

The Impact of COVID-19 on Hotel Stock Prices in Europe: An Event Study Approach

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Abstract *The outbreak of the novel corona virus has severely impacted the world economy. Along with the challenges imposed on the healthcare sector, the pandemic also affected the performance of all sorts of industries. With many businesses already shut and many more struggling to survive, the overall impact of the pandemic on different sectors of the economy remains a subject of further research. In this paper, the impact of corona virus outbreak on the performance of hotel stock prices in Europe is analysed through an Event Study Methodology. Four major events in the corona virus timeline of Europe between January and May 2020 were considered for the study. For the 15 publicly listed hotels, significantly high negative average abnormal return and the cumulative abnormal return was observed during event 2 and event 3 that occurred on March 11 and March 17 respectively. These two events marked the peak of the outbreak in Europe when the travel and movement restrictions were strictly imposed. The average and cumulative abnormal returns showed signs of positive change during event 4 (May 11) which can be attributed to easing of lockdown in many European countries. Thus, for businesses including hotels to start recovering from their current losses it is required that the restrictions are gradually uplifted, and people start moving towards normalcy in their lifestyle as well as the governments to provide support in the form of stimulus packages.*

Keywords: *Coronavirus, Hotel industry, Europe, Event Study Methodology, Average Abnormal Return, Cumulative Abnormal Return*

INTRODUCTION

The novel coronavirus initially identified as a ‘mysterious pneumonia like’ illness in the Hubei province of China on 31st December 2019 was rapid in spreading and severely affecting people around the world forcing the world health organization (WHO) to declare it a global pandemic on 11th March 2020 (World Health Organization, 2020). The high risk of disease transmission, alarming rates of new infections, rising death toll and the fear of over burdening the healthcare system caused countries to go into lockdown, to impose strict physical distancing rules and to implement ban on international travel. Though the restrictions were meant to contain the spread of the virus, it had a direct adverse impact on the economy with the international monetary fund (IMF) identifying the situation to be worse than the 2008 financial crisis (The Economic Times, 2020). The hospitality industry remained one of the hardest hit industries ever since the start of travel restrictions bringing airlines and hotels at a standstill. In order to deal with the crisis, the top management in the airlines and hotel industry had to take very tough

decisions such as terminating or forcing staff to take unpaid leaves. The European hospitality industry in particular which is the focus of this paper has been severely affected with world travel and tourism council (WTTC) reporting 2.9 million jobs being at stake in the travel and tourism sector of United Kingdom alone (World Travel & Tourism Council, 2020). WTTC also highlights that if the travel ban in UK is not lifted it may lead to \$186 billion loss to GDP. A timeline of COVID-19 related events is presented in Fig. 1 with focus on events in Europe (World Economic Forum, 2020), (Think Global Health, 2020). The first COVID-19 death in Europe was reported in France on 14th February 2020. Italy became the epicentre of the outbreak in Europe with total number of cases mounting up to over 10,000 by March 10th. On March 17, a decision was made by the European Commission to prevent all non-essential travel.

As the travel restrictions were put into practice, a drop in the occupancy rate, average daily rate and revenue per available room for hotels in Europe was observed. Table 1 shows change in these three criteria from 2019 and the value in 2020 for the months of January, February, March and April

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using data from STR (STR, 2020). Compared to March 2019, a drop of 61.6 % in the occupancy rate was observed for March 2020, while a drop of 84.6% was observed for the month of April. The revenue per available room reached a record low of EUR 8.58. Based on these data it is evident that just within few months the pandemic began showing its negative impact on the business of hotels in Europe.

Being one of the first industry to face the immediate impact of the crisis, the road to recovery for the hotel industry seems to be very challenging. Even when the travel restrictions begin to ease it will take time for the demand to reach the pre-crisis stage. The hotel management will require to take new measures to ensure safety of customers and staff such as implementing temperature monitoring devices and carrying

out regular disinfection. In this paper an event study approach towards assessing the impact of COVID-19 pandemic on the stock performance of hotels in Europe is presented. The stock prices of 15 publicly listed hotels are studied for four different events across six time windows. A comprehensive review of literature related to impact of COVID-19 showed that there is no research published focusing on the hotel industry in Europe. The rest of the paper is organised as follows: Section 2 describes relevant works in literature that deal with impact of external events such as SARS outbreak and financial crisis on the hospitality industry with main focus on hotels. Section 3 presents the employed methodology for this research, results and discussion are described in Section 4 followed by conclusion in Section 5.

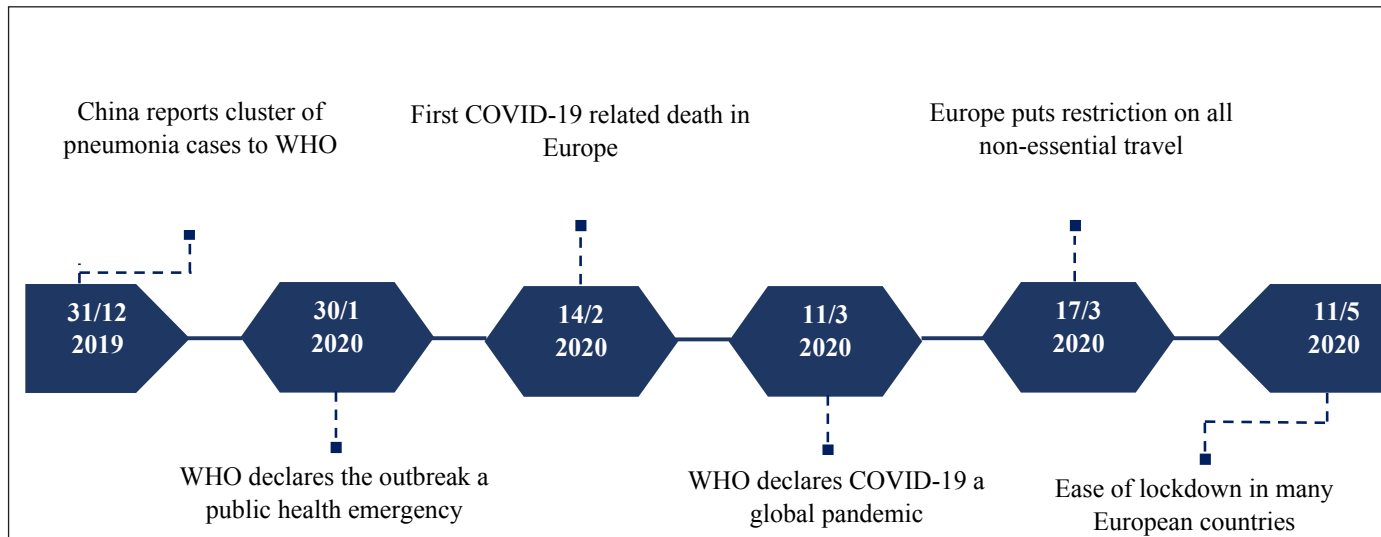


Fig. 1: A Timeline of COVID-19 Related Events

LITERATURE REVIEW

Looking at the recent history there are two main events that impacted the performance of hotel stocks namely the severe acute respiratory syndrome (SARS) outbreak of 2003 and the global financial crisis of 2008. However, the extent to which these events affected the hospitality industry in general and performance of hotels in particular was not of such a massive scale as compared to the impact caused by the global outbreak of the novel coronavirus. Within the literature several studies are found that focus on assessing the effect of disease outbreaks and recession on tourism demand and performance of hotels. Kuo et al. (2008) performed a study to evaluate the influence of avian flu and SARS on tourism in Asia. An assessment of tourism demand was made based on the count of international tourists that arrived in China,

Taiwan, Singapore and Hong Kong during SARS outbreak and in Indonesia and Vietnam during spread of avian flu. By employing an autoregressive moving average model with exogenous variable (ARMAX) it was observed that SARS had a negative impact on tourism demand for all the four Asian countries being studied. Addition of every new case of SARS infection lowered the tourism demand by 299 tourist arrivals in China, 149 in Hong Kong and by 175 arrivals in Taiwan. However, there was no observed substantial effect of avian flu on tourism demand of Indonesia and Vietnam. These results highlight that the nature of disease outbreak has a significant impact on the number of tourist arrivals. SARS for example spreads through infected droplet transmission among humans while avian flu is known to spread through contact with infected birds. The fear of infection thus prevented tourists from travelling to countries with SARS outbreak.

Table 1: Comparison of Europe Hotel Performance

Month	Criteria					
	Occupancy		ADR		RevPAR	
	Change from 2019(%)	Value in 2020(%)	Change from 2019 (%)	Value in 2020 (EUR)	Change from 2019 (%)	Value in 2020 (EUR)
January	+1.4 ▲	58.5	+0.5 ▲	101.14	+1.8 ▲	59.18
February	-1.8 ▼	63.6	+1.2 ▲	101.68	- 0.6 ▼	64.68
March	-61.6 ▼	26.3	- 8.1 ▼	96.13	-64.7 ▼	25.27
April	-84.6 ▼	11.1	-30.1 ▼	77.52	-89.2 ▼	8.58

ADR: Average daily rate; RevPAR: Revenue per available room *Data source: STR

Kim, Chun and Lee (2005) studied how the SARS epidemic impacted the performance of hotel industry in Korea. In the period between February and July 2003, a drop of 14% in the rate of occupancy was observed in comparison to the occupancy rate during the same time in 2002. As they occupancy rate lowered, there was also a drop in the average cost of hotel room from \$202 in the year 2002 to \$177 in 2003. The revenue per available room also dropped at an average of \$24. In order to deal with the crisis, the hotel management undertook several measures such as collaborating with airline industry, holding on any additional investments and carrying out promotions and advertisements.

The impact of any event on the performance of a firm's stock can be evaluated through event study methodology (ESM) by calculating abnormal returns. Estimation of abnormal return involves finding the stock return of a firm that would have normally occurred in the absence of an external event (expected return) and subtracting the observed stock (actual return) for the same time period from it (Werner, 2010).

The event study approach can be implemented to identify the abnormal return of hotel stocks during the SARS outbreak. Chen et al. (2007) evaluated the effect of SARS on the performance of hotel stock in Taiwan by implementing ESM. It was observed that the tourism industry was most seriously affected in comparison to other industries such as retail and manufacturing. The tourism sector in general experienced a drop of 29% in stock price. The occupancy rate for the hotels included in the study declined by an average of 40%. Significant negative cumulative mean abnormal return (CAR) was observed with all the models for the hotel industry as well as the food industry during the ten-day interval post the SARS outbreak.

In addition to the SARS outbreak, the global financial crisis of 2008 had a negative impact on the performance of hospitality sector. Song et al. (2011) forecasted the demand for rooms in different hotel categories (High Tariff A, B, Medium and guesthouse) during the financial crisis in Hong Kong. Tourism board in Hong Kong categorizes hotels

by providing a score with reference to the location, to the ratio between the number of staff and number of rooms, available services and facilities. The top score is assigned to High Tariff A (3 to 3.99). The High Tariff B category hotels falls second with an aggregate score in the range of 2 to 2.99. A score of 1 to 1.99 is assigned to Medium Tariff hotels, while the lowest score of 0.99 and lower is assigned to tourist guesthouses. In the study by (Song et al., 2011) the demand for hotel rooms in Hong Kong was forecasted for a period between 2009 (first quarter) till 2015 (fourth quarter). It was estimated the High Tariff A and Medium Tariff hotels suffered an average negative demand growth of about -2.48% and -13.63% respectively in the year 2009. The demand for hotel rooms in the first three categories were anticipated to enter the recovery stage from 2010. As for the tourist guesthouses, the growth rate was positive, however the demand was projected to have decreased (40.3% in 2008 to 13.8% in 2009).

Page et al. (2012) examined the effect on demand for tourism in the United Kingdom from the first quarter of 2008 till the second quarter of 2009 which they termed as the 'multi-crisis' period. During the defined period the world was hit by two disasters, the economic crisis as well as the swine flu outbreak. The authors in this study focused on implementing a methodology so as to separate the impacts on the tourism demand caused by each of the two crises. On an average, 4.7 million less tourist arrivals were recorded during the 2008 Q1-2009 Q2 period. In regard to the loss of revenue, it was observed that the financial crisis contributed to a revenue loss of approximately £3.7 billion, while the swine flu outbreak contributed to a loss of approximately £940 million. Though the study involved identifying the individual impact of both crises on tourism demand it had some limitations. The proposed methodology can only process 2 phenomena at a time and the impact of the crises was measured only through tourist arrivals. Brand reliability is also expected to play an important role in the recovery process. (Kim et al., 2020) showed that during epidemics such as avian and swine flu, brand reliability of restaurants

played a significant part. Restaurants with better brand reliability showed lower negative abnormal return during the crisis.

Alonso-Almeida and Bremser (2013) studied the impact of the financial crisis on different hotels in Madrid by implementing the best/worst model. These models were used to analyse the conditions that affected the best and worst performing hotels. It was observed that the hotels that worked towards building corporate identity, premium quality and good customer relationship are better prepared at managing a crisis situation. During the crisis, such hotels can keep their regular prices or even increase it as well. In contrast to what is generally reported in the literature, this study finds that only the hotels that are categorized in the worst model suffers the immediate negative effect of the crisis. This is mostly because hotels in the worst model had to lower the prices despite being unable to cut the costs. Some of the significant literature works is summarised in Table 2.

This research focuses on analysing the impact of COVID-19 pandemic on the performance of hotels in Europe based on the hotel stock prices. Currently there are studies found in the literature that examine different aspects of COVID-19 impact. For example, Ozili and Arun (2020) studied the impact of COVID-19 restrictions on the economy and stock market indices, Al-Awadhi et al. (2020) showed that the stock market in China suffered a significant negative impact as there was an increase in the number of confirmed COVID-19 infections and death. Nicola et al. (2020) reviewed the social and economic repercussion of COVID-19. A thorough search of literature showed that the impact of COVID-19 outbreak on performance of stock prices of hotels in Europe which is the focus of this research is not yet studied. Therefore, the aim of this paper is to fill the gap in the literature by providing one of the first studies that focuses on the impact of travel restrictions on the stock prices of hotel industries located in Europe.

Table 2: Study of Literature

Type of External Event Being Studied	Data Used	Employed Modeling Technique	Key Findings
1. SARS outbreak (China, Hong Kong, Singapore, Taiwan) and avian flu (Indonesia, Vietnam) (Kuo et al., 2008)	Number of international tourist arrivals	ARMAX model	-SARS had significant negative effect on tourism demand of countries with SARS outbreak. -No significant impact on tourism demand observed in countries with spread of avian flu.
2. SARS outbreak in Taiwan (Chen et al., 2007)	Hotel stock prices	Market model, MM-Garch, MM-TGarch, MM-EGarch	-40% decline in hotel occupancy rate. -For all the tested models, cumulative mean abnormal return was observed to be significantly negative.
3. Financial crisis in Hong Kong (Song et al., 2011)	-Number of rooms in different hotel categories (High Tariff A, B, Medium Tariff, guesthouses). -Room rates (quarterly)	Autoregressive Distributed Lag model (ADLM)	-Annual negative growth rate forecasted (High Tariff: -2.48%, Medium Tariff: -13.63%) -A steady increase in demand expected from 2010 for High Tariff A, B, Medium Tariff. -Tourists Guesthouses experienced the least damage from the crisis.

METHODOLOGY

To examine the impact of COVID-19 on hotel stock prices in Europe, this research employs an Event study methodology (ESM) using a sample of 15 publicly listed hotels. To get comprehensive market portfolio, S&P Europe 350 has been used. Daily closing stock prices for listed hotels were obtained from reliable sources such as *yahoo finance* and *investing.com* for the period from January 1, 2020 till June 8, 2020. ESM is a popular measure used by many researchers to examine the impact of a particular incident or event on stock prices. ESM helps to separate the firm specific events from a market level spread phenomenon (Chen et al., 2007). The COVID-19 though initially found in December 2019 in Wuhan, it was not until January 2020 when the news came

into light (Liu et al., 2020). Therefore, this research used various events windows to analyse the impact of COVID-19 on the hotel industry in Europe. 4 events were included to check which event had the maximum effect on the stocks: 30 January, 11 March, 17 March and 11 May 2020. These events are described as:

- 30th January: Coronavirus outbreak declared as public health emergency by WHO.
- 11th March: Coronavirus outbreak declared as pandemic by WHO.
- 17th March: Travel restrictions on non-essential travel implemented in Europe.
- 11th May: Lockdown restrictions eased in many European countries.

For every event, 6 time-windows were considered $[0, \pm t]$ where, 0 represents day of the event and $\pm t$ represents 3, 5 and 10 trading days before and after the event day: (0,-3), (0,-5), (0,-10), (0,3), (0,5), (0,10). The event study methodology is implemented through the following steps.

- Converting stock prices to log return

$$R_t = \ln\left(\frac{P_t}{P_{t-1}}\right) \quad (1)$$

where P_t represents the stock price of present day and P_{t-1} represents previous trading day's stock price.

As per the market model the returns are modelled as:

$$E(R_{j,t}) = \alpha_j + \beta_j R_{mt} + \varepsilon_{j,t} \quad (2)$$

where,

$E(R_{j,t})$ is the expected return on stock j at time t .

α_j is the parameter of regression equation.

β_j is the parameter of regression equation, also known as stock beta value (slope).

R_{mt} is the daily return of market index m at time t .

$\varepsilon_{j,t}$ is the error term.

- Calculating abnormal return.

Abnormal return is calculated as:

$$AR_{j,t} = R_{j,t} - E(R_{j,t}) \quad (3)$$

where,

$AR_{j,t}$ is the abnormal return.

$R_{j,t}$ is the actual return on stock j at time t .

$E(R_{j,t})$ is the expected return.

- Calculating average abnormal return.

Average abnormal return is calculated as:

$$AAR_t = \frac{1}{N} \sum_{j=1}^N AR_{j,t} \quad (4)$$

AAR (average abnormal return) is the average of abnormal return of all stock at time t during the event window. Where N is number of sampled countries.

- Calculating cumulative abnormal return

The cumulative abnormal return is calculated as:

$$CAR_j = \sum_{t=f1}^{fn} AR_{j,t} \quad (6)$$

where,

$f1$ first day in the event window fn last day in the event window.

Hypothesis 0: The COVID-19 pandemic had no impact on hotel stock prices.

Hypothesis 1: The COVID-19 pandemic had a significant impact on hotel stock prices.

RESULTS AND DISCUSSION

COVID-19 has devastated many businesses and industries, however hospitality industry has been impacted the most. Average abnormal return (AAR) which is defined as abnormal return of all securities that are being analysed at a point of time t and in studied window. Table 3 and 4 shows the AAR values and t-statistics for sampled event window, that is (-10, +10). Where 0 represent the event day in this case the days on which important announcement has been made and measures taken by countries. The results indicate that there are no significant negative abnormal returns in window one which is the beginning of the pandemic. Whereas we can observe significant negative abnormal return on stocks in window 2 specially on day after the event day that is (T_{+1}) the AAR was about (-7.73%) which is the lowest return in the window. The results are validated by prob. of 0.006 which is significant at 1% significant level.

Table 3: AAR Result for Event 1 and Event 2

Market Model (MM)								
	Event-1				Event-2			
Day	AAR (%)	St. Dev	t-Stat	p-Value	AAR (%)	St. Dev	t-Stat	p-Value
-10	-0.537%	0.0165	-1.1718	0.2640	0.2736%	0.0350	0.2819	0.7829
-9	-0.009%	0.0128	-0.0261	0.9796	-2.4825%	0.0240	-3.7302	0.0029*
-8	-0.252%	0.0103	-0.8806	0.3958	-0.5799%	0.0285	-0.7347	0.4766
-7	-0.280%	0.0190	-0.5318	0.6045	-1.1760%	0.0218	-1.9487	0.0751***
-6	-0.009%	0.0096	-0.0349	0.9727	-0.5152%	0.0206	-0.9021	0.3848
-5	-0.296%	0.0185	-0.5781	0.5739	-1.9003%	0.0330	-2.0758	0.0601***
-4	-0.851%	0.0136	-2.2514	0.0439**	-2.6474%	0.0669	-1.4266	0.1792

Market Model (MM)								
	Event-1				Event-2			
Day	AAR (%)	St. Dev	t-Stat	p-Value	AAR (%)	St. Dev	t-Stat	p-Value
-3	-0.790%	0.0276	-1.0321	0.3224	-1.1110%	0.0334	-1.2005	0.2531
-2	0.814%	0.0265	1.1085	0.2894	-2.4618%	0.0298	-2.9770	0.0116**
-1	-1.594%	0.0360	-1.5963	0.1364	-1.2367%	0.0230	-1.9349	0.0769***
0	-0.623%	0.0214	1.0515	0.3137	-2.5128%	0.0587	-1.5447	0.1484
1	0.058%	0.0129	0.1621	0.8739	-7.7374%	0.0853	-3.2712	0.0067*
2	-0.346%	0.0186	-0.6689	0.5162	-1.3726%	0.0309	-1.6039	0.1347
3	0.610%	0.0191	1.1497	0.2727	-6.3648%	0.0641	-3.5777	0.0038*
4	0.241%	0.0109	0.8003	0.4391	-3.3844%	0.0858	-1.4222	0.1804
5	-0.369%	0.0175	-0.7608	0.4615	-4.1274%	0.0719	-2.0699	0.0607***
6	0.167%	0.0159	0.3793	0.7111	-2.7135%	0.0977	-1.0011	0.3365
7	0.169%	0.0153	0.4005	0.6958	-1.0292%	0.0907	-0.4091	0.6897
8	0.436%	0.0155	1.0135	0.3308	-2.9067%	0.0654	-1.6014	0.1353
9	0.248%	0.0111	0.8044	0.4368	6.0631%	0.1142	1.9151	0.0796***
10	0.737%	0.0338	0.7856	0.4473	3.4257%	0.0757	1.6326	0.1285

* significant at 1% level, ** significant at 5% level, *** significant at the 10% level

Table 4 presents the results from event 3 and 4 we can observe significant negative abnormal return on stocks in window 3 however we can observe some level of positive return in window four as we can observe some European countries beginning to ease lockdowns. The variables are significant at 1%, 5% and 10% significant level. Overall although we can see some pattern in the 4 event windows however the situation is unstable, and the markets are fluctuating regularly leading to doubts and confusion with investors.

Table 5 represents results of the second analyses CAR (Cumulative abnormal return). There are 6 windows in each

event that is (-3, -5, -10) and (3, 5, 10). The results indicate that since its beginning of the pandemic there is significantly low negative abnormal return. However, in event two and event three which was the peak of pandemic in Europe and most European countries went into lockdown, the CAR has been significantly high negative abnormal return. The cumulative abnormal returns of hotels 10 days reached to -363% with p-value 0.0001 in event two and -329% in event 3 with p-value 0.0000, the abnormal return has increased tremendously in window four were many European country started to open and return to business.

Table 4: AAR Result for Event 3 and Event 4

Market Model (MM)								
	Event-3				Event-4			
Day	AAR (%)	St. Dev	t-Stat	p-Value	AAR (%)	St. Dev	t-Stat	p-Value
-10	-0.4587%	0.0206	-0.8018	0.4383	2.029%	0.0233	3.1417	0.0085*
-9	-1.8451%	0.0324	-2.0511	0.0628***	2.194%	0.0259	3.0510	0.0101**
-8	-2.5910%	0.0669	-1.3960	0.1880	2.657%	0.0411	2.3310	0.0380**
-7	-1.0489%	0.0333	-1.1352	0.2784	-0.149%	0.0414	-0.1299	0.8988
-6	-2.3904%	0.0297	-2.9066	0.0132**	-0.893%	0.0285	-1.1315	0.2799
-5	-1.1559%	0.0232	-1.7967	0.0976***	-0.213%	0.0372	-0.2061	0.8401
-4	-2.4445%	0.0587	-1.5012	0.1592	-0.074%	0.0306	-0.0875	0.9317
-3	-7.6740%	0.0850	-3.2548	0.0069*	-0.682%	0.0214	-1.1518	0.2718
-2	-1.2720%	0.0315	-1.4556	0.1712	1.213%	0.0231	1.8937	0.0826***
-1	-6.3064%	0.0646	-3.5221	0.0042*	0.958%	0.0167	2.0658	0.0611***
0	-3.3109%	0.0852	-1.4011	0.1865	0.469%	0.0260	0.6489	0.5287
1	-4.0703%	0.0719	-2.0410	0.0639***	-2.142%	0.0336	-2.2983	0.0403**

Market Model (MM)								
	Event-3				Event-4			
Day	AAR (%)	St. Dev	t-Stat	p-Value	AAR (%)	St. Dev	t-Stat	p-Value
2	-2.6359%	0.0975	-0.9744	0.3491	-2.052%	0.0464	-1.5934	0.1371
3	-0.9736%	0.0912	-0.3850	0.7070	-0.472%	0.0202	-0.8443	0.4150
4	-2.8518%	0.0658	-1.5625	0.1441	1.035%	0.0328	1.1380	0.2773
5	6.1368%	0.1141	1.9395	0.0763***	6.674%	0.0492	4.8884	0.0004*
6	3.4559%	0.0757	1.6459	0.1257	0.125%	0.0463	0.0975	0.9239
7	0.8797%	0.0682	0.4649	0.6503	-1.269%	0.0108	-4.2241	0.0012*
8	1.6338%	0.0802	0.7345	0.4768	0.063%	0.0454	0.0503	0.9607
9	1.4474%	0.0740	0.7056	0.4939	0.157%	0.0370	0.1528	0.8811
10	2.5944%	0.0479	1.9525	0.0746***	6.163%	0.1009	2.2032	0.0479**

* significant at 1% level, ** significant at 5% level, *** significant at the 10% level

Table 5: CAR Result for Event 1-4

Market Model (MM)				
Day	CAR (%)	St. Dev	t-Stat	p-Value
Event-1				
-10	-10.178%	0.0061	-5.3170	0.0005*
-5	-6.870%	0.0069	-4.4228	0.0115**
-3	-4.829%	0.0078	-3.5631	0.0705***
3	-5.112%	0.0024	-12.3511	0.0065*
5	-7.283%	0.0048	-6.7958	0.0024*
10	-10.655%	0.0057	-5.8693	0.0002*
Event-2				
-10	-65.15%	0.0471	-4.3786	0.0018*
-5	-51.98%	0.0295	-7.8856	0.0014*
-3	-36.58%	0.0188	-11.2162	0.0079*
3	-81.37%	0.0413	-11.3798	0.0076*
5	-155.92%	0.0645	-10.8173	0.0004*
10	-363.45%	0.0733	-15.6878	0.0000*
Event-3				
-10	-111.04%	0.0878	-4.0000	0.0031*
-5	-89.10%	0.0715	-5.5751	0.0051*
-3	-67.68%	0.0406	-9.6278	0.0106**
3	-109.95%	0.0187	-33.9926	0.0009*
5	-185.87%	0.0264	-31.4927	0.0000*
10	-329.15%	0.0512	-20.3096	0.0000*
Event-4				
-10	54.87%	0.0150	11.5422	0.0000*
-5	29.17%	0.0080	16.2736	0.0001*
-3	17.99%	0.0109	9.5480	0.0108**
3	11.52%	0.0134	4.9562	0.0384**
5	25.95%	0.0314	3.6913	0.0210**
10	80.92%	0.0413	6.1947	0.0002*

* significant at 1% level, ** significant at 5% level, *** significant at the 10% level

CONCLUSION

The present article studied the impact of COVID-19 on stock market indexes of Hotels listed on European stock exchanges. Using daily returns from January to May, the study is divided the data into four main windows based on the events announced and steps taken by European countries. Using event study methodology on 15 publicly listed hotel the research concluded that hotels included in this research heavily suffered during event 2 and 3 whereas in event 1 the effect is just beginning whereas in event 4 there are some degree of recovery. The events 2 and 3 witnessed a negative cumulative abnormal return up to 300% which is very huge.

COVID-19 is a pandemic that the world has never seen before in recent past. The impact of the pandemic is evident in every sector and the hotel industry is no exception. According to (Krishnan, Mann, Seitzman & Wittkamp, 2020) the full recovery of hotel industry could actually be as late as 2023 however with reference to our results the hotels across Europe responded positively to ease of lockdowns. The governments should announce stimulus packages to protect hotels specially the small brand hotels.

This research has few limitations firstly, due to lack of time and recently available data it was only possible to use 15 hotels, also as it is still an ongoing process the overall picture is not clear. Future research in this area can include more hotels and more event windows after uplifting of lockdown to get a more comprehensive understanding of the impact of the pandemic.

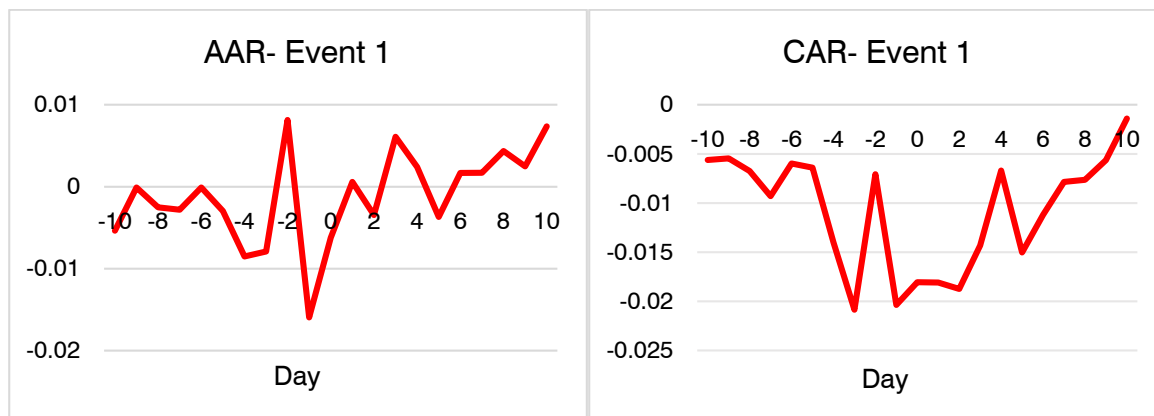


Fig. 2: Plot of Average Abnormal Return (Left) and Cumulative Abnormal Return (Right) for Event 1 (Outbreak Declared as Public Health Emergency)

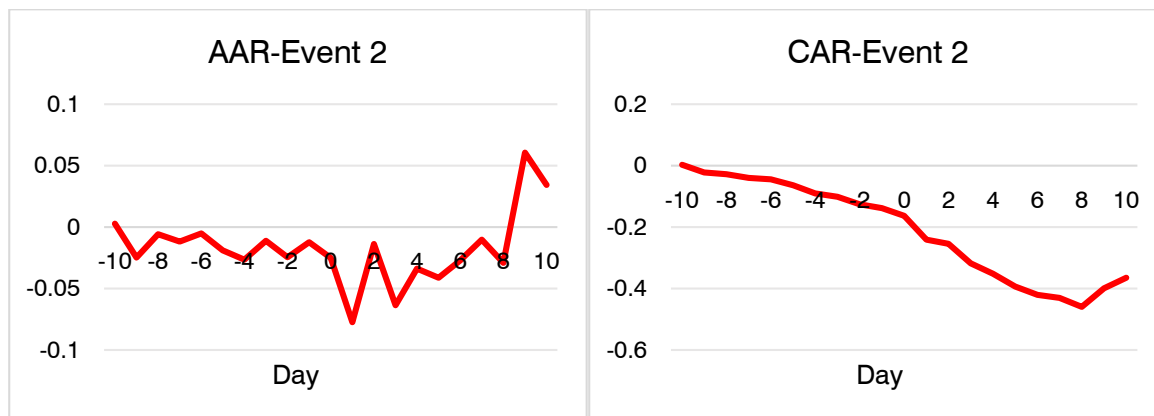


Fig. 3: Plot of Average Abnormal Return (Left) and Cumulative Abnormal Return (Right) for Event 2 (Outbreak Declared as Global Pandemic)

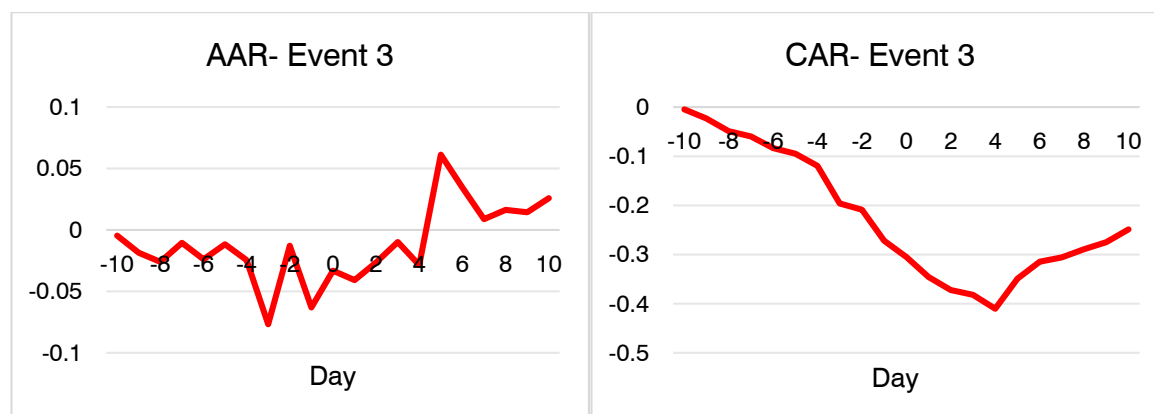


Fig. 4: Plot of Average Abnormal Return (Left) and Cumulative Abnormal Return (Right) for Event 3 (Travel Restriction on Non-Essential Travel)

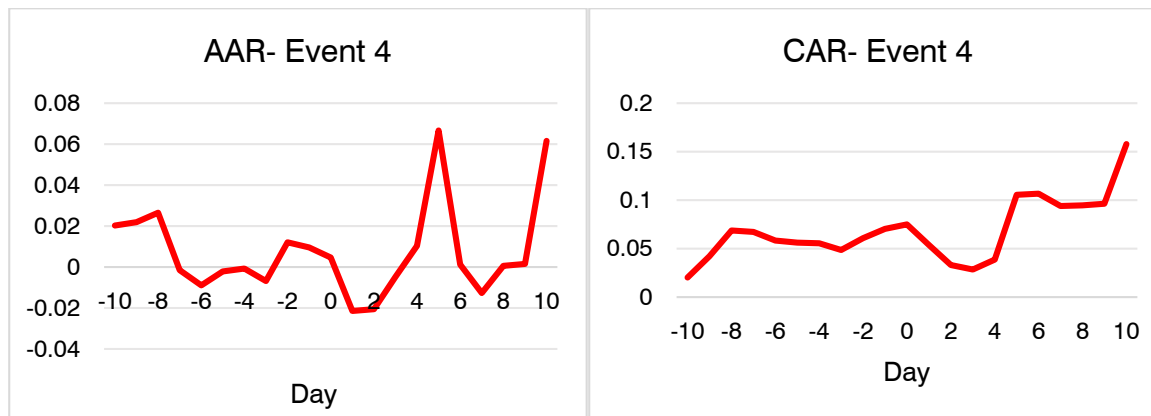


Fig. 5: Plot of Average Abnormal Return (Left) and Cumulative Abnormal Return (Right) for Event 4 (Ease in Lockdown Restrictions)

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