An econometric analysis of the COVID-19 pandemic on

the Caribbean tourism industry

CSEC 491: Senior Project Report

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# Section I. Introduction

## Background

The COVID-19 pandemic had a profound and long-lasting impact on the economies of the world. One of the industries that was substantially affected by the pandemic is the tourism sector. The number of flights or cruises to tourist destinations plummeted. The introduction of quarantine restrictions aggressively limited incoming visitors and prohibited many recreational activities. A large proportion of jobs in tourism were put on hold and in many cases were terminated. As highlighted by the International Monetary Fund, tourism-dependent regions were most notably and severely impacted by the COVID-19 outbreak and “will likely feel the negative impacts of the crisis for much longer than other economies[[1]](#footnote-1).” One such case study is that of the Caribbean countries, which have a high economic reliance on tourism and thereby have been especially susceptible to the negative financial consequences of the COVID-19 outbreak. Therefore, studying the impact of the COVID-19 pandemic on the Caribbean economy represents an opportunity to analyze the immediate and long-term effects of a health crisis on similar tourism-dependent regions and may help shape predictions about how future pandemic events will affect tourism.

## Project Description

This project seeks to investigate the impact of the COVID-19 pandemic on the tourism industry in the context of the Caribbean region. This senior project is divided into two main parts—an econometric-driven analysis and a software development component—that fulfills the Computer Science and Economics requirements of the CSEC senior thesis. First, through the investigation of the real-world data, we wish to quantitatively identify the direct economic effects of the COVID-19 outbreak and health restrictions on the tourist-dependent Caribbean economy. We analyze key economic metrics pertinent to tourism, such as number of visitors, changes in revenue, and duration (e.g., overnight; same-day) and mode of travel (e.g., flight; cruise) that we expect to be timely correlated with the onset of the COVID-19 pandemic. Finally, we attempt to estimate the direct impact of COVID-19 cases, deaths and mortality on the Caribbean economy in order to better understand the financial impact of the COVID-19 pandemic on the tourism industry.

Second, using the results from the previous section, we wish to create a predictive model for estimating future changes in key economic variables associated with COVID-19 cases, leveraging the results found in the first part of this project. The objective is to generalize our findings of the impact of COVID-19 on the tourism-dependent Caribbean economy to other countries that similarly rely heavily on tourism for the growth and generation of revenue. We wish to present this model and other economic insights by building software data visualizations, such as intuitive graphs and data presentations, through the use of software programming in order to provide a clear understanding of the impact of a health crisis on the tourism sector.

[TBD]

# Section II. Setting up the development environment

## Project Resources

1. <https://www.imf.org/en/Publications/fandd/issues/2020/12/impact-of-the-pandemic-on-tourism-behsudi> [↑](#footnote-ref-1)