The Impact of the COVID-19 Outbreak on Social Costs of Tourism to the Sri Lankan Economy

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ABSTRACT

The number of confirmed COVID-19 cases has risen rapidly, first in the PRC, and recently globally, pointing out the multiple channels that affect the economy and quantifying potential impact scenarios. On several channels, the COVID 19 epidemic impacts economic activity in Sri Lanka, the rest of developing Asia, and the world. These include a rapid but temporary decline in domestic consumption in Sri Lanka and other emerging economies, and potential investment affects the outlook on potential industry activities. However, the business-related tourism and travel failures spilled over lower demand in other sectors and economies through trade and production links; supply interruptions; This study estimated the WTP for individuals during a pandemic outbreak to reduce tourism risk in three Sri Lankan cities. The demand curves and social costs of tourism were contrasted in three cities by implementing the DCCVM method, and WTP values were generated. Second, residents of tourist attractions were observed by WTP to reduce the adverse impact of tourism on their communities after the COVID-19 pandemic. It was a new approach, and their interests are still ignored, although people's role in tourism studies and practice has been recognized. Our research indicates that most individuals would compensate for reducing risk and action in response to the pandemic and that there was no significant difference in the WTP in the three cities. Second, era, salaries, and tourism employment have greatly affected citizens' WTP. The willingness of younger people to pay more for risk avoidance was one impressive outcome.

KEYWORDS: COVID-19 Outbreak, Social Costs, Tourism, The Sri Lankan Economy

INTRODUCTION

The number of COVID-19 cases confirmed has increased rapidly, first in the PRC and recently internationally, and it points out the different channels that influence the economy and quantifies the possible scenarios for impacts. The COVID 19 epidemic affects economic activity in Sri Lanka, the rest of developing Asia, and the world on a variety of platforms. These include a rapid but temporary decline in Sri Lankan and other emerging economies' domestic consumption and likely investment if it affects the outlook on potential business activities; failures in tourism and travel especially related to the business; spilling over of lower demand in other sectors and economies through trade and production connections; Interruptions to production on the supply hands.

The Social Costs and Benefits of Tourism for Destination-COVID-19 Pandemic

In several observational studies, however, the social costs and benefits of tourism for destination societies have been analysed, and the costs and benefits among stakeholders are heterogeneous. Nevertheless, few studies on the social effects of tourism of the recession have been quantified for resort residents. Tourism reports have begun to discuss travellers' risk perception and crisis management principles that primarily originate from customer behaviour surveys. The effects of disasters on transport agencies or destinations have not been studied, so local people's expectations are generally lacking. The social costs for inhabitants of tourism attractions in the COVID-19 pandemic have being calculated employing the latest study of contingent valuation methods. Indeed, residents are expected to reimburse for the effects of COVID-19 to minimize the detrimental implications or social costs of tourism during the pandemic, which is one of the significant areas (Yu, Li, Yu, He, & Zhou, 2020).

The Impact of COVID-19 and the Inbound Tourism

As per the distribution of COVID-19 raises inbound tourism and considering raises the burden on the local health care system, the population of the destination is the most affected. The analysis was also carried out based on residents' risk expectations. Tourists prefer to stop travel to infected destinations while a pandemic occurs; in the meantime, locals aim to reduce the dangers of tourist visitors who could transmit the infection.

The Industry of Tourism -Sri Lanka

Tourism has been one of the most critical service sectors in Sri Lanka and has become an engine of economic development. Travel and tourism added 12.5 percent in 2018 to the country's GDP. In the Sri Lankan economy, the tourism sector plays an important role, having reached third place in its contribution to foreign exchange earnings. In 2018 (SLTDA, 2018), the contribution amounted to 15.9 percent. Total earnings decreased to USD 3.7 billion in 2019

(SLTDA, 2020) from USD 4.4 billion in 2018, showing the worst hit among other top foreign exchange-earners. While tourism continued to record a two-digit growth rate at the end of the civil war, the growth rate has plummeted due to the Easter Sunday attacks in 2019, causing a tourism revenue loss of USD 1.5 billion (see Figure 3.10). However, Sri Lanka's tourism has regained an unexpected increase in arrivals due to the cumulative increase of arrivals. Governments, Sri Lankan military forces, the Sri Lankan Tourism Development Authority (SLTDA), and the Sri Lankan Tourism Promotional Bauru (SLTPB) are making efforts (Samarathunga, et.al, 2020).

The Objective
The latter scenario was analysed to assess how the inhabitants of tourist destinations view the possibility of tourism during a pandemic and calculate how likely they are to surrender the economic gains to escape its social costs. All Sri Lanka regions were selected to estimate the social costs of tourism during the COVID-19 pandemic to achieve the research mentioned above objective. Sri Lanka has reported 5,538 cases (19 October 2020), making them the most seriously affected.
1. How do stakeholders view tourism's adverse effects during a pandemic?
2. Are stakeholders willing to pay for COVID-19 risk reduction increased by tourism (and, if so, by how much), and does the willingness to pay (WTP) differ by location and number of visitors?
3. In the three destinations under review, what are the social costs of tourism because of a pandemic?

Research Questions
In this analysis, the above scenario was analysed to decide how tourism-prone inhabitants of tourist destinations view the prone of a pandemic and how readily they surrender economic benefits to escape their 'social expense.' Both regions in Sri Lanka were chosen to quantify the social cost of tourism at the COVID-19 pandemic to accomplish the above research objective. With 4,252 cases confirmed to date (10 October 2020), Sri Lanka has been the most critically affected.
1. When do people sense the detrimental impacts of a pandemic on tourism?
2. Are people willing to pay for COVID-19 risk reduction enhanced by tourism (and, if so, how much), and does the Willingness to pay (WTP) differ by city and population?
3. What are the social costs of travel in the three destinations surveyed attributable to a pandemic?

Theoretical Approach
The following theoretical and functional contributions are given. The results add with the growing body of literature on crisis management and the social impacts of tourism at the intellectual and analytical stage. The significant but not yet discussed the issue of the social costs incurred during a pandemic by inhabitants of tourist destinations is stressed. As per the triple-bound Dichotomous Choice Contingent Assessment Method (DCCVM) has been applied to model and measure WTP[1]s to minimize tourism-related risk. This model will substantially reduce possible biases associated with the CVMs[2]' contingent valuation method. According to remaining knowledge, this is one of the experimental studies to use a double-bound DCCVM-based model, the previous literature's traditional approach (Farzanegan, at.al, 2020).Throughout the COVID-19 pandemic, social costs of tourism were quantified and contrasted among the three research destinations. At the realistic stage, local councils and tourism associations will use the survey results to establish policies for disaster management and develop suitable recovery strategies. This result may also underpin legislative and action initiatives to avoid resident losses before or during a lockdown for local government agencies in destination cities and regions.

Plan of the Study
The following sections describe questions of study by a review of literature. However, the final segment outlines the investigation methodology, and the WTP survey's investigation architecture focused on hypothetically focused secondary evidence. Often discussed are the possible determinants of WTP. This section also provides descriptive figures for all areas. The final part also deals with the analytical observations, and the last part ends the report. Tourism's social effects have overt, indirect, and inducing repercussions on the target market, and community and social and economic costs and benefits differ between stakeholders. However, many of the study activities were focused on assessing the economic costs and benefits of tourism, with an only conceptual discussion of social costs and benefits. There have recently been several inquiries into the different societal costs and advantages of tourism, focusing on city services and public infrastructure traffic congestion. A growing array of literature documents of tourism, where it has become increasingly popular as a tourist destination." There are also threats of gentrification due to Airbnb rentals, and the dissatisfaction and opposition of urban inhabitants worried about the social-environmental costs of tourism. Moreover, scholars studying the economic effects of tourism have recently started evaluating the social risks and advantages of tourism destinations and landscapes. The social influence of tourism, such as the rising cost of real estate, the supply of accommodation and property, representation of culture and heritage, jobs in the tourism and hospitality industries, overcrowding, and the social power of transport over economic and ecological evaluations, can be calculated.

And damage to the well-being of human citizens. However, it is also impossible to accomplish these steps since the society's effects are typically subtle and chronic, and their views differ from the expectations of a culture. In line with previous research on the tourism effects of disasters, this study indicates that a disaster situation may be a point of reference for determining the situation's social costs. The intrinsic difficulty of estimating the social costs and advantages of tourism during emergencies has been shown previously. A crisis will alleviate the negative expectations of citizens of tourism. Some findings indicate that an economic recession raises people's ability to promote tourism, as it lowers their view of tourism costs considerably. Residents become more tourist tolerant and value sustainable growth in an economic downturn. The cost-benefit balance can vary

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[1] Willingness to pay

[2] Contingent valuation method
 Akaike information criterion

among clusters, and the individual levels of contribution of residents to the tourism and hospitality sector may decide their attitudes (Nicola, at.al, 2020).

Conversely, a recession will worsen the adverse effects of tourism. A contaminated persons' flood into a tourism destination during a pandemic could have significant public security implications. Some research has analysed the shifts in citizen cost-benefit evaluations in reaction to litigious incidents recently and indicated that the news media can intensify residencies views of tourism's adverse effects. In contrast, citizens' social dimensions, similar to their social cluster and cultural backgrounds, may contribute to a more thoughtful approach towards crisis. More research about Sri Lanka has also demonstrated the value of calculating the perceived negative influence of tourism in periods of crisis to reduce the harm caused by negative perceptions. Risk identification and tourism, during a pandemic, are two major frameworks for most policymakers, namely the identification of risks at the personal level in conjunction with "demand" and a certain amount of management related to the disaster in the aggregate "supply" actions. Nevertheless, the perceived danger associated with tourism relies on visitors' experiences rather than on destination societies' experiences and mostly on customer behaviour research. Risk and safety concerns were generally analysed from a visitor's viewpoint to evaluate why visitors differently view risks and what affect these perceptions. Risks associated with tourism may be linked to extremism, conflict, social unrest based on political or criminal problems or health issues, particularly in Sri Lanka. Invite visitors to avoid a specific country, but this can be mitigated by previous interactions with visitors, familiarity with similar activities, behaviour, or cultural affinity with the destination. In previous research, however, the effect of crises on destinations or the tourism industry was a dominant subject from a supply-side perspective. Investigations focused on the effects of numerous crises on tourism, such as the global financial crisis (2007–2008), pandemic swine flu in 2009, hurricanes, the September 11 attacks on the United States.

Given the public's vulnerability posed by the influenza epidemic's hectic media coverage, several reviews have also discussed the impact of the swine flu pandemic on destination planning. However, in recent reviews, it is highlighted that management of the tourism crisis should consider destination people's well-being. The exponential developers of mass tourism and the resulting expansion of tourism facilities in some destination regions have contributed to ecological crises. It has been seen that both the economic contributions of tourism and the related social-environmental threats affecting their sources of survival are known to local tourist destinations (Wen, Kozak, Yang, & Liu, 2020). Also, it was found that attitudes and reactions to on-site risks, such as gentrification linked to tourism, vary between various classes of locals. Moreover, the residents' and their representatives' priorities in managing a tourist destination like disaster management and the focus on researching residents' impressions of the risk are emphasized because their opinions are influenced by their unique experience that varies from that of tourists. The COVID-19 has now expanded up to many countries, in various regions (WTO, 2020) and unparalleled limits of the movement and actions of many countries' governments have been enforced, and global economic activity has plummeted

sharply. Besides the health dangers for visitors, infected visitors could transmit the disease to residents and that massive global transport could transmit infectious diseases and pose health hazards to populate urban centres through a worldwide pandemic. Also, there is a high risk of population transmission of COVID-19 and other respiratory disorders, including seasonal influenza, transmitting due to travel between destinations.

Methodologies
Definition of the case study, Sri Lankans were the focus populations chosen to represent "homogeneity and heterogeneity" for the destination features, travel, growth and its negative effect, and the social and economic implications and the visibly negative impact of the COVID-19 pandemic. A "multilevel modelling approach to a contingent evaluation of three-bound dichotomous choice (triple-bound DCCVM[3])" was used in this analysis to assess how many locals would be able to pay to minimize the chance that a future WTP would amplify the chance of touring by COVID-19. In comparison to open CVM, where interviewees are asked to reveal their WTP explicitly, DCCVM requires interviewees to answer a series of dichotomous questions. From a cognitive perspective, binary options are more comfortable to respond to and provide fewer partial answers. The three-pronged DCCVM expands the DCCVM by providing respondents with an additional option, resulting in a more accurate WTP range, which provides greater certainty. A triple boundary DCCVM can produce statistically superior findings to those obtained by other DCCVMs with an acceptable sampling design. At the city level, however, social costs were created by adding the WTP values. Analysis of answers to the WTP questions in a contingent valuation survey is an analytical approach to evaluating economic principles by quantifying the importance of a studied feature or operation by individuals. A WTP-based CVM for public goods (resources or activities) assesses the gains (or costs) depending on hypothesis adjustments (Polyzos, Samitas, &Spyridou, 2020). CVMs are used to assess monetary measurements of improvements to the welfare system triggered by changes in public goods or amenities rather than market changes (Qiu, Park, Li, & Song, 2020). In consumer behaviour research, WTP has been widely extended because it reflects a rigorous gage of human beliefs or fears and can be interpreted as a clear antecedent of customers ' buying intentions and behaviours. In tourism and hospitality research, WTP is used to qualify and quantify the "value" term for the non-market product and service, including nature and outdoor leisure attractions, cultural events, luxury hotel sustainability, and reduced carbon emissions. A numerical advantage (y^*) was thus related to the adoption of a given a choice, meaning that the usefulness of making the option and accepting it (y^*) was equal to the utility of keeping it (y^*). Furthermore, (y^*) was deemed to be individually unique and to be connected to a linear combination of individual features and the offer as per the following equation.

$$y * I = \alpha + \beta X_n + \gamma \ln bid_n + \varepsilon,$$

Where X_n represents a matrix of the characteristics of individual n; bid n is the presented bid; ε is the "error term; and α, β, γ are model parameters." The natural logarithm is

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[3] Dichotomous choice contingent valuation model

employed on the variable bid n so that the coefficients can be directly referenced as elasticities.

Survey Design
The survey population comprised the residents of the southern district of Sri Lanka, Galle, Matara, and Tangalle. The survey electronically to a random sample of this survey population. A pilot survey was first conducted with 305 respondents to test the questionnaire's validity and initial data. Subsequently, the primary survey was conducted during August and September 2020, with 1627 valid samples being collected for the main study, comprising n = 520 residents of Galle, n = 503 of Matara, and n = 604 of Tangalle. The survey comprised three parts. In the first part, questions covered residents' risk perceptions toward the negative impact of tourism on their city amid the COVID-19 pandemic. Based on the pilot survey, nine items were selected, covering three health risk elements, which are based on cross-infection, shortage of medical supplies, the difficulty of prevention, and patient tracking. Moreover, the three elements of the adverse effects on social life are social panic and instability, commodity shortage, environmental degradation, and three elements of the adverse effects on tourism, such as reputational impact in tourism and host-guest conflicts and xenophobia. The results from this part of the survey measured residents' perceived risks of tourism in the three cities, as mentioned above: the negative social impacts of the pandemic on these cities insofar as they are augmented by tourism. The third part of the survey comprised questions regarding the respondents'

demographic characteristics such as sex, age, education level, and two questions on factors potentially influencing WTP, such as tourism employment and COVID-19 infection of the respondent his/her acquaintances (Donthu, & Gustafsson, 2020). However, investigation assumed that infected individuals and those acquainted with an infected person would generally have more proactive attitudes toward compensating for the pandemic's damage and would be thus willing to pay more to reduce the risks of tourism activity.

The Findings
WTP and Its Determinants
Multiple models with various combinations of influencing factors were calculated using the triple bound DCCVM, and the best models were selected according to the Akaike Information Criteria (AIC). The general-to-specific procedure was followed mainly by the model selection process. By recursively removing the model's insignificant and irrelevant variables, the possible influence factors such as demographic variables used in the initial model and the changes in the model estimates were made based on AIC. Different combinations of demographic groups were included in this process. The three-border DCCVM was used according to the Akaike Information Criteria (AIC) to test multiple models with combinations of different influencing factors and select the best models. The model selection method was primarily the general result of a single method that cantered on AIC, reminiscent of irrelevant and insignificant considerations, potential variables such as demographic variables.

Table 1 WTP and Its Determinants

WTP	Galle	Matara	Tangalle
Mean	304.10	310.59	303.60
Median	206.12	225.15	201.72
Variables			
Middle aged group	−0.524	0.028	−0.360
(Age 25–54)	(0.246)	(0.201)	(0.187)
Senior group	−0.5782	−7.1769	−0.6114
(Age 55 or above)	(0.3442)	(23.212)	(0.4407)
High income group	0.4586	0.3320	−0.0549
(Above Average-Age)	(0.1806)	(0.2159)	(0.1799)
Tourism as an employment	−0.7243	0.6304	0.4763
	(0.3793)	(0.2420)	(0.2395)
ln(*bid*)	−1.6846	−2.0801	−1.9175
	(0.1008)	(0.1186)	(0.0914)
Intercept	9.2586	10.6813	8.8033
	(0.5735)	(0.6501)	(0.5067)
Number of obs.	519	502	603
Log-likelihood	−582.39	−535.60	−692.97
AIC	1175.79	1082.22	1396.95

Observes: as 95% confidence interval in categories; standard error as parentheses.
Source- Survey (2020).

Conclusions
During a pandemic outbreak, this study estimated the WTP for individuals to minimize tourism risk in three cities in Sri Lanka. In three cities, the demand curves and social costs of tourism were contrasted by implementing the DCCVM method and generated WTP values. Second, visitor attractions residents have been studied by WTP to minimize tourism's detrimental effect on their populations after the COVID-19 pandemic. It was a modern approach and, while the position of people in tourism studies and practice has

been acknowledged, their interests are still overlooked. Also, residents play an essential part in flattening the curve of emerging pathogens in a crisis, gaining from a reduction in tourism profits at the same time. As people are essential players in the reaction to the outbreak and recover from it, their WTP has the essential consequences of minimizing a pandemic's risk. Our study reveals that most people can pay for the danger reduction and intervention in reaction to the pandemic and that in the three cities, there was no substantial variation in the WTP. Second, the WTP of citizens

has been heavily influenced by age, wages, and tourism jobs. One remarkable result was the willingness of younger people to pay extra for risk reduction. This may be related to the fact that young people are more technologically advanced than elderly adults and are more frequently exposed to the media, allowing younger generations to access the latest pandemic updates in real-time. This suggests that local councils and tourism organizations, potentially more empowered and educated, must include younger generations in disaster management following the pandemic. Thirdly, Galle, Matara, and Tangalle's social expenses differ according to characteristics compared to their urban and visitor growth and the routes of infection of COVID-19.

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