

Research Note

COVID-19, a “Black Swan” Event for Cosmetic Market: Evidence from United Kingdom

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Abstract

Since early this year, the world has been facing a hazardous new generation of coronavirus named COVID-19 which has rapidly spread to the extent that it has drowned the world into the pandemic condition. The spread of this pandemic has generated a strong contagion effect across markets around the globe. Therefore, it is necessary to examine the impact of COVID-19 for as many markets as possible. This paper aims to analyze the cosmetic retail market's behavior in the time of the COVID-19 pandemic using a combination of graphical statistics tools to observe the monthly growth of production and sales in cosmetic retail and toilet articles for the period from October 2019 to August 2020. The results assume that the COVID-19 can have a black swan effect on the cosmetic micro-market. These findings are remarkable for the cosmetic sector's investors and marketers to enhance their understanding of cosmetic retail market behavior during unpredictable events such as pandemics.

Keywords: COVID-19, black swan effect, cosmetic, retail market, United Kingdom.

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Introduction

On March 11, 2020, the World Health Organization (WHO) characterized the coronavirus disease, COVID-19, as a pandemic given the alarming levels of spread, and intensity (WHO; Haider, et al., 2020; Kandel, et al., 2020). The spread of the COVID-19 pandemic has strongly affected markets around the globe, while the scale of its social and economic consequences is still difficult to estimate and predict. There are ongoing debates regarding the nature of the crisis that the nations are currently facing with some experts likening it to the Global Financial Crisis of 2008, and others comparing it to war events, natural disasters, terror attacks, and past epidemics. The COVID-19 has resulted in unprecedented measures to stop the spread of the virus, such as international and local travel restrictions, lockdowns, and quarantines that have caused immediate and long-term damage to a vast majority of industries, and businesses of different sizes. Some may refer to this crisis as a “black swan” event (Yarovaya, et al., 2020) given that it was hard to predict (Heinonen, 2013; Krupa & Jones, 2013) and has a huge economic impact (Castles, 2010), however, this concept is so complex to be studied (Taleb, 2007).

The cosmetics market is one of the largest and most thriving markets in the world. Based on estimation in 2018, the global cosmetics market grew by 5.5 percent in contrast with the previous year (Statista, 2020). In 2017, the sector’s market value reached 9.8 billion British pounds which put the United Kingdom among the first three cosmetics consumers in Western Europe (Statista, 2020). By looking at the retail side of the spectrum over the past decade, United Kingdom retail stores specializing in cosmetics and personal care increased their turnover from selling such products, going from 2.7 billion in 2008 to more than 5.3 billion British pounds in 2018. By looking at the retail market over the past decade, United Kingdom retail stores increased their turnover from selling cosmetics and personal care products by 2.6 billion British pounds from 2008 to 2018. Despite minor fluctuation in market between 2008 and 2012, the United Kingdom made the highest number of turnover within last ten years by establishing additional 93 stores for the retail sales of cosmetics and toiletry articles (Office of National Statistics, 2020).

Compare to the other markets, the cosmetics market has undoubtedly been shocked by the pandemic. Unfortunately, despite the significant contribution of the cosmetics sector to regional and global economic growth, no research has seriously been conducted studying the cosmetics market behavior during the COVID-19 pandemic. The present research aims to investigate the cosmetics market behavior focusing on "production growth" and "sales growth" in cosmetics retail and toilet articles during the COVID-19 pandemic. Also, this paper intends to compare the growth patterns of both selected markets in the same period. For these purposes, monthly basis growth of both cosmetics retail production and sales are extracted for the period of five months before and five months after the pandemic. This paper contributes to the literature in two main ways. First, it contributes to the growing body of literature on the cosmetics sector behavior of the COVID-19 pandemic. Second, it contributes to the literature on market growth prediction and future investment strategies in similar pandemics.

The remainder of the paper is organized as follows. Section 2 briefly discusses the previous empirical studies relating to markets performances during pandemics. Section

3 explains the data and methodology of the research. Section 4 reports the analytical results and provides interpretations of these findings. Section 5 presents the conclusions and limitations of the study.

Literature review

Before the prevalence of the COVID-19 crisis, many studies have discussed the consequence of pandemics and infectious diseases on the economy and market sectors. For instance, Bloom, et al. (2018) discussed the economic risks of epidemics citing managerial and policy implications, while Fan, et al., (2018) provided predictions of expected life losses as a result of pandemic-related increases in mortality. Much earlier, Saker, et al. (2004) discussed the impact of globalization on the spread of infectious diseases and highlighted that stronger economic connections between nations could positively affect the prevalence, spread, geographical range, and control of many infections. Additionally, Beutels, et al. (2009) studied the impact of the severe acute respiratory syndrome (SARS) outbreak specifically on some indicators of the airline, public train, and cargo transport, tourism, household consumption patterns, and gross domestic product (GDP) in Beijing. Moreover, Alan, et al., (2014) assessed the impact of SARS on tourists' arrival in Hong Kong by using a novel econometric strategy. Also, Lee and Chen (2011) investigated the impact of avian influenza on elderly tourists in Asia. Furthermore, Henderson and Ng (2004) discussed the particular consequences of the SARS infectious disease in the hospitality sector highlighting the importance of effective managerial strategies and planning for such events in hotels. Besides, Brown, et al., (2008) analyzed the macro-economic impact of the SARS outbreak on several sectors and markets such as hotels, airlines, restaurants, IT, entertainment, and retails across selected countries.

On the other hand, some studies have been carried out to investigate the effect of the COVID-19 pandemic on the economy and market sectors. For instance, Fernandes (2020) analyzed the economic impact of the coronavirus pandemic providing an estimation of the potential global economic costs of COVID-19 and the GDP growth across selected industries in sample of 30 countries. In the same period, Yarovaya, et al., (2020) analyze the effect of the COVID-19 global disaster on financial sectors. They examined the cryptocurrency market's behavior using a combination of quantitative methods based on hourly prices of the four most traded cryptocurrency markets (USD, EUR, JPY, and KRW) for the period from 1st January 2019 to 13th March 2020. In another attempt, Baker, et al., (2020) compared the stock market trends and movements affected by COVID-19 to large daily stock market moves in 1900 and 1985 stock market volatility. They also discussed the unprecedented potential reactions for the stock market to the COVID-19 pandemic. Jiang and Wen (2020) analyzed the effects of COVID-19 on the hospitality sector and explained some potential managerial practices. In the transportation sector, Nakamura and Managi (2020) estimated the overall importation and exportation risk of the COVID-19 from every airport in local municipalities around the world using global spatial and mapping information.

Studies of previous epidemics, such as SARS, Ebola, Zika, and H1N1, or HIV/AIDS provided much empirical evidence of the epidemics' impacts, associated risks and costs, and mitigation strategies. (Haacker, 2004; Hoffman & Silverberg, 2018). According to

the literature, the economic impact of infectious diseases has been discussed for various markets and business sectors; however, to date; no study has specifically explored cosmetics micro-market behavior during the COVID-19 pandemic.

Data and Methodology

The data for both production and sales of cosmetics retail and toilet articles are collected based on monthly observations from the British Office of National Statistics (2020) for two periods. According to data availability, the period from 1st October 2019 to 1st March 2020 and period from 1st March 2020 to 1st August 2020 has been selected to examine the cosmetics market behavior using comparative analysis before and after the pandemic. All data are based on percentage growth in the same month a year earlier.

Results

Descriptive statistics provide a general overview of the data, and it is depicted in the following tables (Table 1). The table below presents information for production and sales during two periods. According to the table, all observations' mean before and after pandemic are negative. In the whole period, the maximum and minimum growth of production is 1.9% in November 2019 and -45.8% in May 2020 respectively. During this period, 3.1% in November 2019 and -44.3% in May 2020 are relatively recorded as maximum and minimum growth in sales.

Table 1. Descriptive statistics

Cosmetics retail production (%)								
Before Pandemic					Mean	Maximum	Minimum	
October	November	December	January	February		November	February	
-4.7	1.9	-2.2	-20.5	-15.9	-8.3	1.9	-15.9	
After Pandemic								
March	April	May	June	July		March	May	
-8.4	-44.6	-45.8	-25.1	-11.3	-27	-8.4	-45.8	
Cosmetics retail sales (%)								
Before Pandemic					Mean	Maximum	Minimum	
October	November	December	January	February		November	January	
-2.8	3.1	-0.1	-18.3	-13	-6.2	3.1	-18.3	
After Pandemic								
March	April	May	June	July		March	May	
-6.2	-43.6	-44.3	-23.4	-9.9	-25.5	-6.2	-44.3	

To graphically present the production growth before and after the pandemic, the line chat below is provided (Figure 1). In detail, the line graph illustrates that there is a smooth decline in cosmetics retail productions from 1.9% to -20.5% between November 2019 and January 2020, and afterward the production growth gradually climes up to -8.4% in March 2020. A month sharp drop by -36.2% in April 2020 shows a remarkable collapse in production during the period. By a slight decrease in May, this downward

trend touches the lowest point at -45.8% in early May 2020; then starts to recovery and reaches -11.3 percent at the end of July 2020.

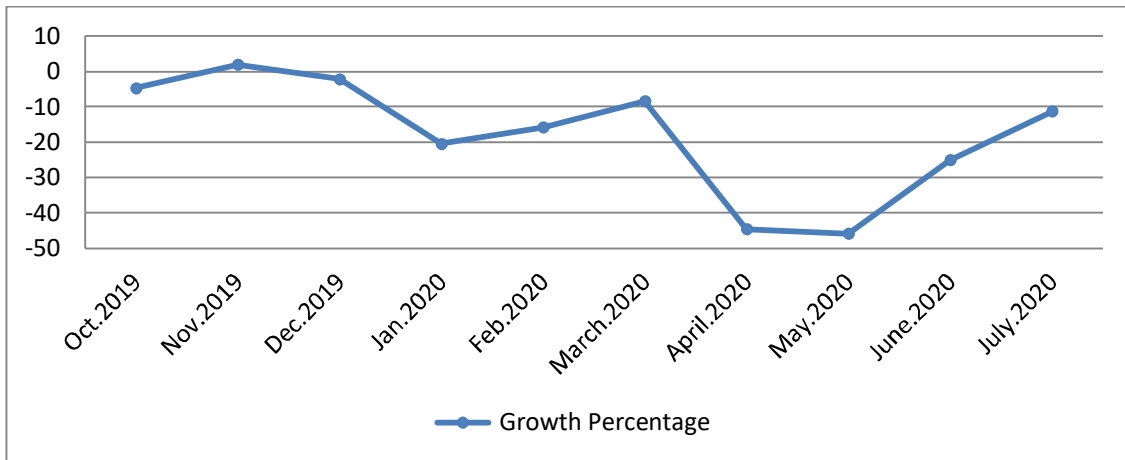


Figure 1. Cosmetics retail and toilet articles growth in production

Regarding the monthly sales growth (Figure 2), it can be seen that there is a gradual decrease from 3.1% to -18.3% in December 2019 and January 2020 respectively and over time, the sale level progressively rises to -6.2% in March. The chart reveals that at the beginning of April a dramatic decreasing movement occurs by -37.4% and continues to -43.6 % in May 2020. By a slow downward change, the sales growth gets the lowest level at -45.8% in May 2020 then it recovers to -9.9 percent at the end of July 2020.

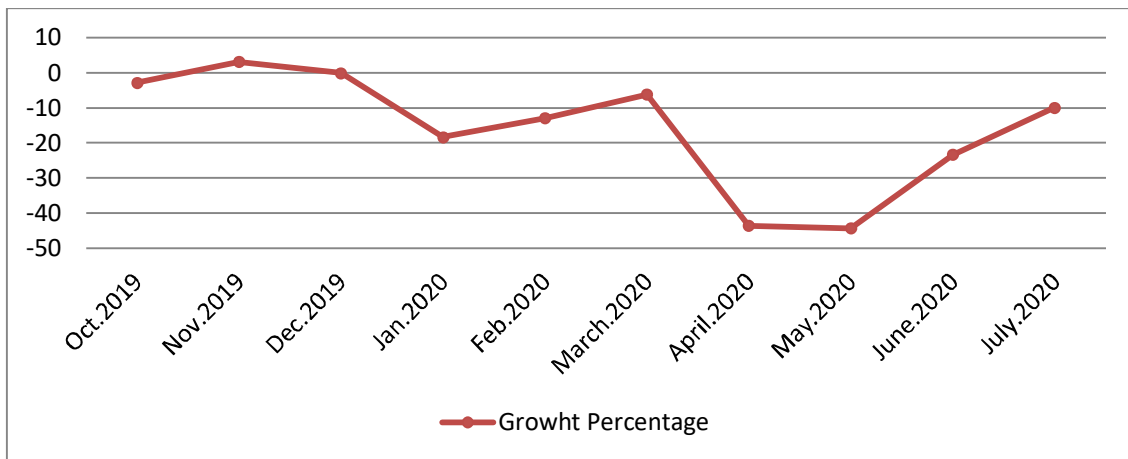


Figure 2. Cosmetics retail and toilet articles growth in sales

At first glance, it can be realized that during the same period the growth in both sales and production have experienced similar behavior, while both markets have recorded different percentages (Figure 3) Regardless short length fluctuations, the graph clearly presents that both sale and production markets have faced an intensive collapse by 41.2% and 43.9% from November 2019 to May 2020.

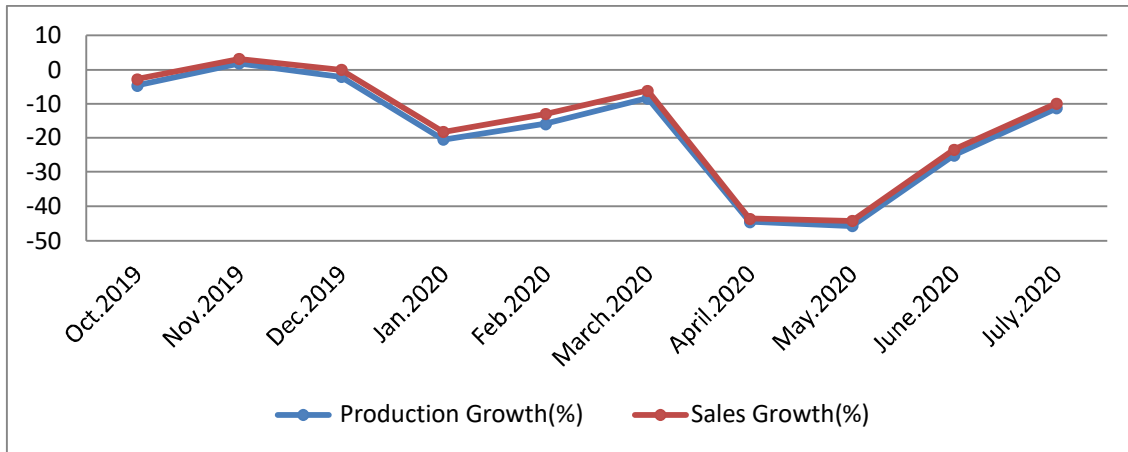


Figure 3. Cosmetics retail and toilet articles growth in production vs. cosmetics retail and toilet articles growth in sales

Given the observation from similar patterns in both markets in the same period, calculated monthly differences resulted from substitution of the growth in production and growth in sales presents that the minimum difference is recorded at -1% in April 2020 just when the drastic collapse almost happened for both markets after the pandemic (Table 2) . Also, before the pandemic and in the period that the alarming level of COVID-19 spread increases in February 2020, the difference in growth percentages becomes the maximum at -2.9 percent.

Table 2. Monthly differences resulted from substitution of the growth in production and growth in sales

Month	Oct	Nov	Dec	Jan	Feb	March	April	May	June	July
Production (%)	-4.7	1.9	-2.2	-20.5	-15.9	-8.4	-44.6	-45.8	-25.1	-11.3
Sales (%)	-2.8	3.1	-0.1	-18.3	-13	-6.2	-43.6	-44.3	-23.4	-9.9
Difference (%)	-1.9	-1.2	-2.1	-2.2	-2.9	-2.2	-1	-1.5	-1.7	-1.4

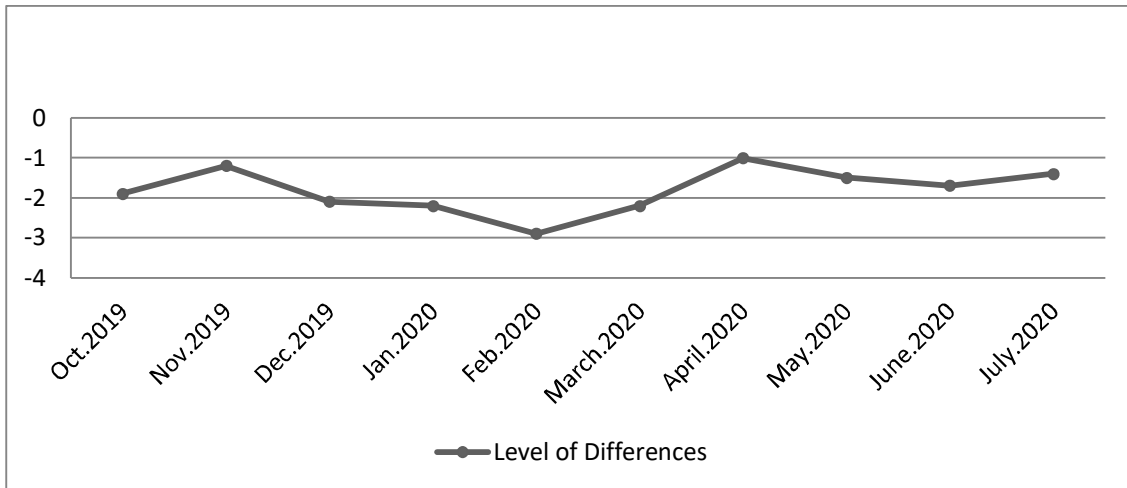


Figure 4. Levels of differences based on monthly basis subtractions

Although no regular specific pattern has been formed by differences between to markets, the highest and lowest levels in the whole period are recorded exactly one month before and after the pandemic in February and April 2020 (Figure 4).

Conclusion

The market share and role of the cosmetics industry has been always remarkable in economic growth and like other sectors, the global cosmetics market has been shocked by the COVID-19 crisis. This paper provided novel evidence on the cosmetics market focused on the retail section in the United Kingdom during the COVID-19 pandemic. The study analyzed the monthly behavior of both production and sales growths of cosmetics retail and toilet articles markets for the period of ten months from October 2019 to August 2020 using the comparative analysis based on graphical statistics tools.

The research showed that despite all visible fluctuations that existed for both markets over the selected period, the sever fall approximately by -36% started from the beginning of March is mush significant and can be considered as a market collapse. Also, the result illustrated the gradual monthly recovery for both selected sections to August 2020. While the results clearly presented that the patterns of both sales and production growth behave almost identically during the same period, the differences resulted from the subtraction of monthly percentages confirms that there was no specific pattern during the chosen period for this study. Also, this should be especially noted that the minimum and maximum difference levels have respectively occurred just at the period that sales and production of retails almost touched the lowest point of recession or stood at the peak. Finally, it is concluded that the cosmetics industry in the retail subsector has been dramatically affected by the pandemic in a negative direction. Given that this pandemic was hard to predict and has a huge economic impact in both sales and production, it can be characterized as a "black swan" event for the cosmetics retail market.

Recommendations

Since this paper is one of the first papers that examine cosmetics market behavior during the pandemic and also provides supporting evidence to consider COVID-19 as a “black swan” event in the cosmetics retail sector, therefore it is strongly suggested that the presented results be interpreted with caution taking into account the fact that the statistic data only collected based on monthly reports and data availability in a certain stage of the pandemic disease. Despite this, the paper builds a strong foundation for further research in this area, which will be of immense benefit to regulators, policymakers, investors as new events in the COVID story unfold.

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