The effect of COVID-19 pandemic on Croatian tourist sector

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## 0.1 ABSTRACT

This paper analyses the effect of COVID-19 pandemic on the listed tourist stocks in the Zagreb stock exchange by application of the event study methodology. The analysis starts with the descriptive overview of the market wide performance of different sectors in the period before, during and after the initial pandemic outbreak and afterwards explicitly tests for the COVID-19 outbreak effects on the tourist stocks. First, the wide COVID-19 outbreak event window of 35 days is specified so that important events related to the pandemic can be identified. Second, the first officially reported COVID-19 incidence in Italy and World Health Organization declaration of global pandemic are used as identified events in a shorter 10 day window event study estimation. The results point to the significant negative effect of COVID-19 pandemic on the returns of tourist stocks in the Zagreb stock exchange and are robust to the different event window specification. However, the overall results do not provide evidence to the relatively stronger COVID-19 effects on tourist sector but rather equal effects across different sectors.

We investigate the effect of the spread of the pandemic into Europe on the tourist stocks in Croata!

According to Baker et al. (2020) “no previous disease outbreak, including the Spanish Flu, has impacted the stock market as forcefully as the COVID-19 pandemic.”

# 1 INTRODUCTION

The coronavirus pandemic flooded the globe in just a few months after the first case was registered, leaving huge consequences in the form of threatening the health and human lives, great economic losses, and psychological fear that has crept deep into society. The presence of the virus around the world has prevented potential tourists from feeling safe in the destination which has left deep consequences today and in the future for one of the most affected sectors, and that is tourism. According to the UNWTO (2021) international tourist arrivals (overnight visitors) dropped by 74% in 2020 compared to the 2019, due to massive drop in tourist demand and travel restrictions. This pandemic has caused loss of USD 1.3 trillion in export revenues which is eleven times greater loss compared to the global financial crisis from 2008. UNWTO forecasted that it could pass between 2,5 or even 4 years for international tourism to return on the old track from 2019. The effectiveness of vaccines and the level of vaccination of the population will certainly play an important role, which should contribute to a smaller number of new cases, as well as to the mitigation of travel restriction measures and the restoration of consumer confidence. The consequences are even worse since Croatia is a highly tourism dependent country.

According to the UNWTO, Croatia is among the 10 most vulnerable countries according to the criterion of the direct impact of tourism on the share of GDP. More precisely, in the first place is Macao (China) 48%, followed by: Fiji 13%, Jordan 12%, Spain 12% and Croatia with 11%. Many countries have introduced travel restrictions, and knowing that the share of foreign tourists in Croatia is 89% (UNWTO, 2021), negative results are expected from companies that are directly or indirectly involved in tourism. In Croatia tourism is taking part in a large share of total exports (35%) as well (UNWTO, 2021). Although Croatia achieved a record in 2019 in terms of the total number of arrivals and overnight stays of domestic and foreign tourists in 2020 due to the global corona pandemic, there was a steep decline compared to 2019, which amounts to -55,29% of overnight stays and -64,22% of total arrivals. Poor results in tourism spilled over into the capital market and caused turmoil, so the purpose of this research was to investigate how tourism stock prices respond to the event of the COVID-19 pandemic by using event study technique. According to the previous studies, this methodology has shown great utility in identifying a particular event on stock market returns.

This study contributes to the literature by analyzing the impact of global COVID-19 pandemic on tourism stock volatility in Croatia. As a practical implication, this study will be of a great use to current and potential investors while making investment decisions, for this and other future unexpected crises. The remainder of this study is structured as follows: section 2 performs overview of Croatian tourism before and during the Covid-19 pandemic, section 3 outlines detail literature review, section 4 presents data and methodology, section 5 reports the results of empirical research and discussion and finally in the last section all conclusions, limitations and future recommendations are summarized.

# 2 TOURISM IN CROATIA BEFORE AND DURING THE COVID-19 PANDEMIC

The Republic of Croatia systematically follows modern tourist trends and is well positioned on the European tourist market. It is recognized as a stable, safe tourist destination, beautiful and rich natural and cultural-historical heritage. The Croatian tourism sector has been successful since Croatia’s independence and accession to the European Union, and has consistently recorded enviable results, until the outbreak of the coronavirus pandemic in 2020. According to the data published on the official website of the World Health Organization–WHO, by April 20, 2021, a total of 141,754,944 confirmed cases of COVID-19 were recorded, of which 3,025,835 deaths. According to the data reported to the WHO, from 3 January 2020 to 20 April 2021, 310,306 confirmed COVID-19 cases with 6,643 deaths were recorded in Croatia on the total population of 4,058,165

The SARS-CoV-2 virus pandemic has shaken the whole world and caused historically unique problems in all aspects of social and economic life. It has greatly affected the global economic activities. Measures taken to prevent virus spreading (social distancing, traffic restrictions, restrictions on commercial activity, borders closures, etc.) have affected in particular the service sector, tourism and hospitality. The analysis of selected indicators of tourism development in Croatia before and at the time of Covid-19 pandemic in Croatia, shows how much the pandemic affected the results in tourism.

According to the historical review of data on tourist arrivals and overnight stays in Croatia (table 1), a constant growth in tourist arrivals and tourist overnight stays can be observed until 2020. If we compare the nights and arrivals in 2019 with those from 2010, it could be stated that the results have almost doubled. Despite the favorable results, a sharp decline followed in 2020 with decrease in tourist arrivals by 64.2% and decrease in overnight stays by 55.3% in commercial accommodation in 2020 compared to 2019 year. The decline in arrivals and overnight stays followed among domestic and foreign tourists, with the same being more pronounced among foreign tourists, which can also be seen from Charts 1 and 2.

According to the data from Figure 1, it can be concluded that the decline of domestic tourist arrivals in 2020 (-34.24%) is much smaller compared to the decline of foreign tourist arrivals (-68.05%). The same effect is present in realized overnight stays, domestic overnight stays in 2020 decreased by -23.68%, while realized overnight stays of foreign tourists had a decrease of -57.95%. These results are a consequence of the fear of the COVID-19 pandemic, and the forced closure of borders due to the large growth of patients in 2020.

# 3 LITERATURE REVIEW

Event study is a standardized methodology which is used to measure the impact of unforeseen or unanticipated events on prices or business performance. This methodology can also be used to measure corporate announcements on financial performance, investor behavior or similar. Therefore, this methodology is widely used and very interesting for use in the field of finance. The basic assumption for the application of this methodology is that the markets are efficient, i.e. that publicly available information are reflected in the prices of securities. According to Kothari and Warner (2007) event study can be used to test the market efficiency on the capital market. Although market efficiency change over time, Novak (2019) rejected the weak-form efficiency hypothesis on Croatian capital market.

One of the first authors which showed the usefulness of the event study methodology were Ball and Brown (1968) who researched the impact of earnings surprises on stock prices. Brown and Warner (1980) have compared different event study methodologies and concluded that complicated methodologies will not benefit with better results in comparison with a simple one factor market model. Asquith and Mullins (1983) concluded that initiating a dividend policy as an information has a strong and positive impact on the market reaction. Miletić (2011) analyzed impact of dividend announcement on Croatian capital market by event study methodology. Results confirmed that increase or decrease of dividend significantly affect stock price in the same direction while dividend retention had no affect on stock price. Abarbanell and Park (2016) found that companies with larger ex ante earnings response coefficients are linked to a greater propensity to positively bias earnings surprise and more negative intercepts in regressions of announcements returns on earnings surprises. Škrinjarić and Orlović (2019) applied event study methodology in order to test whether political events regarding the concern Agrokor affect stock prices. Their results indicate that stocks which belong to Agrokor concern suffered from lowering returns while other liquid stocks on the Zagreb stock exchange were not affected.

Panyagometh ([2020](#ref-Pany)) used a sample of 46 stocks listed in the Stock Exchange of Thailand in order to analyze stock price reactions during pandemic. After applying event study methodology in order to empirically measure abnormal returns and volatility, research results suggest that the majority of stocks in the Stock Exchange of Thailand have been negatively affected by Covid-19 pandemic. On the other side authors have also found that some stocks had positive returns, these stocks are included in commerce sector- companies which are included in distribution of pharmaceutical products and services. Irfan, Kassim and Dhimmar (2021) analyzed the impact of COVID-19 on the performance of Indian stock exchange and Indonesian Stock Exchange. Author included three different event windows because they wanted to check results in different time periods. The analysis of both countries showed opposite results since Indian stock market showed downward sloping after WHO declaration, and Indonesian upward. Albulescu ([2020](#ref-Abul)) researched new COVID-19 official cases announcements and death ratio on the financial markets volatility index (VIX). Authors has concluded that new cases reported outside China has positive impact on VIX, death ratio has significant positive impact on VIX, and the spread of the COVID-19 increase financial volatility. Chia, Khim-Sen Liew and Rowland (2020) research the relation between Malaysian stock market and variables related to COVID-19 their results suggest that daily new cases had negative but insignificant impact on the indices returns. On the other hand authors also found that movement control order had significant and positive impact on all indices’ returns which is quite surprising. He et al. (2020) investigated impact of COVID-19 on stock prices of different Chinese industries. Authors concluded that pandemic greatly affected: transportation, mining, electric and heating, and environmental industries, while manufacturing, information technology, education and health-care industries have resisted the impact of the COVID-19 pandemic.

# 4 METHODOLOGY

## 4.1 DATA

This analysis uses data sample of 23 traded tourist firms retrieved from the Zagreb stock exchange (ZSE) in the period between the first trading day in 2019. and April 13th 2021. Due to the low liquidity, i.e. infrequent trading, the initial sample is reduced to the final empirical sample of 12 firms according to the criteria of minimum of 100 trading days over the sampled period. For these 12 firms the daily closing stock prices are used in order to calculate daily percentage returns. Since the COVID-19 pandemic was gaining worldwide momentum prior to the spreading into the Europe, we divide the time period into three parts: *pre* epidemic part ranging from the first trading day in 2019. until one week before the first reported case in Italy (Feb, 21th 2020.), *ongoing* pandemic from the first offically reported COVID-19 incidence in Italy until one week after the the lockdown was introduced in Croatia (March,19th 2020.) and *post* event period from March, 26th 2020 until the end of the sample period (April, 13th,2021). The reason to specify the event period loosely, a one week before first COVID-19 incidence in Italy and one week after the lockdown in Croatia, is to allow uncertainty and information to become incorporated in the market valuations due to the novelty of the pandemic shock and media reporting lag related to the pandemic outbreak.

The overview of the Croatian capital market reaction to the COVID-19 pandemic spread in Europe is summarised in the Table 1. It can be seen that COVID-19 pandemic caused a significant drop in the overall market valuation (CrobexTr) of 25.9% and all sectoral indexes. The Crobex Nutrition index had the biggest relative drop (26.1%), followed by the Crobex Tourist index that lost 25.2% of the value. The negative pandemic effect seems even more pronounced since from the beginning of the analyzed period the overall stock market trend was positive and gained 19%. The worst performing sector in that period was the construction (CrobexKonstr) that lost 31% of the value. During the post event period, a significant overall market rebound can be observed as CrobexTr index rose by 17.7% followed by posive performance of all sectors. The tourist sector had the worst performance relative to the other sectors in the pre event period (-0.4%) but reacted very similar to the overall market during the event period. The rebound of the tourist sector was only by a margin better than the market average but significantly smaller than other sectors like construction and food sector. It is interesting to note that the standard deviation of the tourist sector return remains lower than the average market during the event and in the post event period, implying a lower investment risk. Furthermore, the standard deviation of the tourist sector return is lower relative to the other sectors in all periods indicating that the effect of the COVID-19 pandemic wasnt the strongest for the tourist sector but rather very similar to the market average. It is also important to note that the market rebound after the event was stronger in industry and construction than tourist sector.

Table 4.1: Table 1: Overview of the market returns over the analysed period

Pandemic

Index

Total

Average

Stdev

Min

Max

Ongoing

CrobexInd

-24.359

-0.609

4.116

-14.690

7.481

Ongoing

CrobexKonstr

-16.624

-0.416

4.652

-15.300

10.850

Ongoing

CrobexNutr

-26.150

-0.654

3.719

-12.460

6.432

Ongoing

CrobexTr

-25.882

-0.647

3.363

-11.313

5.460

Ongoing

CrobexTur

-25.204

-0.630

3.361

-10.975

6.572

Post

CrobexInd

40.059

0.159

1.282

-3.772

8.295

Post

CrobexKonstr

77.072

0.306

2.340

-6.538

8.203

Post

CrobexNutr

9.040

0.036

1.423

-11.098

6.014

Post

CrobexTr

17.694

0.070

0.631

-1.821

2.998

Post

CrobexTur

22.590

0.090

1.150

-3.223

5.170

Pre

CrobexInd

-1.412

-0.005

1.256

-4.032

6.658

Pre

CrobexKonstr

-31.339

-0.114

2.261

-8.131

6.921

Pre

CrobexNutr

42.658

0.156

1.763

-10.661

8.707

Pre

CrobexTr

19.076

0.070

0.418

-1.609

2.053

Pre

CrobexTur

-0.430

-0.002

0.623

-2.004

2.868

## 4.2 MODEL

This paper applies the event study methodology as described in Brown and Warner ([1985](#ref-BWarner)). This methodological approach is used to analyze stock markets reaction to the universe of possible events in general and this study applies it in the case of COVID-19 pandemic outbreak on the tourist stocks listed on the ZSE . In order to estimate the economic impact of the event on the stock market performance, event study methodology measures the deviation of the stock`s returns from their historical average and tests weather the influence is translated into abnormal returns. Under the efficient market hypothesis, the stock market returns reflect all available information and price adjustment to the announcement of new information follows immediately (Fama ([1969](#ref-FamaETAL))).

Stock market returns are estimated in the pre-event time period, according to the formula:

where is the price of the stock *i* in the period *t*. The abnormal return is defined as a difference between the actual and expected return during the event window:

.

The expected returns during the event window are parametrized according to the OLS specification:

where represents the return model of choice such as market model, capital asset pricing model(Mossin ([1966](#ref-Mossin))), Fama-French factor model(Fama and French ([1992](#ref-FamaFrench))) and Carhart four factor model(Carhart ([1997](#ref-Carhart))). In this analysis, the market model is applied. The abnormal return is defined as a difference between the actual and expected return during the event window:

or differently:

where and represent estimated parameters from the ordinary least squares model.

Systematialy deviations of from 0 implies that the market mispricing of the event and offers a profitable arbitrage strategy. The cumulative abnormal return is computed by aggregating abnormal returns:

.

The null hypothesis of a zero cumulative abnormal return () is tested against the alternative of a nonzero CAR by *t* statistic obtained with the following procedure:

where M is the length of the estimation window and L is the legnth of the respective event window. Other tests (parametric and nonparameric)…

# 5 RESULTS AND DISCUSSION

In this analysis we broadly define the event in terms of COVID-19 pandemic transitioning from global shock to taking measurable effect in Europe. To proxy the event effect, the first reported case in Italy on Feb, 21th is chosen and extended one week prior to the event to allow for the information to get incorporated in the market valuations. The reason for extending the period is because investors were already aware of the ongoing pandemic and the virus was already spreading in Italy before the official announcement. In a similar fashion, the end of the event period is extended for three trading days after the official lockdown was introduced in Croatia on March 19th to allow investors to process the information and adjust the market valuation accordingly. For the given period, the results of the several nonparametric event study tests are presented in the Table 2. The table shows clusters of high significance across different tests on the first trading day after the lockdown was introduced in Italy (Feb 24th) as well as the following day (Feb 25th) but with somewhat lower robustness. Clusters of significance across different tests is also observed around March 11th when World Health Organization declared COVID-19 a global pandemic pointing to the significant effect on the listed tourist firms on ZSE. It is also noticeable that robustly significant COVID-19 effects can be observed on March 9th, 12th, 16th, and 17th pointing to the investor`s anticipation of official declarations in the local market, i.e. Croatia.

Table 5.1: Table 2: The event study reuslts for the parametric tests

Date

BW80

sig

BW85

sig

t-stat

sig

pt

sig

BH

sig

LMB

sig

2020-02-17

0.155

0.154

0.500

0.938

0.899

0.154

2020-02-18

0.552

0.548

1.100

1.799

* 1.642
* 0.547
* 2020-02-19
* -0.730
* -0.725
* -1.806
  + -2.519
  + \*\*
  + -1.536
  + -0.724
  + 2020-02-20
  + 0.259
  + 0.257
  + 1.312
  + 1.052
  + 1.345
  + 0.256
  + 2020-02-21
  + 0.869
  + 0.863
  + 0.868
  + 1.248
  + 1.166
  + 0.862
  + 2020-02-24
  + -4.217
  + \*\*\*
  + -4.187
  + \*\*\*
  + -2.027
    - -11.658
    - \*\*\*
    - -2.235
    - \*\*
    - -3.407
    - \*\*\*
    - 2020-02-25
    - -2.819
    - \*\*\*
    - -2.799
    - \*\*\*
    - -1.751
    - -4.203
    - \*\*\*
    - -1.632
    - -2.739
    - \*\*\*
    - 2020-02-26
    - -0.482
    - -0.479
    - -0.527
    - -0.120
    - -0.072
    - -0.471
    - 2020-02-27
    - -0.187
    - -0.186
    - -0.259
    - 0.408
    - 0.191
    - -0.184
    - 2020-02-28
    - -0.659
    - -0.654
    - -0.759
    - -1.527
    - -0.875
    - -0.628
    - 2020-03-02
    - 1.810
      * 1.797
        + 1.335
        + 3.738
        + \*\*\*
        + 1.835

1.792

2020-03-03

0.258

0.256

0.267

0.089

0.062

0.255

2020-03-04

-0.376

-0.374

-0.268

0.230

0.117

-0.373

2020-03-05

-0.554

-0.550

-0.646

-2.726

\*\*\*

-1.337

-0.547

2020-03-06

-1.390

-1.380

-1.053

-5.260

\*\*\*

-1.565

-1.314

2020-03-09

-5.554

\*\*\*

-5.515

\*\*\*

-1.900

-8.950

\*\*\*

-2.210

\*\*

-3.254

\*\*\*

2020-03-10

-0.117

-0.116

-0.076

-2.800

\*\*\*

-1.078

-0.115

2020-03-11

-4.943

\*\*\*

-4.908

\*\*\*

-2.259

\*\*

-7.922

\*\*\*

-2.397

\*\*

-4.122

\*\*\*

2020-03-12

-2.011

\*\*

-1.997

\*\*

-0.633

-5.292

\*\*\*

-1.338

-1.103

2020-03-13

0.607

0.603

0.335

2.030

\*\*

0.691

0.475

2020-03-16

-2.549

\*\*

-2.531

\*\*

-0.945

-7.119

\*\*\*

-1.648

-1.761

2020-03-17

-2.212

\*\*

-2.196

\*\*

-1.693

-2.267

\*\*

-0.638

-2.118

\*\*

2020-03-18

-1.314

-1.304

-0.734

-4.098

\*\*\*

-0.984

-1.183

2020-03-19

-0.440

-0.437

-0.241

0.248

0.060

-0.431

2020-03-20

-1.086

-1.078

-1.051

-2.758

\*\*\*

-1.096

-1.022

2020-03-23

-0.901

-0.895

-0.559

-3.662

\*\*\*

-1.064

-0.819

To check the robustness of the results, several nonparametric tests are additionaly run and results are shown in the Table 3. Nonparametric tests show overall less significance relative to the parametric tests but point in the same direction. First significance cluster can be observed on Feb 20th, a one day before the first officially reported case in Italy and another cluster is related to March 11th, a day when WHO declared global pandemic. Also, cluster of significance across tests is observed on the March 17th and could be related to the investor`s anticipation of the introduction of lockdown in the Croatia on March 19th.

Table 5.2: Table 2: The event study reuslts for the nonparametric tests

Date

SIGN

sig

GSIGN

sig

CSIGN

sig

RANK

sig

MRANK

sig

WLCX

sig

2020-02-17

0.000

0.823

1.103

1.017

1.017

40

2020-02-18

-0.577

0.229

-0.276

0.696

0.696

43

2020-02-19

-0.577

0.229

0.827

-0.226

-0.226

20

2020-02-20

1.155

2.009

\*\*

1.378

1.755

* 1.755
  + 55
  + 2020-02-21
  + -1.155
  + -0.364
  + 0.689
  + 0.557
  + 0.557
  + 26
  + 2020-02-24
  + -0.577
  + 0.229
  + -0.276
  + -0.711
  + -0.711
  + 19
  + 2020-02-25
  + 0.000
  + 0.823
  + 0.000
  + -0.191
  + -0.191
  + 27
  + 2020-02-26
  + -0.577
  + 0.229
  + -0.276
  + -0.497
  + -0.497
  + 33
  + 2020-02-27
  + 0.000
  + 0.823
  + 0.551
  + 0.832
  + 0.832
  + 41
  + 2020-02-28
  + 0.577
  + 1.416
  + 0.551
  + 0.892
  + 0.892
  + 38
  + 2020-03-02
  + 0.577
  + 1.416
  + 1.103
  + 1.654
    - 1.654
      * 55
      * 2020-03-03
      * -0.577
      * 0.229
      * -0.276
      * -0.148
      * -0.148
      * 34
      * 2020-03-04
      * 0.000
      * 0.823
      * 0.827
      * 0.269
      * 0.269
      * 38
      * 2020-03-05
      * -0.577
      * 0.229
      * 0.276
      * 0.314
      * 0.314
      * 29
      * 2020-03-06
      * 0.000
      * 0.823
      * 0.276
      * 0.358
      * 0.358
      * 31
      * 2020-03-09
      * -0.577
      * 0.229
      * -0.276
      * -0.653
      * -0.653
      * 15
        + 2020-03-10
        + -1.155
        + -0.364
        + -0.551
        + -1.050
        + -1.050
        + 27
        + 2020-03-11
        + -2.309
        + \*\*
        + -1.551
        + -1.103
        + -2.225
        + \*\*
        + -2.225
        + \*\*
        + 14
        + \*\*
        + 2020-03-12
        + 0.000
        + 0.823
        + 0.276
        + 0.284
        + 0.284
        + 37
        + 2020-03-13
        + -0.577
        + 0.229
        + -0.276
        + -0.528
        + -0.528
        + 35
        + 2020-03-16
        + 0.000
        + 0.823
        + 0.000
        + 0.033
        + 0.033
        + 34
        + 2020-03-17
        + -2.309
        + \*\*
        + -1.551
        + -1.103
        + -2.036
        + \*\*
        + -2.036
        + \*\*
        + 13
        + \*\*
        + 2020-03-18
        + 1.155
        + 2.009
        + \*\*
        + 0.551
        + 0.959
        + 0.959
        + 43
        + 2020-03-19
        + 0.577
        + 1.416
        + 0.827
        + 1.288
        + 1.288
        + 50
        + 2020-03-20
        + -1.732

-0.958

-0.827

-1.526

-1.526

22

2020-03-23

0.577

1.416

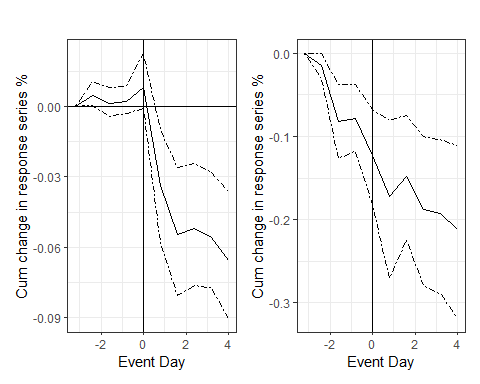
0.276

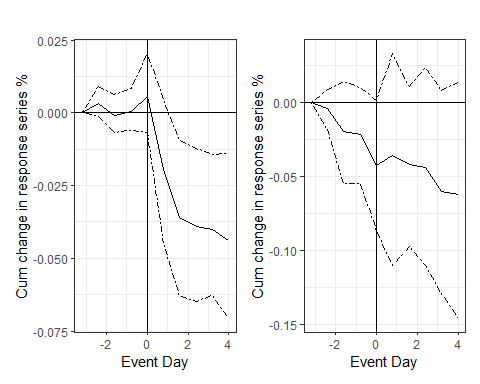
0.396

0.396

34

Cummulative change in the return series are additionally examined for two events, the first COVID-19 incidence in Italy and WHO declaration of COVID-19 a global pandemic, that have been characterized by clustering of significance across multiple parametric and nonparametric tests. In this case the event window is set to be shorter (10 days). The Graph 1 shows the results when no control variables are included in the model and Graph 2 is related to the extended model (i.e.market model) with Crobex index returns as a control variable. The left panel shows the results for the first COVID-19 incidence in Italy and the right panel is related to the WHO declaration of global pandemic. In both cases the null hypothesis of the abnormality of returns cant be rejected since the full line, representing the stock returns, is inside 95% confidence intervals denoted by the dotted lines.





Overall, the results point to the significant negative effect of COVID-19 pandemic on the returns of tourist stocks listed on the ZSE. When the event winow is defined in broader terms we observe clusters of signicfiance across variety of tests around two events, the first official incidence of COVID-19 in Italy and WHO declaration of global pandemic. This result implies the importance of international and global events for trends on the Croatian capital market. This result is robustly confirmed with the rage of parametric and nonparametric tests. Furthermore, this finding is corroborated with shorter event window specification and robust to inclusion of external variable controlling for the overall market return. The descriptive statistics point to the significant effect of COVID-19 pandemic on the tourist stocks in the comparable size to the general market and also very similar to the other sectors. Therefore we conclude that COVID-19 pandemic had a similar market wide effect and no particular sector effect is present. It is also interesting to note that international events potentially carry higher importance for the local stock market trends than local epidemiological policy. This result implies a high level of international capital integration for the ZSE.

# 6 CONCLUSION

This analysis provides empirical evidence on the direct reactions of ZSE listed tourist firms to the outbreak of COVID-19 global pandemic by application of the event study methodology. The results confirm that COVID-19 pandemic has affected tourist stocks by triggering the negative above average cumulative return during the event period. The findings are robust to the different length of event window and controlling for the general market returns. Interestingly, the pandemic effects seem to be similar in size across different sectors and tourist sector is no exception to this rule. This result might be due to the low liquidity of tourist stocks on the ZSE or structure of croatian economy and financial market but this would be an interesting area for future research. It is well known that Croatian capital market has liquidity issues, since lower stock liquidity affects also greater stock volatility, results should be taken with caution. Despite the limitations these are valuable results for academic researchers and practioners. I sada ispričati još kako za jedne a kako za druge… It would be useful to further examine the reasons for the unequal sectoral distribution of pandemic effects in the local and global markets as a future research.

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