

# The Local Economic Impact of the COVID-19 Pandemic on the Hospitality Industry

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**Abstract**— Tourism economic impact studies in are important in that this type of research communicates and quantifies the positive or negative impacts of activities or events on the local community and state. Some of these effects include an increase or decrease in employment, wages, local tax revenue, and revenue for different local industries. Economic impact studies have measured the impacts events or outdoor leisure activities, but no prior research has measured the negative economic impact a pandemic on a local community. To fill this research gap, the authors conducted an economic impact study of COVID-19 on Miami-Dade County, Florida, USA. Furthermore, this study reinforces proper economic impact methods, and utilizes the input/output model most often used quantify impacts in the USA.

**Index Terms**—economic impact, pandemic, Covid-19, hospitality industry, local impact, input/output model

## I. INTRODUCTION

Many hospitality and tourism related activities and events have a positive impact on a local community. These impacts are felt by creating jobs, revenue, salaries, and taxes on the county, state and federal level. These types of activities and events have been quantified and measured in prior tourism and hospitality literature. For instance, prior studies have measured the economic impact of recreational activities at Grand Teton National Park and the Virginia Creeper Rail Trail in the United States [1], [2]. For events, economic impact studies measured the economic impact of the Food Network & Cooking Channel South Beach Wine & Food Festival (Miami Beach, USA) and the impact of Holy Week in Palencia, Spain [3], [4]. These studies quantified the positive economic impacts of events and activities over multiple days, but no prior studies have quantified the negative economic impacts of a pandemic on travel and tourism related business.

When tourism is reduced, there is a negative impact economically. In the case of a global pandemic, people around the globe are staying indoors, wearing masks when venturing outdoors, and limiting travel to their local regions. When a pandemic threatens the health of local citizens, federal governments react and restrict their countries to international travel arrivals. Because of the lack of international and domestic travelers, (and the threat of local outbreaks), many retail and hospitality-related businesses March and April of 2020 were shut down. In the case of restaurants, those that stayed open were open for take-out or delivery only. In the case of hotels many were shuttered temporarily in March of 2020. Many of the businesses including hotels and restaurants that shut down in March may never reopen.

Acknowledging the vast impacts of the COVID-19 pandemic, the purpose of this study is to calculate the economic impact of COVID-19 on the hospitality industry in a local area, specifically Miami-Dade County. In order to quantify this, revenue loss will be estimated for the restaurant sector and the lodging sectors in Miami-Dade County, FL during March 2020 through April 2020 (peak of the pandemic). Further economic indicators of economic decline include salary losses, full-time equivalent employment lost, taxes lost, etc. will be addressed. Lastly, impacts of the losses are discussed and how the hospitality industry on a local and international level will be impacted for the future.

## II. LITERATURE REVIEW AND BACKGROUND

Tourism is often affected by various crises acknowledged in the literature. These crises can include natural disasters consisting of earthquakes, tsunamis, hurricanes, tornados, and drought. Other events and characteristics that affect travel include oil spills (pollution), terrorism, and other violent crime. Lastly, health concerns can occur including contaminated food/drinking water and epidemics and pandemics.

Recent disruptions in tourism include the September 11, 2001 World Trade Center attack in New York City

(terrorism), the SARS pandemic outbreak of 2002 and 2003, Hurricane Katrina in 2005, the global recession of 2008-2009, the H1N1 epidemic outbreak of 2009, Ebola outbreak of 2013-2014, the MERS outbreak of 2012, and Zika epidemic outbreak of 2017 [5]–[7].

All the above were temporary disruptions in global travel with little long-term ramification. Of the above, only SARS and the global recession resulted in significant temporary decline in international arrivals [5]. This illustrates that regardless of the shock, tourism business is a resilient industry and will rebound from temporary setbacks.

From recent travel disruptions, we can see that many of these disruptions are due to infectious diseases. These infectious diseases are spread rapidly worldwide due to the prevalence of international travel. This international travel is magnified due to the efficiency and availability of air travel. Many businesses operate at a global scale, intensifying the need to send representatives overseas to conduct business, train local managers, and negotiate terms on taxes and infrastructure. New diseases are now more difficult to contain in that they are spread relatively quickly, and thus local governments may not be able to conduct contact tracing and quarantine orders before the disease is spread beyond control [8].

The SARS pandemic of 2002-2003 was first reported identified in China in November 2002, and spread to other regions including Hong Kong, Singapore and Canada before it was contained. SARS had a major effect in China, as domestic tourism losses were estimated at -US\$3.5 billion. Additionally, the estimated effect of the SARS pandemic on the Canadian Hotel and Restaurant business was -US\$4.3 billion [9].

The Zika virus affected the hospitality and tourism industry during 2016 thru 2017. Most cases were reported in Brazil, but some places in the USA reported cases with South Florida as the region most affected. During the months of 2016 and 2017, a travel advisory was issued by the Centers for Diseases Control and Prevention (CDC) was issued for domestic travelers in the USA, and international travelers to Brazil. During 2016, inbound tourists to the USA from Brazil dropped 22.6% due to travel restrictions. Moreover, the World Bank estimated that the short-term impact of the Zika outbreak within the Latin American and Caribbean countries was about -US\$3.5 billion [10].

The COVID-19 pandemic began in China during the Chinese Lunar New Year and has since experienced spread around the world to over 188 countries [11], [12]. The disease was officially declared a global pandemic by the World Health Organization (WHO) on March, 11, 2020 [13]. To help to alleviate the spread, many countries instituted temporary travel bans to hotspots throughout the world [14]. As a result of these travel restrictions, international and domestic travel has decreased severely, damaging the hospitality and tourism industry, one of the world's largest employers. A global recession is almost inevitable, and the hospitality industry may not return to normal for the foreseeable future [15].

In the United States, the first reported case of the disease was on January 20, 2020. It was not until March 11, 2020 when the first when the first case of COVID-19 was reported in Miami-Dade County [16]. Restaurants in the county were ordered to cut capacity by 50% on March 15, 2020. On March 17, 2020, a stay-at-home order was issued and many hotels and restaurants in Miami-Dade County were closed indefinitely [17], [18]. A few hotels remained open at this time, with only 126 out of 472 open for essential travelers [19]. At this time (Mid-March), many other locations in the USA had closed businesses and issued stay-home orders including cities like New York City and Los Angeles [11]. It is for this reason that March is the first month that impacts were measured for this study.

From Mid-March thru April, the spread occurred rapidly in the region. By the end of April 2020, there were almost 12,000 cases in Miami-Dade County (See Fig. 1) [20].

While the number of cases in a region is an issue, many pundits will point to the increasing numbers of people tested as a reason for the high amounts of cases. While this may be potentially true, the public perception of the number of cases is a large factor in making people feel safe to go outside, travel, attend meetings, and visit hotels and restaurants. As testing increases and more cases are revealed, healthy people will be urged to take precaution to avoid becoming part of the next surge in cases [21].

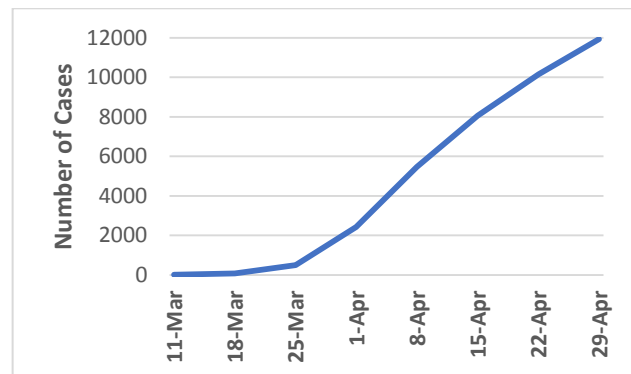


Figure 1. Number of confirmed COVID-19 Cases: Miami-Dade County (March 11<sup>th</sup> through April 29<sup>th</sup>)

### III. METHODOLOGY

Researchers collected actual room revenue data in traditional lodging (hotels) for the months of March and April of 2020 in Miami-Dade County, Florida via STR, Inc. [22]. In addition, hotel food and beverage revenues were calculated utilizing the reported 2% country F&B tax for March and April of 2020. Hotel room revenue and food and beverage revenues were combined to estimate total hotel revenue data for March and April of 2019 vs. March and April of 2020 (see Table I).

TABLE I. MARCH AND APRIL 2019 AND 2020 HOTEL AND RESTAURANT REVENUE: MIAMI-DADE COUNTY

	Hotel Room Revenue	Hotel F&B Revenue (2% Hotel F&B Tax)	Total Hotel Revenue	Restaurant Revenue (1% Homeless Tax)
March 2019	\$389,987,848	\$47,393,200	\$437,381,048	\$266,384,355
March 2020	\$173,797,999	\$51,240,139	\$225,038,138	\$240,866,143
April 2019	\$309,390,937	\$43,961,900	\$353,352,837	\$288,822,769
April 2020	\$18,326,911	\$17,094,584	\$35,421,495	\$125,442,413
Total 2019	\$699,378,785	\$91,355,100	\$790,733,885	\$555,207,124
Total 2020	\$192,124,910	\$68,334,723	\$260,459,633	\$366,308,556
YOY Difference	-\$507,253,875	-\$23,020,378	-\$530,274,253	-\$188,898,568

Next, restaurant revenue was computed in Miami-Dade County utilizing the homeless tax, which is a 1% take of restaurant revenue in Miami-Dade County. Restaurant revenue data for March and April of 2019 was compared to March and April of 2020 (see Table II).

In order to calculate revenue lost for each of the above categories, researchers compared the revenue gained in the impact area in 2019 vs. the months of the pandemic in 2020. March through April of 2019 was compared with March 2020 through April of 2020. The combined revenue of March/April 2019 was subtracted from the combined revenue of March/April 2020 to obtain the revenue lost year-over-year (YOY).

Total hotel revenue loss (\$530.27 million) and total restaurant revenue loss (\$188.9 million) year over year were applied to the IMPLAN input/output model in order to calculate the estimated economic impacts of COVID-19 on the local hospitality industry [22], [23].

#### IV. RESULTS

When estimating economic impact, this includes estimating direct, indirect, and induced impacts. Direct effects result from direct losses from the pandemic [24]. A total of \$1.176 billion in economic activity was lost because of a reduction in hospitality revenue due to the pandemic in March and April 2020. This total of \$1.176 billion included \$719.17 million in direct loss from a reduction in lodging and restaurant revenue. This included hotels and restaurants temporarily closing their door. Those restaurants and hotels that remained open suffered as the demand for restaurant food and lodging was greatly diminished. In addition to the direct impacts, \$231.39 million in indirect loss occurred resulting from business expenditures on supplies and other operating expenses related to hotels and restaurants. The indirect effects of hotels and restaurants includes these businesses paying employees and marketers to manager the hospitality experience and promote their hospitality-related businesses. Indirect effects also include the hotels and restaurants paying suppliers for food, supplies, and merchandise/ souvenirs for the gift shop. Lastly, \$225.88 million in induced spending came as a result of the ripple effect (multiplier effect) of spending and re-spending of worker incomes which were greatly reduced in the impact area [25], [26]. The induced effects include

those paid to work for the restaurants and hotels using their wages to spend money on local businesses.

A total of 9,286 full-time equivalent jobs were lost resulting from the impact of COVID-19 (see Table III). These 9,286 jobs include the sum of 6,375 jobs lost directly via revenue loss in restaurants and lodging. Additionally, 1,406 indirect jobs were lost due to losses stemming from a decrease in hotel and restaurant spending on raw materials, supplies, and other operating expenses which help support jobs in other local businesses (retail and other service-related jobs) plus a reduction of 1,505 induced jobs as a result of the ripple effect (multiplier effect) of decreased or eliminated employee paychecks and wages that would have been spent and re-spent in the local economy (but now will not be spent). These 9,286 jobs are considered full-time, and full year equivalent jobs lost (and not temporary unemployment).

Total payroll lost in hospitality-related sectors in Miami-Dade County included \$415.95 million. This \$415.95 million in total employee income loss includes a \$69.94 million loss in direct worker paychecks in the impact area (result of a decrease in direct spending by visitors to hotels and restaurants). Additionally, \$76.07 million in additional payroll was lost from an indirect income loss of workers in other businesses supplying raw materials, supplies, and other operating goods and services to restaurants and hotels. Lastly, \$69.94 million induced worker income was lost because of the ripple effect (multiplier effect) of direct & indirect income which would have been re-spent in the local impact area, but since this income was not realized, the money could not be re-spent (in Miami-Dade County).

TABLE II. ECONOMIC IMPACT OF COVID-19 ON THE HOSPITALITY INDUSTRY IN MIAMI-DADE COUNTY: IMPLAN RESULT

Impact	Employment	Labor Income	Output
Direct	-6,375	-\$69,936,941	-\$719,172,821
Indirect	-1,406	-\$76,072,988	-\$231,394,844
Induced	-1,505	-\$69,942,453	-\$225,877,659
Total	-9,286	-\$415,952,382	-\$1,176,445,324

## V. DISCUSSION AND CONCLUSION

This study addressed a gap in the literature, calculating the economic impact of a pandemic on a local area, emphasizing the striking blow to the local economy that COVID-19 affected. Depicting the economic impact of COVID-19 illuminated the negative impact of pandemic on a community at the local level and how these impacts had an impact, not just on revenue in multiple sectors, but on wages and employment as well.

The economic fallout from the COVID-19 pandemic in this study indicated a total of \$1.176 billion in total economic activity with \$719.17 million in direct impacts on local restaurants and hotels. This is a significant 2-month loss for the county as the area is heavily dependent on hospitality-related business. In addition to the direct spending, there have been several full-time equivalent jobs lost via the pandemic (9,286) in Miami-Dade County. These people work in hotels and restaurants, businesses that have suffered because of the pandemic and resulting stay-home orders and closures.

Miami-Dade County can be considered a sun and sand destination. This is due to its warm, tropical climate and coastal beachfront including Miami Beach, Florida, USA. Both international and domestic travelers are drawn to the tropical climate and oceanic beaches. Domestic travelers escape to coastal areas in Florida especially during the colder winter months in the north. As COVID-19 spread in the USA, communities began to close including beaches, bars and restaurants. Domestic travelers in the USA stayed home, following stay-at-home orders issued nation-wide.

As more COVID-19 cases occurred in the USA and around the globe, the USA responded by banning international travelers from certain hotspots around the globe including China and 26 countries in Europe [5], [27]. Even after the ban is lifted, international travelers may be wary of traveling to the USA and other countries which are still experiencing outbreaks/hotspots and new reported cases daily.

As localities begin to open in the United States and throughout the world, communities such as Miami-Dade County will begin to reopen slowly utilizing safety measures to avoid further outbreaks. Safety measures may include decreased capacity in the restaurants, mandatory mask wearing when entering a hotel or restaurant, and mandatory mask wearing when among the general public. As these measures are communicated locally, domestically and internationally, people will begin to have confidence again and travel to places such as Miami-Dade County.

The hospitality industry is a resilient industry, filled with ambitions and knowledge of how to start anew. Many of these people will persevere and begin again once the pandemic has passed. As restrictions are relaxed, and social distancing becomes a memory, travel/tourism and international business will thrive once again.

## CONFLICT OF INTEREST

The authors declare no conflict of interest associated with this submission.

## AUTHOR CONTRIBUTIONS

Dr. Eric Beckman and Dr. Stave Morse conducted the research. Dr. Beckman analyzed the data and wrote the paper. All authors have approved the final version.

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