11.35744	2820951
	SE	1468792	219231.5	1324901	68907.83	198679.5	0.380062	94399.53
	CV	2.536068	3.85406	2.536774	13.08032	3.849243	2.339067	4.485174
Total	Mean	1.90x10 <sup>7</sup>	2197277	1.68 x10 <sup>7</sup>	132864.7	2064413	5.682163	798223
	SD	8.88 x10 <sup>7</sup>	2.02 x10 <sup>7</sup>	8.13 x10 <sup>7</sup>	2030139	1.98 x10 <sup>7</sup>	20.35585	7483201
	SE	911813.3	207754.1	834498.6	20844.15	203566.6	0.209001	76832.66
	CV	4.683065	9.208867	4.847673	15.27975	9.603986	3.582411	9.374825

Sum. Stat. Summary Statistics

From the Table 9 we found that, when there is no economic downward in Wholesale, Retail and Sales and Repair the highest mean value of Gross Output is in Wholesale business and the highest Correlation of Variation is in retail business. From the Table 9 we also found that, the highest mean value of Gross value added is in Wholesale and the highest CV is in retail business. The highest mean value of cost is in wholesale business and highest correlation of variation is in retail business. The highest mean value of non-industrial cost is in wholesale business and the highest value of CV is in retail business. The highest mean value of value-added fixed cost is in wholesale business and highest correlation of variation is in retail business. The highest mean value of total employee is in wholesale business and highest correlation of variation is in wholesale business. The highest mean value of wages

and salaries is in retail business and highest correlation of variation is also in wholesale business.

**Table 10**

Table 10 Scenario Analysis on the Types of Businessby Economic Downward								
Business type	Sum. Stat. a	Gross output	G VA	Cost	Non industrial cost	Value added fixed cost	Total employee	Wages and salaries
Wholesale	Mean	8.05x10 <sup>7</sup>	6626315	7.38 x10 <sup>7</sup>	243432	6382883	8.523569	1360755
	SD	1.88 x10 <sup>9</sup>	1.28 x10 <sup>8</sup>	1.86 x10 <sup>9</sup>	2418010	1.28 x10 <sup>8</sup>	25.34131	5839781
	SE	4.46 x10 <sup>7</sup>	3036254	4.41x10 <sup>7</sup>	57280.17	3033155	0.60031	138338.4
	CV	23.38951	19.34282	25.2136	9.933004	20.06003	2.973087	4.291575
Retail	Mean	1.94x10 <sup>7</sup>	2823049	1.66 x10 <sup>7</sup>	351100.4	2471949	30.98709	810493.6
	SD	7.72x10 <sup>7</sup>	4.81 x10 <sup>7</sup>	7.30 x10 <sup>7</sup>	3784795	4.76 x10 <sup>7</sup>	1439.421	3869367
	SE	1323354	823263.4	1249907	64841.98	815957.3	24.6605	66290.89
	CV	3.975221	17.02184	4.392798	10.77981	19.267	46.4523	4.774087
Sale and Repair	Mean	2.31x10 <sup>7</sup>	5883560	1.72	70923.32	5812637	5.037801	578093.2
	SD	9.84 x10 <sup>7</sup>	7.50 x10 <sup>7</sup>	5.66 x10 <sup>7</sup>	448356.3	7.50 x10 <sup>7</sup>	6.413353	1094113
	SE	4077695	3110362	2344223	18584.97	3108776	0.265842	45352.44
	CV	4.265474	12.75358	3.292006	6.321705	12.90261	1.273046	1.892624
Total	Mean	3.86 x10 <sup>7</sup>	4306091	3.43 x10 <sup>7</sup>	289598.4	4016493	21.43372	956968.8
	SD	1.05 x10 <sup>9</sup>	8.37x10 <sup>7</sup>	1.04 x10 <sup>9</sup>	3207559	8.35 x10 <sup>7</sup>	1106.068	4422936
	SE	1.38 x10 <sup>7</sup>	1101658	1.36 x10 <sup>7</sup>	42223	1098921	14.55983	58221.73
	CV	27.12333	19.43521	30.18139	11.07589	20.78477	51.6041	4.621819

Sum. Stat. Summary Statistics

From the [Table 10](#) we found that, when there remains effect of economic downward in Wholesale, Retail and Sales and Repair the highest mean value of Gross Output is in Wholesale business and the highest Correlation of Variation is in retail business. [Table 10](#) table we also found that, the highest mean value of Gross value added is in Wholesale and the highest CV is in retail business. The highest mean value of cost is in wholesale business and highest correlation of variation is in retail business. The highest mean value of non-industrial cost is in wholesale business and the highest value of CV is in retail business. The highest mean value of value-added fixed cost is in wholesale business and highest correlation of variation is in retail business. The highest mean value of total employee is in wholesale business and highest correlation of variation is in wholesale business. The highest mean value of wages and salaries is in retail business and highest correlation of variation is also in wholesale business.

**Table 11**

Table 11 Scenario Analysis on the Types of Business by No Transportation Problem								
Business type	Sum. Stat. a	Gross output	G VA	Cost	Non industrial cost	Value added fixed cost	Total employee	Wages and salaries
Wholesale	Mean	5.14x10 <sup>7</sup>	4715695	4.67 x10 <sup>7</sup>	204183.1	4511512	8.224818	1242734
	SD	1.28 x10 <sup>9</sup>	8.90 x10 <sup>7</sup>	1.27 x10 <sup>9</sup>	2231862	8.89 x10 <sup>7</sup>	22.04968	4920874
	SE	2.06 x10 <sup>7</sup>	1434729	2.04 x10 <sup>7</sup>	35960.38	1432446	0.355271	79286.48
	CV	24.93897	18.88284	27.15563	10.93069	19.70604	2.680871	3.959716

Retail	Mean	1.67x10 <sup>7</sup>	2289696	1.44 x10 <sup>7</sup>	204677.1	2085019	14.23893	656466.7
	SD	8.85 x10 <sup>7</sup>	3.32 x10 <sup>7</sup>	8.21 x10 <sup>7</sup>	2826397	3.28 x10 <sup>7</sup>	864.8308	3365586
	SE	911099	341986.6	844766.3	29087.15	337855	8.900188	34636.07
	CV	5.296839	14.51321	5.690799	13.80906	15.74535	60.73705	5.126819
Sale and Repair	Mean	1.92 x10 <sup>7</sup>	3419633	1.58 x10 <sup>7</sup>	126341.9	3293291	4.917489	608806.8
	SD	7.12 x10 <sup>7</sup>	4.84 x10 <sup>7</sup>	4.68 x10 <sup>7</sup>	1659092	4.83 x10 <sup>7</sup>	9.849443	2338385
	SE	1891181	1284304	1243235	44058.77	1282387	0.261561	62098.04
	CV	3.702204	14.14251	2.959984	13.13177	14.66315	2.002941	3.840931
Total	Mean	2.60 x10 <sup>7</sup>	3033796	2.30 x10 <sup>7</sup>	196997.5	2836798	11.76584	805373.8
	SD	6.60 x10 <sup>8</sup>	5.49 x10 <sup>7</sup>	6.52 x10 <sup>7</sup>	2587737	5.46 x10 <sup>7</sup>	692.9249	3768692
	SE	5441636	452378.6	5375931	21334.59	450550.4	5.712817	31070.97
	CV	25.35182	18.08638	28.34919	13.13589	19.26419	58.89295	4.679433

Sum. Stat. Summary Statistics

From the [Table 11](#) we found that, when there is no transportation problem in Wholesale, Retail and Sales and Repair the highest mean value of Gross Output is in Wholesale business and the highest Correlation of Variation is in retail business. From the [Table 11](#) we also found that, the highest mean value of Gross value added is in Wholesale and the highest CV is in retail business. The highest mean value of cost is in wholesale business and highest correlation of variation is in retail business. The highest mean value of non-industrial cost is in wholesale business and the highest value of CV is in retail business. The highest mean value of value-added fixed cost is in wholesale business and highest correlation of variation is in retail business. The highest mean value of total employee is in wholesale business and highest correlation of variation is in wholesale business. The highest mean value of wages and salaries is in retail business and highest correlation of variation is also in wholesale business.

**Table 12**

Table 12 Scenario Analysis on the Types of Business by Transportation Problem								
Business type	Sum. Stat. a	Gross output	G VA	Cost	Non industrial cost	Value added fixed cost	Total employee	Wages and salaries
Wholesale	Mean	5.88 x10 <sup>7</sup>	3258207	5.56 x10 <sup>7</sup>	105799.2	3152407	14.17544	5860388
	SD	1.50 x10 <sup>8</sup>	8677764	1.47 x10 <sup>8</sup>	256376.3	8623515	41.58554	5.03 x10 <sup>7</sup>
	SE	1.15x10 <sup>7</sup>	663605.2	1.12 x10 <sup>7</sup>	19605.58	659456.7	3.180126	3843169
	CV	2.556523	2.663356	2.636529	2.423234	2.735533	2.933634	8.575535
Retail	Mean	2.59x10 <sup>7</sup>	1294362	2.46 x10 <sup>7</sup>	39753.9	1254608	5.605678	659339
	SD	8.92 x10 <sup>7</sup>	4325670	8.65 x10 <sup>7</sup>	192384.2	4255624	10.63724	2122319
	SE	5009808	242953.8	4857733	10805.37	239019.6	0.597447	119201.3
	CV	3.440956	3.341932	3.511861	4.839381	3.391994	1.897584	3.218858
Sale and Repair	Mean	2.81x10 <sup>7</sup>	1634323	2.65 x10 <sup>7</sup>	47470.96	1586852	5.175439	610786
	SD	5.38x10 <sup>7</sup>	4923896	5.10 x10 <sup>7</sup>	130396.4	4890036	5.175915	911471.6
	SE	7121832	652186	6751002	17271.42	647701.1	0.685567	120727.4
	CV	1.913922	3.012805	1.926328	2.746866	3.081595	1.000092	1.492293
Total	Mean	3.65 x10 <sup>7</sup>	1946096	3.45 x10 <sup>7</sup>	61283.48	1884813	8.249541	2286150
	SD	1.11 x10 <sup>8</sup>	6139720	1.07 x10 <sup>8</sup>	211430.9	6080002	25.00022	2.82 x10 <sup>7</sup>
	SE	4734861	262996.7	4598613	9056.704	260438.7	1.070892	1209916

CV	3.030417	3.15489	3.109096	3.450047	3.225786	3.030499	12.35517
Sum. Stat. Summary Statistics							

From the [Table 12](#) we found that, when there remains transportation problem in Wholesale, Retail and Sales and Repair the highest mean value of Gross Output is in Wholesale business and the highest Correlation of Variation is in retail business. From the [Table 12](#) we also found that, the highest mean value of Gross value added is in Wholesale and the highest CV is in retail business. The highest mean value of cost is in wholesale business and highest correlation of variation is in retail business. The highest mean value of non-industrial cost is in wholesale business and the highest value of CV is in retail business. The highest mean value of value-added fixed cost is in wholesale business and highest correlation of variation is in retail business. The highest mean value of total employee is in wholesale business and highest correlation of variation is in wholesale business. The highest mean value of wages and salaries is in retail business and highest correlation of variation is also in wholesale business.

**Table 13**

Table 13 Scenario Analysis on the Types of Business by no High Wages								
Business type	Sum. Stat. a	Gross output	G VA	Cost	Non industrial cost	Value added fixed cost	Total employee	Wages and salaries
Wholesale	Mean	5.20x10 <sup>7</sup>	4686897	4.74 x10 <sup>7</sup>	204006.9	4482890	8.235219	1355533
	SD	1.2 x10 <sup>7</sup>	8.86 x10 <sup>7</sup>	1.26 x10 <sup>7</sup>	2221067	8.85 x10 <sup>7</sup>	23.02917	1.15 x10 <sup>7</sup>
	SE	2.05 x10 <sup>7</sup>	1420693	2.02 x10 <sup>7</sup>	35611.22	1418432	0.369236	183921.9
	CV	24.50817	18.90556	26.6362	10.88721	19.73446	2.796424	8.462487
Retail	Mean	1.66 x10 <sup>7</sup>	2227942	1.44 x10 <sup>7</sup>	199016.7	2028925	14.01739	623901.5
	SD	8.83 x10 <sup>7</sup>	3.31 x10 <sup>7</sup>	8.21 x10 <sup>7</sup>	2809569	3.27 x10 <sup>7</sup>	862.6284	3249151
	SE	906797.4	339507	842347	28840.75	335493.2	8.855043	33353.14
	CV	5.30672	14.84492	5.691267	14.11725	16.10834	61.53989	5.207795
Sale and Repair	Mean	1.98 x10 <sup>7</sup>	3441094	1.63 x10 <sup>7</sup>	122143.2	3318951	4.896113	599790
	SD	7.16 x10 <sup>7</sup>	4.84 x10 <sup>7</sup>	4.74 x10 <sup>7</sup>	1647751	4.83 x10 <sup>7</sup>	9.850284	2307899
	SE	1903631	1286904	1259145	43803.96	1285095	0.261861	61353.39
	CV	3.622508	14.06786	2.901106	13.49032	14.56507	2.011858	3.847845
Total	Mean	2.63 x10 <sup>7</sup>	2990493	2.33 x10 <sup>7</sup>	192976.6	2797517	11.62474	813961
	SD	6.58 x10 <sup>8</sup>	5.47 x10 <sup>7</sup>	6.50 x10 <sup>8</sup>	2572921	5.45 x10 <sup>7</sup>	690.9774	6478933
	SE	5412339	449603.5	5347070	21152.85	447819.8	5.680759	53265.5
	CV	25.07767	18.28708	27.9604	13.33281	19.47099	59.44025	7.959758

Sum. Stat. Summary Statistics

From the [Table 13](#) we found that, when there are no high wages in Wholesale, Retail and Sales and Repair the highest mean value of Gross Output is in Wholesale business and the highest Correlation of Variation is in wholesale business. From the [Table 13](#) we also found that, the highest mean value of Gross value added is in Wholesale and the highest CV is in wholesale business. The highest mean value of cost is in wholesale business and highest correlation of variation is in wholesale business. The highest mean value of non-industrial cost is in wholesale business and the highest value of CV is in retail business. The highest mean value of value-added fixed cost is in wholesale business and highest correlation of variation is in



wholesale business. The highest mean value of total employee is in retail business and highest correlation of variation is in retail business. The highest mean value of wages and salaries is in retail business and highest correlation of variation is also in wholesale business.

**Table 14**

Table 14 Scenario Analysis on the Types of Business by High Wages								
Business type	Sum. Stat. a	Gross output	G VA	Cost	Non industrial cost	Value added fixed cost	Total employee	Wages and salaries
Wholesale	Mean	4.17x10 <sup>7</sup>	3684071	3.80 x10 <sup>7</sup>	82843.31	3601227	15.57143	3880551
	SD	9.53 x10 <sup>7</sup>	1.02 x10 <sup>7</sup>	9.14 x10 <sup>7</sup>	254176.8	1.02 x10 <sup>7</sup>	27.89001	1.01 x10 <sup>7</sup>
	SE	8263284	887895.7	7927653	22039.92	882979.2	2.418371	878198.5
	CV	2.284413	2.779456	2.403924	3.068163	2.827651	1.791102	2.609908
Retail	Mean	3.00 x10 <sup>7</sup>	3295344	2.67 x10 <sup>7</sup>	210014.2	3085330	11.88104	1808713
	SD	9.55 x10 <sup>7</sup>	1.39 x10 <sup>7</sup>	8.80 x10 <sup>7</sup>	1414882	1.30 x10 <sup>7</sup>	31.02251	5402019
	SE	5822099	847786.2	5365771	86266.87	791144.7	1.891476	329366.9
	CV	3.187776	4.219507	3.301074	6.737078	4.205624	2.611094	2.986664
Sale and Repair	Mean	1.51 x10 <sup>7</sup>	1217479	1.39 x10 <sup>7</sup>	150433.3	1067045	5.666667	823331.7
	SD	4.13 x10 <sup>7</sup>	5652885	3.79 x10 <sup>7</sup>	1029522	4640672	5.426447	2100606
	SE	5336295	729784.3	4894852	132910.7	599108.2	0.700551	271187.1
	CV	2.735234	4.643108	2.728806	6.843707	4.349086	0.957608	2.551349
Total	Mean	3.14 x10 <sup>7</sup>	3137398	2.83 x10 <sup>7</sup>	165666.6	2971731	12.13636	2277180
	SD	9.05 x10 <sup>7</sup>	1.21 x10 <sup>7</sup>	8.45 x10 <sup>7</sup>	1149389	1.14 x10 <sup>7</sup>	28.19341	6931427
	SE	4209427	564250.5	3930056	53474.42	532335.8	1.311676	322479.2
	CV	2.880274	3.865657	2.987494	6.937965	3.850323	2.323053	3.043864

Sum. Stat. Summary Statistics

From the Table 14 we found that, when there remains effect of high wages in Wholesale, Retail and Sales and Repair the highest mean value of Gross Output is in Wholesale business and the highest Correlation of Variation is in retail business. From the Table 14 we also found that, the highest mean value of Gross value added is in Wholesale and the highest CV is in sale and repair business. The highest mean value of cost is in wholesale business and highest correlation of variation is in retail business. The highest mean value of non-industrial cost is in retail business and the highest value of CV is in sales and repair. The highest mean value of value-added fixed cost is in wholesale business and highest correlation of variation is in sale and repair business. The highest mean value of total employee is in wholesale business and highest correlation of variation is in retail business. The highest mean value of wages and salaries is in sale and repair business and highest correlation of variation is also in retail business.

**Table 15**

<b>Table 15 Scenario Analysis on the Types of Business by No Effect of Corona</b>								
<b>Business type</b>	<b>Sum. Stat. a</b>	<b>Gross output</b>	<b>G VA</b>	<b>Cost</b>	<b>Non industrial cost</b>	<b>Value added fixed cost</b>	<b>Total employee</b>	<b>Wages and salaries</b>
<b>Wholesale</b>	Mean	2.97x10 <sup>7</sup>	3140808	2.65 x10 <sup>7</sup>	122977.7	3017830	8.858156	2396959
	SD	8.20 x10 <sup>7</sup>	9923407	7.55 x10 <sup>7</sup>	710876.6	9764495	14.12732	1.13 x10 <sup>7</sup>
	SE	4881458	590930.3	4493402	42332.09	581467.2	0.84127	671248.7
	CV	2.761804	3.159508	2.843104	5.780533	3.235601	1.594838	4.702702
Retail	Mean	1.26 x10 <sup>7</sup>	-990292	1.36 x10 <sup>7</sup>	35513.53	-1025805	4.627097	676021.6
	SD	6.73 x10 <sup>7</sup>	8.11 x10 <sup>7</sup>	1.00 x10 <sup>8</sup>	234770.6	8.11x10 <sup>7</sup>	12.03254	2919268
	SE	2418599	2914566	3592015	8433.209	2913618	0.432222	104863.2
	CV	5.325151	-81.9335	7.334288	6.610737	-79.0712	2.600451	4.318306
Sale and Repair	Mean	1.19 x10 <sup>7</sup>	1341158	1.05 x10 <sup>7</sup>	72157.2	1269001	4.932203	653473.3
	SD	4.53 x10 <sup>7</sup>	4735443	4.07 x10 <sup>7</sup>	416971.4	4335310	6.485699	1872010
	SE	5898183	616502.2	5297315	54285.05	564409.2	0.844366	243714.9
	CV	3.820954	3.530861	3.869372	5.778652	3.416316	1.31497	2.864707
Total	Mean	1.69 x10 <sup>7</sup>	176845.9	1.67 x10 <sup>7</sup>	59551.95	117293.9	5.712366	1109690
	SD	7.07 x10 <sup>7</sup>	6.78 x10 <sup>7</sup>	9.22 x10 <sup>7</sup>	419629	6.78 x10 <sup>7</sup>	12.50373	6219393
	SE	2117196	2030065	2759060	12561.27	2029163	0.374289	186172.7
	CV	4.183261	383.4838	5.509112	7.046436	577.9277	2.188888	5.604623

Sum. Stat. Summary Statistics

From the [Table 15](#) we found that, when there is no risk of corona in Wholesale, Retail and Sales and Repair the highest mean value of Gross Output is(2.97 ) in Wholesale business and the highest Correlation of Variation is in retail business(5.32).From the [Table 15](#) we also found that, the highest mean value of Gross value added is in Wholesale and the highest CV is in sale and repair. The highest mean value of cost is in wholesale business and highest correlation of variation is in retail business. The highest mean value of non-industrial cost is in wholesale business and the highest value of CV is in retail business. The highest mean value of value-added fixed cost is in wholesale business and highest correlation of variation is in sale and repair. The highest mean value of total employee is in wholesale business and highest correlation of variation is in retail business. The highest mean value of wages and salaries is in wholesale business and highest correlation of variation is also in wholesale business.

**Table 16**

<b>Table 16 Scenario Analysis on the Types of Business by Effect of Corona</b>								
<b>Business type</b>	<b>Sum. Stat. a</b>	<b>Gross output</b>	<b>G VA</b>	<b>Cost</b>	<b>Non industrial cost</b>	<b>Value added fixed cost</b>	<b>Total employee</b>	<b>Wages and salaries</b>
<b>Wholesale</b>	Mean	5.34x10 <sup>7</sup>	4767790	4.86	205807.4	4561983	8.449078	1366799
	SD	1.30 x10 <sup>9</sup>	9.03 x10 <sup>7</sup>	1.29 x10 <sup>9</sup>	2256991	9.02 x10 <sup>7</sup>	23.78589	1.14 x10 <sup>7</sup>
	SE	2.13 x10 <sup>7</sup>	1476937	2.10 x10 <sup>7</sup>	36900.82	1474604	0.388889	187164.2
	CV	24.3725	18.94692	26.46853	10.96652	19.7704	2.815205	8.375524
Retail	Mean	1.74 x10 <sup>7</sup>	2537522	1.49 x10 <sup>7</sup>	213450.5	2324071	14.76347	654881.1

	SD	9.02 x10 <sup>7</sup>	2.44 x10 <sup>7</sup>	8.05 x10 <sup>7</sup>	2896685	2.38 x10 <sup>7</sup>	886.5956	3365829
	SE	951155.6	256927.7	849718.1	30560.91	250913.7	9.353856	35510.54
	CV	5.184253	9.597012	5.422631	13.57075	10.23316	60.05334	5.139603
Sale and Repair	Mean	1.99 x10 <sup>7</sup>	3434370	1.65 x10 <sup>7</sup>	125424.7	3308945	4.92726	607025.3
	SD	7.15 x10 <sup>7</sup>	4.84 x10 <sup>7</sup>	4.73 x10 <sup>7</sup>	1658358	4.83 x10 <sup>7</sup>	9.822794	2316230
	SE	1899574	1286116	1255700	44070.37	1284233	0.261038	61553.12
	CV	3.592018	14.09174	2.869746	13.22194	14.60447	1.993561	3.815706
Total	Mean	2.72 x10 <sup>7</sup>	3217344	2.39 x10 <sup>7</sup>	202614.1	3014730	12.10805	838427
	SD	6.73 x10 <sup>8</sup>	5.26 x10 <sup>7</sup>	6.65 x10 <sup>8</sup>	2637009	5.24 x10 <sup>7</sup>	706.7837	6518952
	SE	5661821	442627.2	5591589	22175.41	440632	5.943558	54819.84
	CV	24.79158	16.3599	27.77447	13.01493	17.38071	58.37302	7.775217

Sum. Stat. Summary Statistics

From the [Table 16](#) we found that, when there has risk of corona in Wholesale, Retail and Sales and Repair the highest mean value of Gross Output is in Wholesale business and the highest Correlation of Variation is in wholesale business. From the [Table 16](#) we also found that, the highest mean value of Gross value added is in Wholesale and the highest CV is also in wholesale business. The highest mean value of cost is in wholesale business and highest correlation of variation is in wholesale business. The highest mean value of non-industrial cost is in retail business and the highest value of CV is in retail business. The highest mean value of value-added fixed cost is in wholesale business and highest correlation of variation is in wholesale business. The highest mean value of total employee is in retail business and highest correlation of variation is in retail business. The highest mean value of wages and salaries is in wholesale business and highest correlation of variation is also in wholesale business.

## 6. OVERALL FINDINGS OF THE STUDY

The findings of the study have been used for designing interventions that can improve the well-being of wholesale and retail workers, improve labor productivity, and aid in sectorial growth. This study has been conducted to investigate the scenario of wholesale and retail trade in Bangladesh. Another objective of this study is to minimize the adverse impact on our wholesale and retail business if an epidemic occurs. In this study the secondary BBS data have been used. 15,258 of sample data have been used from the wholesale and retail survey 2021. the analysis has been carried out using the following variables: location of the business, type of the business, classification of the organization ownership, institutional information, Number of people employed, working hours, wages, operating expenses, gross value added, gross output. Descriptive statistics has been used to examine the current status of input cost, gross value added, gross output of wholesale and retail trade in Bangladesh by using tabular presentation (frequency, percentage), graphical presentation (bar diagram, pie chart), arithmetic mean, standard deviation, standard error, coefficient of variation. In conclusion, these summary statistics in Univariate analysis give an overview of the characteristics and financial performance of various business kinds depending on their capital resources. Retail businesses have more flexibility in expenses, while wholesale enterprises often have more output and value added. Businesses that are involved in sales and repairs fall between these two groups, and the aggregate average values offer a complete picture of these companies as a whole. Business analysts, politicians, and investors

that want to comprehend the economic environment of various sectors can benefit from these insights.

Overall, from the analysis of the study it is suggested that industrial cost, non-industrial cost, and total wages have statistically significant and positive associations with gross output, while total employment and the variable "corona" do not appear to be strongly associated with gross output based on the results and p-values. These findings are important for understanding the factors that influence gross output in the research context.

In this analysis, we aimed to assess the influence of several independent variables on two key economic indicators: gross output and cost. The independent variables considered included industrial cost, non-industrial cost, total employment, total wages, and the impact of the COVID-19 pandemic (referred to as "corona"). We also examined the effects of a set of factors including a lack of capital, a lack of customers, economic downward, market problems, high wages, transportation problems, and logistic deficiencies on the cost.

The study found that pandemic period, industrial and nonindustrial cost, labour wage has a significant influence on gross output. Finally, a significant dependency of gross output has been detected on gross value addition whereas the total scenarios are affected by COVID -19 in Bangladesh.

## **7. CONCLUSION**

Based on the findings of this study, there is need to provide information on wholesalers and retailers with basic life skills. Also, Government should support for economic well-being to overcome any epidemics by ensuring that youth are fully informed about wholesale and retail trade and related risks. As a result, the objective has been achieved.

## **8. LIMITATIONS AND FURTHER RESEARCH DIRECTION**

This study is the first initiative to diagnosis the scenario of retail and wholesale trade and impact of COVID -19 on gross output and gross value addition using national level big data set. Since there have no baseline survey before COVID- 19 at national level, the exact effect of pandemic on gross output and gross value added are unseen. But it is need to search the related document of other national survey before pandemic to compare and measure the scenario of retail and wholesale trade and effect of COVID -19 on gross output and gross value added. This study only considered the formal establishment of wholesale and retail trade in Bangladesh. But, still a large number of informal establishments need to be added to make final decision and policy option to represent the status of retail and wholesale trade and to recover the effect of COVID -19 on gross output and gross value addition of wholesale a retail trade in Bangladesh.

## **CONFLICT OF INTERESTS**

None.

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