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Examine the nexus between covid-19 and tourism: evidence from Beijing

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ABSTRACT

The novel Covid-19 outbreak has adversely affected every sector of the economy, including the tourism and hospitality sectors. Holding the importance as one of the leading contributors to economic growth, and accommodating a large percentage of the labor force, this study has investigated the impact of Covid-19 on the tourism economy of Beijing (the capital of China), which is one of the leading tourist destinations of China. For this purpose, primary data with 385 sample sizes have been collected via random sampling techniques from the tourism-related respondents. This data has been analyzed using the simple descriptive analysis, graphical estimations, and categorization techniques. The findings of the study show that Covid-19 exerts a negative influence on the tourism and hospitality sector. Specifically, a reduction in the international tourists' arrival has reduced revenue generation, indirectly reducing the contribution to the GDP by many factors. These factors include an increase in the unemployment ratio, cut-off salaries, increases in expenditures, and a decline in the tax payments. However, lack of adequate response from the government in the context of the tourism sector has further fueled the adverse outcomes of Covid-19, leading the industry to a shutdown condition for most firms in this geographical area.

1. Introduction

The era of 2020 started with a contagious pandemic known as Covid-19, which wreak havoc across the world by halting socio-economic, political, and cultural activities (Gao et al., 2021; Su et al., 2021a). Unlike the other epidemics, it has a huge impact on the travel and tourism industry. World policymakers and practitioners do not fully understand the scenario, which can have an unprecedented effect in the aftermath. The irregularity of the impacts to come in the result of Covid-19 and other than humans' factor, the impact globally is huge. An international organization (UNWTO,

2020) found out that international tourism dropped up to 78% while 120 million tourism-related jobs were directly cut compared to September 11 and accounted for one of the most significant declines in the tourism economies in history.

The contagious disease is not familiar to the modern world human health, which makes it the deadliest and also the most important factor of the current pandemic is that it spreads faster than the previous epidemics. Most of the countries took important measures which are under the control of governments, i.e., the flight restrictions to most countries, imposing quarantine period, banning international applicants and monitoring nationals and those came from countries under pandemic risk, closing down educational institutions, shopping malls, tourism activities, hoteling and gathering activities (Huo & Qiu, 2020). In accumulation to these measures, traveling to under risk countries and inter cities were limited and prohibited. Quarantining the whole area was also considered to limit the deadly virus in China (Hao et al., 2020) and other countries across the globe. Simultaneously, Businesses are going in un-precedent losses due to these policy measures; some are under huge financial stress while some go in to hibernating, and some business is losing security. This condition of the businesses enhances the probability of bankruptcy (Mirza et al., 2020c; Su et al., 2021b; Umar et al., 2021b). This meltdown of these businesses and other sectors, including the traveling and tourism industry, leads to economic slow-down and significantly affects the general public in finance (Su et al., 2021c; Umar et al., 2021a).

According to (UNWTO, 2020) Tourism is one of the major economic industries after fuel and chemicals and is considered the third-largest export category. Tourism accounted for 7% of the global trade, and for some countries, it represents 20% or more GDP. Tourism brings a country huge economic potential in the form of currency exchange, imports and exports, and taxes. The tourism economy has been hit hard by the Covid-19 Pandemic, affecting the airline industry (Kock et al., 2020) the hotel industry, economic livelihoods, public services, etc. Globally, the tourism sector generally funds one in ten jobs (UNWTO, 2020), where the pandemic can risk these jobs by affecting 100 to 120 million jobs. Also, the reports argued that the pandemic might provide up to one trillion dollars losses in exports. Concerning China's tourism industry, Beijing, the capital of the said country, is the most popular destination for tourists every year (China Highlights, 2021). Earlier the emergence of the Covid-19 pandemic, the tourism development in Beijing was rapidly increasing, that both the tourism revenue and tourist arrivals increases. Specifically, the number of domestic and international tourists reached a total of 285 million in 2016. A reported 4.6% increase year-on-year (UNWTO, 2020). Also, the revenue from tourism increased by 9% since 2015, reported as US$75.5 billion in 2016 (UNWTO, 2020). More recently, months before the Covid-19 pandemic, the Beijing tourist arrival reached an all-time high of 39,346.0 Persons in August 2019, but this number meltdown to a record low number after the emergence of the novel pandemic visitors in Beijing in February 2020 (CEIC., 2020). As mentioned, the tourism sector is affected the most, which consequently affects the Chinese economy; therefore, the tourism economy's investigation is the need of time because China is the first country to witness the novel coronavirus outbreak.

Empirical studies on the epidemic, especially related to the travel and tourism industry, are not extensively available in the literature. At the same time, it holds importance because the impacts of such outbreaks are highly unprecedented and, most of the time, under-estimated. Mostly, the researchers attempt to investigate what is already known in the form of descriptive data for both the short-term and long-term impacts. However, the current contagious pandemic embraces importance as it is more severe than the previous pandemics in terms of affectees, lockdowns, business and economic activities suspension/restriction. As China remains the first country to suffer from the current pandemic and also acquired a popular status in global tourism, which extensively contributes to the economic growth of China, thus it is important to investigate the influence of Covid-19 on the tourism sector of one of the most visited tourist destination in China, i.e., Beijing, the capital of China.

The current research is a novel study that analyses the effect of Covid-19 on the tourism economy by empirically investigating the following objective and contribute to the existing literature in the following ways. First, this study collects data from primary sources, i.e., by developing a questionnaire. Second, the data is mainly collected from respondents directly or indirectly connected to Beijing's tourism and hotel industries. Third, this study analyzes the multidimensional effect on unemployment in the tourism industry, growth rate decline, and the transport sector and hotel industry. Fourth, to provide relevant policies implication to overcome the challenges faced by the tourism industry. This study contributes to the existing literature by providing the empirics regarding Covid-19 and the tourism and hoteling sectors. Beijing is one of the most visited destinations for tourists worldwide, while there are no such studies available that empirically investigate the impact of contagious Covid-19 on the tourism economy. Therefore, to fill the gap, this study provides pioneering estimates and policy implications that may help reduce the hazardous influence of Covid-19 on the tourism sector economy.

The rest of the study is organized as Section-2 presents a literature review, Section-3 provides the relevant methodology used in this study, Section-4 represents results of the obtained primary data, and Section-5 presents Concluding Remarks and Policy Implications.

2. Literature review

The Covid-19 pandemic is a strong contagious outbreak with a huge demand on the world macro-economic factors, specifically on the tourism industry. The tourism industry impacted Western countries along with the Asian countries on a major level. To review the past literature and finds out how epidemics affected the countries tourism industry.

For instance, (Škare et al., 2021) investigate the impact of Covid 19 impact on the tourism industry worldwide by taking data from 1995 to 2019 of 185 countries using structural vector autoregression PSVAR and system dynamic modeling (Real-time Data parameters related to covid 19). They tested the impact of the pandemics on the tourism industry worldwide and found out that past pandemic crises were distinctive, exposing the countries' tourism channels to huge shocks. However, when the crises of

the pandemics ended and perished, the tourism industry of the countries bounce back in normal nature while the Covid-19 pandemic is different in nature. It will take an average of more than ten months for the tourism industry to recover in a normal routine. They further suggest that managers of the public and private policies must be coordinated to assess the pre-Covid-19 operational levels of the travel and tourism sectors.

Similarly, (Kaushal & Srivastava, 2021) investigated two different but relevant concerns about the current pandemic. The first concern is related to the challenges faced by the tourism industry in India amid the current crisis, while the second one is the important learning which is to be considered from the current pandemic conditions. The qualitative study considered 15 participants in the senior-most positions in the tourism industry related to hospitality management, tourism, and hospitality business. The interviews were observed in 27 sub-themes and four major themes. The author found out from the qualitative inquiry that there is a need for multi-skilling and professional development of employees, better role of media, Increased and well sense of hygiene, and better preparedness for the crisis.

(Rosselló et al., 2020) examined different diseases and epidemics in relation to tourism. They evaluate different economic implications on eradicating Ebola, Malaria, Yellow fever for those countries of tourism, focusing on tourism expenditures. The Gravity model was used to show tourists' inflows into the countries and the estimated impact of each disease on the tourist arrivals. Furthermore, the indication of these diseases in the eradication is simulated, and the impact of the expenditures is estimated. They find out that in eradicating malaria, EBOLA, and other such epidemics, 10 million travelers are expected to travel across the world while the expenditures calculated are more than 12 billion dollars. Similarly, in Brunei, a small country, (Tariq Mahmood, 2010) investigated the Swine flu and its effect on Brunei. The study considered the Swine flu and the Global financial crisis and investigated its impact on the tourism sector. They used two auto-regression integrated average moving models for swine flu and global financial crisis while time series analysis for intervention. The study observed that the number of tourists had been reduced significantly, while for reconfirmation, time series analysis was also tested on the variables. It is concluded that a small country like Brunei lost 15 million dollars and 15% tourists.

Many studies have investigated the impact of a current contagious pandemic on these sectors concerning business activities and the stock market. As the Covid-19 emergence compels the central governments to impose a complete lockdown that affects the major economic contributors such as the tourism industry, travel industry, and hotel industry. Thus the impact of such a contagious pandemic is important to investigate concerning the businesses, travel, and hotel industries. In this regard, (Ahmed, 2020) investigated the impact of Covid-19 on the Pakistan Stock Market, By Using the Data of PSX 100 closing Data of the first half and fatalities caused by the pandemic. The author finds out that the recoveries of the Covid patients have a significant effect on the PSX-100 while there is an insignificant impact of fatalities and daily positive cases. For the case of European Union (EU) economies, (Mirza et al., 2020a, 2020b; Rizvi et al., 2020a, 2020b; Yarovaya et al., 2020, 2021), investigated the

impact of Covid-19 on different corporate, businesses, financial and non-financial sectors. Empirical results of these studies reveal that Covid-19 negatively influences the performance of the stock market and these earlier-mentioned sectors. Specifically, a decrease in investment and cashflows have been observed. Also, the investors have been reported while switching from higher risky assets to low-risk assets. A decrease in investments and cashflows and deterioration in the equity cost negatively affect the corporate performance, which increases the probability of bankruptcy for them. However, only the social entrepreneurship funds showed flexibility, unlike the majority of investments' stressed performance. Besides, Mirza et al. (2020c) The human capital efficiency has been reported to have a positive influence on asset management. That is, the regions having higher human capital efficiency surpass the less efficient human capital corporates. In contrast, (Yarovaya et al., 2020) examined Islamic equity funds and compared the Islamic funds' volatility timing, investment style, and risk-adjusted performance to their conventional counterparts across the Covid-19 period. The results reported that the Islamic equity funds surpass their conventional counterparts by holding more flexibility than the others, specifically in the peak months of the pandemic.

TIA Report (2020) established a mechanism of the qualitative and quantitative survey for looking into the tourism economy of New Zealand where TIA observed that 78% of the businesses are transforming their businesses which will adjust into the crisis while one-third of businesses are hibernating their operations for the upcoming two years. Similarly, 21% of businesses are scrambling capital for the current operations in order to survive. Additionally, (Mariana et al., 2021) reviews the literature of the past and tries to discuss the nature of the current Covid-19 pandemic crisis, and suggests how the current pandemic can be a transformational opportunity for tourism sector. The Researcher identifies that the essential values, Institutions, and pre-assumptions should be challenged and breakthrough research to be introduced to find out the ray of hope for the tourism major three stakeholders: tourism demand, tourism supply, and Policymakers. They are experiencing the impacts of the pandemic.

Yet, the number of research studies available on the earlier pandemics. However, regarding the impact of Covid-19, a limited number of studies available described the impact of Covid-19 on the tourism sector. In this respect, there are studies (Rosselló et al., 2017; Škare et al., 2021; Tariq Mahmood, 2010) that already uncover the hidden impact of various pandemics such as Covid-19, Ebola, SARS, ZIKA, Malaria, Yellow fever, Swine flu, etc. and all the studies are evident of the negative impact of these pandemics on tourism. Specifically, the number of tourists who faced a declination in these pandemic periods leads the tourism sector to face an economic fall. Also, the studies (Ahmed, 2020; Kaushal & Srivastava, 2021) uncover the impact of pandemics on the business sectors, which conclude that these pandemics adversely affect the business sectors. However, some essential values and institutions may provide a ray of hope for the three major tourism stakeholders, i.e., demand, supply, and policy-makers. Hence, it is suggested by these studies that there is a need for multi-skilling and professional development of employees, better role of media, increased and well sense of hygiene, and better preparedness for the crisis.

3. Theoretical framework, methodology, and data

3.1. Theoretical framework

The UNWTO world tourism barometer reveals, while specially focused on the Covid-19, that the arrival of international tourists would fell by 57% in March 2020. This means that the first quarter of the year 2020 will face a reduction of approximately 67 million international tourists arrival, and also declination US$80 million in income. However, over the entire 2020 year, it is expected that the world might face a reduction of 850 million-1.1 billion international tourists and a loss of export revenue from tourism for about US$910 billion to US$1.2 trillion while risking 100–120 million tourism-related jobs (Rodríguez-Antón & Alonso-Almeida, 2020). Thus, closing all national borders as of late April would lead to higher uncertainty (UNWTO, 2020). Since it is well known that the emergence of Covid-19 restricted most of the economic and tourism-related activities in China (Huo & Qiu, 2020), it significantly disturbed China's business cycle. Focusing on the tourism and hotel (hospitality) industry, most international tourists are being accommodated in the hotels. Therefore, the restrictions on international tourists' arrival considerably affect the hotel and tourism industry. Besides, the tourism industry is limited to the hospitality industry and closely linked to transport, small and medium enterprises (SMEs), etc., while holding a significant portion of the labor force in a country. Hence, the employment of this labor force would also get affected due to the low or no supply of tourist arrivals (Blustein et al., 2020).

Additionally, the tourism and hotel industry is purely based upon tourist arrivals for revenue generation. However, the closed borders vanished the supply of international tourist arrivals, which significantly reduced the revenues of these industries and the SMEs' revenue. Consequently, the cost and expenditures would significantly increase, drastically affecting the labor force by leaving or discharging from the available positions. This will considerably enhance the country's unemployment ratio and decrease the demand for goods and services due to a fall in income. Also, less or no revenue generation of the tourism and hotel industries would not contribute to the government's tax collection. Therefore, the economic growth of the country would also be adversely affected. From a theoretical notion, previous literature, and the prior discussion, it is assumed that the emergence of novel coronavirus disease 2019 negatively affects tourism and all its sub-sectors.

3.2. Sample size and data collection

3.2.1. Sample size

This study was carried out to identify the impact of Covid-19 on the tourism economy. For this purpose, we adopted primary data collection techniques. For a sample size of data collection, we adopted (Yamane, 1967) techniques, which provides a simplified formula as given in Eq. 1. As per the seventh national population census of the People's Republic of China, the population of Beijing Province is 20,463,000. We kept the error margin for the provided population, only 5%, i.e., e = 0.05, while the confidence level is accounted for 95% while calculating the sample size.

$$n = \frac{N}{1 + N(e)^2} \tag{1}$$

Here, 'n' represents the sample size, 'N' represents the total population size, and 'e' represents the precision level. In this case, we calculate the sample size at a 95% level of confidence. Hence, the error margin is assumed as 0.05. As a result, the total sample size is calculated as 385 for Beijing province of the People's republic of China.

3.2.2. Data Collection

For the collection of data, we used random sampling techniques. There are 22 provinces in the People's Republic of China in total: however, the high tourist province across the country is reported as Beijing with an all-time high number of visitors, approximately 39,346 persons in August 2019. Thus the data is randomly collected from the respondents directly or indirectly involved in the tourism sector of China, specifically in Beijing province.

3.3. Questionnaire design and pilot survey

This study tried to uncover the main economic factor of the tourism sector by targeting tourism and its related hotel industries. The main important variable that the study targets is the size of the firm, occupancy level during the Covid-19 pandemic, prices of goods and services, the labor market analysis, fixed costs, marketing strategies, healthcare measures, expenditures and revenue during the Covid-19 pandemic, financial situations about labor wages, and the response of the government to support the tourism industry in these hard times. Most of these questions are binary response variables, while the rest of them are closed-ended questions. Concerning important factors and questions, this study followed the 'Tourism Industry Survey of South Africa: Covid-19 – Impact, Mitigation and the Future' survey, the studies of (Hong et al., 2020) and (Kreiner & Ram, 2020) in the construction of the questionnaire, that represents both the tourism and economy of the country.

All of the pre-mentioned variables are considered that may help construct a good design and structured questionnaire. After the construction of the questionnaire, a pilot survey has been done to identify and resolve problematic issues, such as the removal of unnecessary and irrelevant questions.

3.4. Methodology

After the data collection process, it was arranged in the right order. Firstly, we checked the validity and reliability of the questionnaire via Cronbach's Alpha test. If the alpha coefficient gives the value above 0.5, it is considered reliable, and 0.7 is considered highly reliable. If the collected data is found valid and reliable, it can then be further analyzed and provides results that can be generalized. Following the study of (Hong et al., 2020), this study adopted simple techniques of primary data analysis, i.e., graphical analysis and descriptive statistics. The graphical analysis provides visuals that are easy to understand and replicate the whole population. Also, many variables

provide categorical answers representing a specific group from the whole sample or population. Analysis of all these earlier discussed variables and other important variables are provided in Section 4 (Results and Discussion) section of this research.

4. Results and discussion

This section presents the obtained results via survey and their discussion in persistence.

4.1. Validity and reliability of the questionnaire

First, we estimated the reliability of the questionnaire via Cronbach's alpha test. Cronbach's alpha test reveals whether the questionnaire data is reliable and efficiently generalized. The result obtained for the said test is provided in Table 1. The Cronbach's alpha value (ranges 0–1) above 0.5 indicates that the observed data is reliable, whereas the value above 0.7 recommends the high reliability of the data estimates. In this case, Cronbach's alpha test value is 0.989, which designates the high reliability of the observed data estimates. The same table also represents the valid number and percentage of the respondents (sample), which is 385, representing 100% in total.

4.2. Profession of the respondent(s)

In the tourism and hotel industry, the role of the profession is crucial. Thus, we looked for the main drivers of the industry, i.e., Caretaker and Business owner, as shown in Figure 1. In this regard, most respondents represent the latter category (caretaker) by profession, representing 43% of the total sample size. However, the second category is accounted for 39% of the respondents. Hence the second majority of the respondents are the business owner themselves. In contrast, 18% of the respondents fall on the list of 'other's' category, which includes managers, vice managers, head waiter, etc.

4.2.1. Type of business

For identification of the specific business type of the respondents, we distributed the tourism-related business of the respondents into five major categories, as shown in Figure 2. Out of all the representatives, most respondents hold accommodation (27%)

Table 1. Validity and reliability.

Validity of Statistics			
Cases	Available Options	Number	Percentage
	Valid	385	100
	Excluded	0	0
	Total	385	100
Test Name	Value		Indications
Cronbach Alpha	0.989		Highly reliable

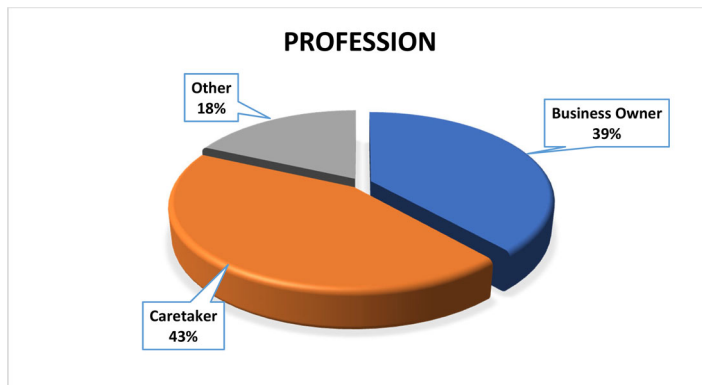Source: Author's own survey findings.

Figure 1. Respondents' Profession.
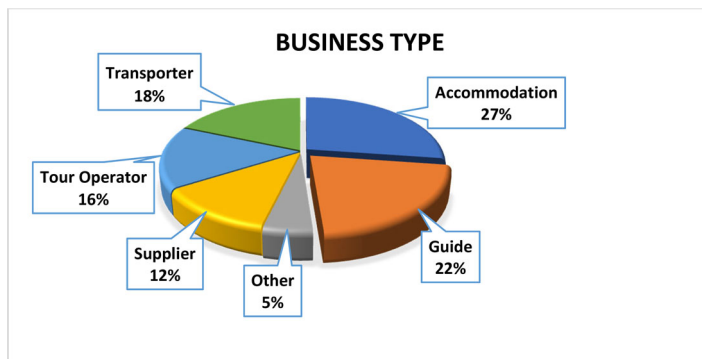Source: Author's own survey findings.

Figure 2. Business type.
Source: Author's survey findings.

business and guide (22%) business, which combinedly accounted for 49% of the respondents. The rest of the business categories are transport, tour operator, and supplier, representing 18%, 16%, and 12% of the respondent sample size. Additionally, the remaining 5% of the respondents are allocated in the 'other' category, including businesses like restaurants, small local hotels, etc. Here, it is reported that the majority of the sample size involved in Beijing's tourism sectors are providing either accommodation services or the tourist guide services

4.2.2. Size of business (in terms of employees)
After discussing the business types of the respondents in detail, it is also important to identify the firm size of the respondents. We adopted the techniques of 'Tourism Industry Survey of South Africa: COVID-19, (2020).'[1] The distribution of the business size is provided in Figure 3. The data results indicate that 35.32% of the respondents have micro-business (5–19 employees), representing a significant portion of the sample size. However, 20.73% of the respondents fall in the small-business (20–99 employees) category. In the third category about firm size, medium (100–199
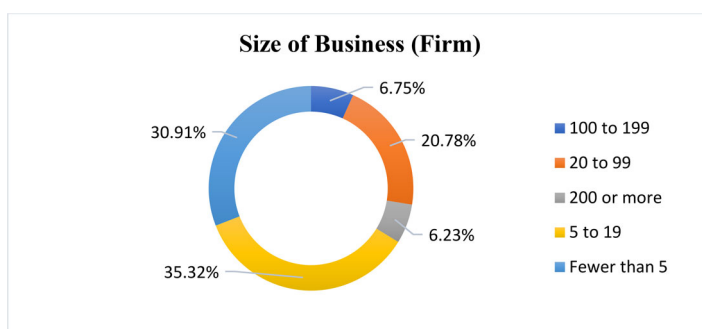
Figure 3. Business (Firm) Size (In terms of employees).
Source: Author's survey findings. (The numbers on the right side shows employees)

employees) accounts for 30.91% of the total sample. The final category is about the large (200 or more employees), and the lowest of the respondents fall in this category list, holding a 6.23% of the total sample size. Additionally, firms hold fewer than five employees, and this firm size category represents 6.75% of the total respondents. In this survey, the micro, small and medium firm sizes represent approximately 87% of the respondents.[2] Thus, the business (firms) indicates that most of Beijing's businesses or firms are micro, small, and medium-level.

4.3. Occupancy level during the covid-19 pandemic

After the Covid-19 global pandemic outbreak, the world faced a major locked down in every region. However, tourism and the hotel industry could survive only in the presence of a high number of tourists. International flights faced a severe fall in the current year due to pandemics and lockdown in most regions (Statista, 2020). Hence, the same fall has been observed for the occupancy level during the Covid-19 pandemic. This survey data illustrates in Figure 4 that most firms faced a 100% decline in occupancy, accounting for 63.90% of the total sample size involved in the tourism sector. They were followed by 31.69% of the firms' respondents whose occupancy level dropped to 50%. The least number of drops in the occupancy level of the tourists or hotel industry is 4.42% that faced only 20% declination in the occupancy level of their hotels or services. This least number of drops in the occupancy level could probably be linked to the Covid-19 cases inclination. Many of the hotels are allocated and considered a quarantine for both the tourists and the patients. These findings are consistent with the findings of (Huo & Qiu, 2020) and (Mirza et al., 2020c) that illustrates that the business sectors are affected the most during the contagious pandemic period, which could cause economic declination in the economy.

4.4. Binary responses questions

To investigating and understand the difficulties or issues faced by the tourism industries, binary response questions have been asked of the respondents with only two available options, i.e., 'Yes' or 'No', as provided in Figure 5. A question concerning
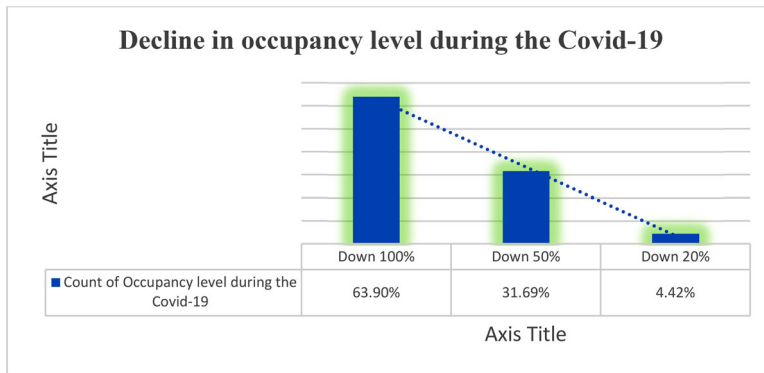
Figure 4. Occupancy Level during COVID-19.
Source: Author's survey findings.
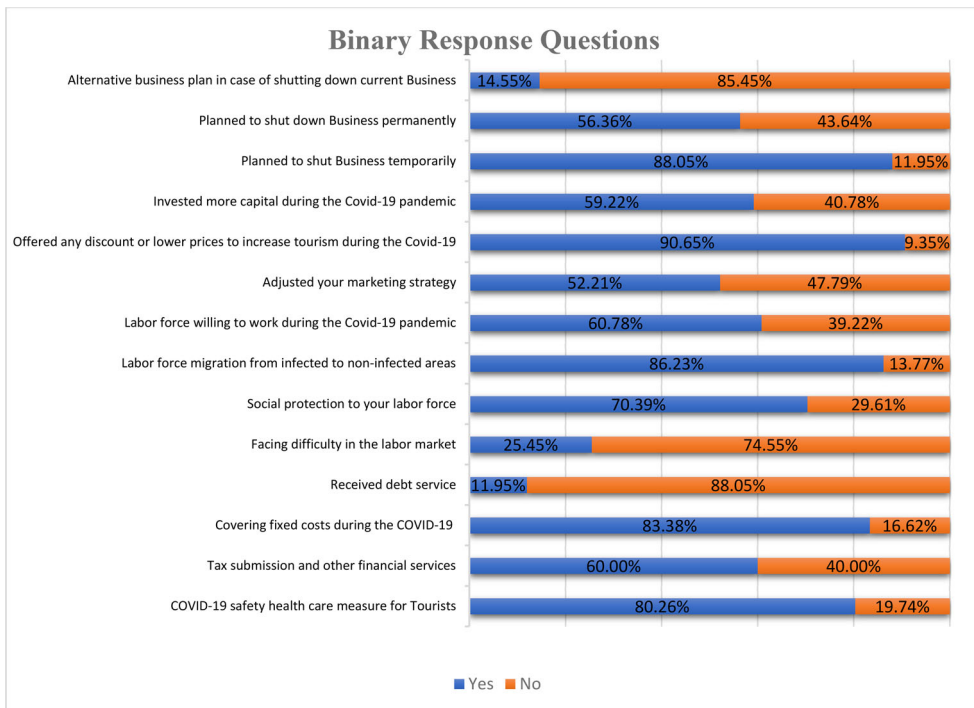
Figure 5. Binary responses questions.
Source: Author's survey findings.

the fixed cost-covering shows that 83.38% of the respondents reveal that the fixed costs have been covered during the Covid-19 pandemic, but this becomes possible only because of the food 'take away' services. However, the rest of the firms did not even cover their fixed cost, which accounted for 16.62% of the total sample. Also, 60% of the respondents submitted their taxes, which also creates a burden on the firm. However, the rest of the 40% could not bear the tax submission and

participation in other financial services required for tourism and hoteling sectors. Concerning the labors requirement, 74.55% of the firm's representative confirmed that the laborers are available at ease, and this is only because of the shutting down of many other industries such as textile, construction, and manufacturing industries, that leads to an increase in the unemployment ratio (Blustein et al., 2020). That is the inequality that affects the poor and working-class of the economy disproportionately. In this concern, 60.78% of the respondents confirmed that the labor force is willing to work even in this global pandemic environment only because of the unemployment and survival fear. At the same time, 39.22% of respondents reveal that the labor force is in fear of health-related risks and is not willing to work in this pandemic environment. So, 86.23% of the firms migrated their labors from infected areas to the non-infected areas, but 13.77% of the firms could not afford the cost and did not provide that opportunity to the laborers even in this pandemic situation. In continuation, the laborers in the tourism and hotel industries, 70.39% of the firms provide social protection to the laborers to maintain their labors' survival. In contrast, 29.61% of the total could not bear the cost of providing social protection to their laborers. Hence, the ratio for unemployment in youth and aged people is rapidly increasing (Blustein et al., 2020).

In this global pandemic environment, more than half of the firms, representing 52.21% of the total, transit to the new market strategies to generate revenues. Such a form of revenue generation includes making the hotels or firms quarantine centers or providing business offices for the professionals (Morlighem et al., 2020). In this regard, the majority, with 59.22% of the firms, invested more capital during the current pandemic to maintain or regain their business cost. Almost every firm, i.e., 90.65%, offered discounts on products and services, and also lowered their prices with the only purpose to attract more tourists or because of the low demand of the products and services, that negatively affect the firms' revenue and economic growth of an economy. Additionally, it is also recorded that 80.26% of the firms take health care measures for the tourists to tackle health issues and achieve/maintain their targets. Such measures include the availability of quarantine centers, following the SOPs, providing hand sanitizers, etc.

Besides all these discussed offerings and measures for maintaining and sustaining tourism and hotel industries, most of the firms are not satisfied with their business and are willing to shut down their businesses. In this regard, 88.05% of the total respondents are willing to shut down their businesses temporarily, and above half of the respondents are willing to permanently shut down their business, representing 56.36% of the total sample. After closing or shutting down the business, almost 86% of the respondents do not have any alternative plan for a new startup. Hence, it is revealed from the estimations that Covid-19 negatively affects business firms and increases their bankruptcy chances. These findings are consistent with the earlier findings of (Huo & Qiu, 2020; Mirza et al., 2020a). In conclusion, the tourism industry is considered one of the main factors of GDP, holding 319 million employment opportunities and $5.7 trillion contributions to the GDP globally (Isidore, 2020). However, in this pandemic situation, the tourism industry needs special attention for sustainability because this pandemic may lead up to a $2.1 trillion deficit, as per

World Travel & Tourism Council (WTTC) (2020) forecast. The earlier stance is supported by this survey, as 88.05% of the total firms did not receive any governmental or private debt services. So, this may harm the whole economy of China.

4.5. Expenditure during covid-19

Though the firms' expenditures depend upon the number of tourists and seasonality factors, among other things: however, in this global pandemic environment, the change in the expenditure that the firms experienced is provided in Table 2. The analyzed data reported that the majority of the firms had found an increase in their expenditures. This increase in expenditure is the result of less demand for tourism activities, fixed costs, and variable costs, which are still in progress. Specifically, the majority of the respondents, i.e., 34.14% of the whole sample size, faced an increase of above 50% in their expenditures, followed by 28.97% of the total sample, which faced an increase in expenditure from 31% to 50%. The least number of respondents, i.e., 6.21 and 3.79%, reported that they faced 11–20% and 1–10% increase in their firm expenditures, respectively. The total sample size reported an increase in the firms' expenditures is 290, with 75.32%. On the other hand, 69 (17.92%) firms' respondents reported a decrease in expenditures. The main reason behind the declination of expenditures is either temporarily shutting down the firm, reducing the workers, no advertisements and marketing, no maintenance cost, etc. All the respondents almost equally fall in each classified category of the 'decrease'. In contrast, 6.75% of the total sample, accounted for 26 respondents, reported no change in their expenditures during the Covid-19 pandemic compared to the pre-Covid-19 situation. The estimated results reveal that both increase and decrease in the expenditure are both found destructive in the firm revenue generation process. As some of the firms increase expenditures by providing health care facilities, including quarantine facilities, hand sanitizers, cleaning, etc. while the decrease in the firms' expenditures is directly linked to the closing of their firms or hotels or other services, which required less number of employees than the normal period.

Table 2. Expenditures in COVID-19 pandemic.

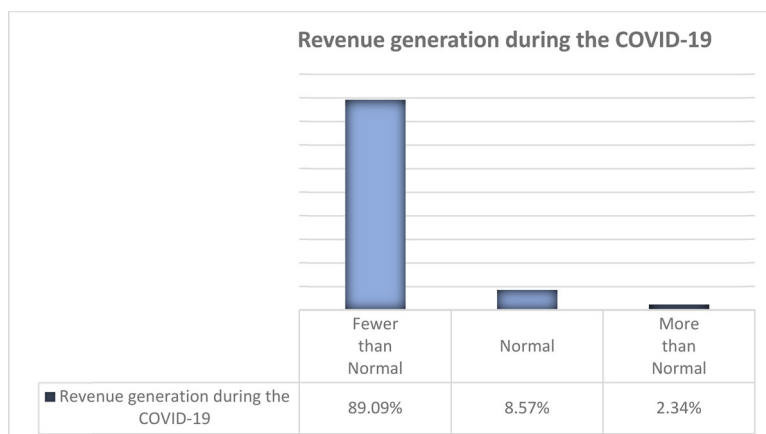| Change in expenditure during the Covid-19				
Categories	Increase	Categories	Decrease	No Change
1% to 10%	11 (3.79%)	1% to 10%	13 (18.84%)	26
11% to 20%	18 (6.21%)	11% to 20%	13 (18.84%)	
21% to 30%	78 (26.90%)	21% to 30%	15 (21.74%)	
31% to 50%	84 (28.97%)	31% to 50%	16 (23.19%)	
51% or More	99 (34.14%)	51% or More	12 (17.39%)	
Total	290 (100%)	Total	69 (100%)	
Increase/total	**75.32**%	**Decrease/total**	**17.92**%	**6.75**%

Source: Author's survey findings.

Figure 6. Revenue generation during the COVID-19.
Source: Author's survey findings.

4.6. Revenue during covid-19

As discussed earlier, the tourism industry faced several issues concerning their survival during the global pandemic and locked-down environment. So, it could be expected that the industry may also face a decline in the revenue generation than the normal times. Concentrating on the analyzed survey data as provided in Figure 6, a significant majority of the concerned industry faced a decline in revenue generation. With 89.09% of the total sample, the vast majority fall in the list that generates revenue 'fewer than normal', followed by 8.57% of firms, who are still generating the normal revenue even in this pandemic environment. According to the last category respondents, 'they are offering to take away services' and generate revenue only with food products. Thus, the earlier mentioned findings, which illustrate an increase in expenditures, are directly related to the decline of revenue generation. The decline in the revenue may lead these firms to decrease their employees' strength and minimizes variable cost, which would lead to bear the fixed cost of the firms. These findings are consistent with the earlier findings of (Blustein et al., 2020; Huo & Qiu, 2020; Mirza et al., 2020a), which empirically investigated the business sectors and Covid-19 influence.

4.7. Labors/employees, Capital, and tour services

The results of the title are presented in Table 3. Concerning the labor force, the respondents were asked 'whether they reduced the labor force or not', so it is noted that most respondents, i.e., 70.91% reduced the labor force. While the combination of the labor force reduction in percentage shows that out of that 70.91% total firms which reduced labor force, 28.94% firms reduced the labor force by 51–75%, followed by 26.74%, who reduced 1–25% of their labor force. The remaining 24.33% of the firms majorly reduced their labor force range 76–100%. Moreover, 20.88% of firms reduced labor between 26–50% of their total labor force. This study supports the

Table 3. Labors/employees, capital, and tour services.

Question	Available Options				
Reduced labor force during the Covid-19 pandemic	No		Yes		Total
	112		273		385
(Percentage)	(29.09%)		(70.91%)		(100%)
What percent labor force reduced during the Covid-19 pandemic	1% to 25%	26% to 50%	51% to 75%	76% to 100%	Total
	73	57	79	64	273
(Percentage)	(26.74%)	(20.88%)	(28.94%)	(23.44%)	(100%)
Offering paid leave to employees during the Covid-19 pandemic	No		Yes		Total
	173		212		385
(Percentage)	(44.94%)		(55.06%)		(100%)
If yes, then what percent of the salary you have offered your employees as paid leave?	1% to 25%	26% to 50%	51% to 75%	76% to 100%	Total
	15	48	105	44	212
(Percentage)	(7.08%)	(22.64%)	(49.53%)	(20.75%)	(100%)
Reduced workers' wages during the Covid-19 pandemic	No		Yes		Total
	176		209		385
(Percentage)	(45.71%)		(54.29%)		(100%)
If reduced, then what percent of wages reduced during the Covid-19 pandemic	0% to 5%	6% to 10%	11% to 20%	21% or More	Total
	12	21	55	121	209
(Percentage)	(5.74%)	(10.05%)	(26.32%)	(57.89%)	(100%)
Borrowed capital from any source (Percentage)	No		Yes		Total
	141		244		385
	(36.62%)		(63.38%)		(100%)
If yes, the source is	Bank	Family	Friend	Other	Total
(Percentage)	80	73	78	13	244
	(32.79%)	(29.92%)	(31.97%)	(5.33%)	(100%)
Offered any special package for women employees during a pandemic	No		Yes		Total
	183		202		385
(Percentage)	(47.53%)		(52.47%)		(100%)
If yes, then what type of package you have offered?	Bonus	Increments	Paid Leave	Other	Total
	51	41	57	53	202
(Percentage)	(25.25%)	(20.30%)	(28.22%)	(26.24%)	(100%)
Offered any tour cancellation services to your visitors	No		Yes		Total
	76		309		385
(Percentage)	(19.74%)		(80.26%)		(100%)
If yes, then have you any refund policy?	No		Yes		Total
	73		236		309
(Percentage)	(23.62%)		(76.38%)		(100%)
What percent have you offered as a refund?	0% to 25%	26% to 50%	51% to 75%	76% to 100%	Total
	12	54	94	76	236
(Percentage)	(5.08%)	(22.88%)	(39.83%)	(32.20%)	(100%)

Source: Author's own survey findings.

stance of (Blustein et al., 2020; Isidore, 2020) that the adverse impact of Covid-19 on tourism also harms employment and creates more unemployment in the region. The second question is about 'offering paid leave to employees', to which, majority of the respondents responded that 'yes' accounted for 212 (55.06%) of the total sample. Out of these 212 respondents, 20.75% offered 76–100% salary to their employees during the Covid-19 paid leave. The highest number of firms fall in this category list for the category of offering 51–75% paid leave salary. The remaining are 22.64% offered 26–50% paid leave salary, and least of all, 7.08% of respondents offered minimum paid leave salary, i.e., in between 1–25%. Concerning paid leaves to employees illustrates that the Covid-19 increases the burden on the firms, which enhances their chance of bankruptcy (Mirza et al., 2020a). The third question regarding 'reduction

of workers' wages during the Covid-19 pandemic' reveals that more than half (54.29%) of the respondents reduced their workers' wages. Out of which, most of the firms, 57.89% reduced the wages by more than 20%, followed by 26.32% firms, that reduced 11–20% of their wages or salaries. Furthermore, only 10.05% of firms reduced 6–10%, and 5.74% of firms reduced the least amount from their workers' wages. Therefore, the decrease in wages is directly linked to enhancing the poverty ratio in the region.

The other question is about capital borrowing, and out of the total 244 respondents who borrowed capital, 32.79% borrowed from the bank, 31.97% borrowed from friends, 29.92% borrowed capital from family, and the rest 5.33% borrowed their capital from other sources such as local or informal investors, etc. A question regarding female employees was asked from the respondents 'whether they offered any special package for women employees during the Covid-19 pandemic', and it is reported that 52.47% of the firm offered that. 28.22% offered paid leaves to women employees, 25.25% offered bonuses, and 20.30% of respondents offered increment to the women employees during the pandemic period. However, 26.24% of firms offered other packages, such as food packages (ration), health packages (medical care), etc. Hence this extra burden leads these firms to shut down partially or completely (Mirza et al., 2020a). The tourism industry is mainly about facilitating the tourists via offering service. However, after a sudden outbreak of the Covid-19 pandemic, 80.26% of the service providers offered the tour cancellation to the visitors. However, only 76.38% of the firms provided a refund policy to the visitors. In the refund policy, most (39.83%) of the firms offered 51–75% of the refund to the visitors. Whereas 32.20% offered 76–100% refund, 22.88% offered 26–50%, and only 5.08% of firms offered the minimum 0–25% refund policy to the visitors.

4.8. Steps taken to increase staff efficiency

Despite all these difficulties in these challenging times of pandemic, still, the firms are engaged to improve staff efficiency. In this concern, the majority 43,38% of the firms are engaging their staff via webinars, 32.73% via online classes, and the least 10.13% of the firm are engaging their staff in HR coaching to improve the efficiency of staff as shown in Figure 7. The rest of the firms adopted other techniques such as practical training regarding Covid-19 health care while following SOPs.

4.9. Government steps/actions to support tourism

When all the sectors are in the depression phase during the global pandemic, they look forward to the government actions and policies for support. The perception of the majority's representatives in the majority has no governmental support, especially for the small and medium tourist firms, representing 34.03% of the total respondents, as provided in Figure 8. Whereas 32.99% of respondents claimed that the government had provided a subsidy that benefits them. Only 11.17% and 9.61% of the total respondents claimed that the government had provided relief fund and solidarity fund, respectively, to the concerned tourist firms for supporting and maintaining
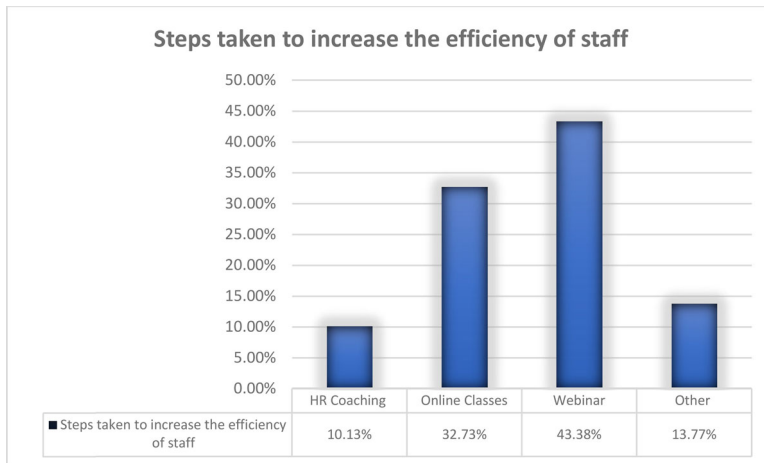
Figure 7. Steps taken to increase staff efficiency.
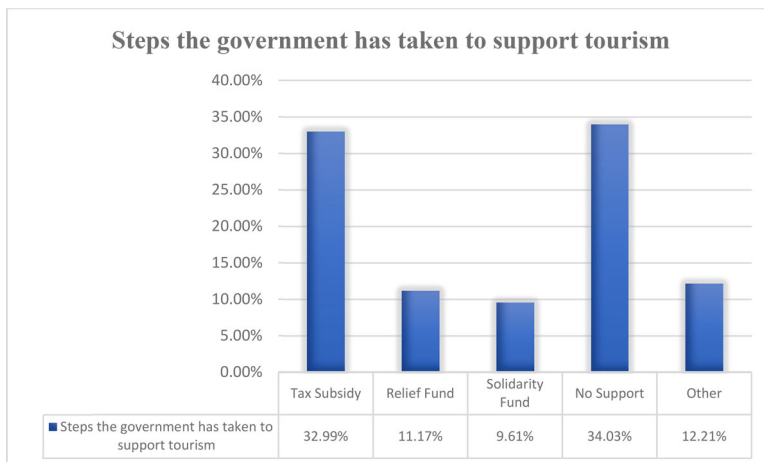Source: Author's survey findings.

Figure 8. Steps the government has taken to support tourism.
Source: Author's survey findings.

tourism activities across the region. Thus, as per respondents' concern, government intervention is necessary to facilitate the tourism economy, which contributes to economic growth at the macro level.

4.10. Discussion on empirical findings

The current study primarily focused on the impact of Covid-19 on the tourism economy, where different tourism-related variables have been included, such as employment, revenue generation, firms' expenditures, and the current conditions of the firms, inter alia. However, the descriptive analysis confirmed the negative impact of Covid-19 on the tourism economy, which includes fluctuations in the expenditures

and revenue, declination in the number of employees, and a decrease in the hotel's occupancy level, among others. All of these earlier discussed issues are interlinked with the tourism economy. Instead, the pandemic and the locked-down environment closed or limits the doors of the tourists, which significantly decrease the national and international flights and the occupancy level of the firms/hotels. However, the restrictions on international flights help China by effectively combating the risk from international visitors (Zhang et al., 2020). However, these strict restrictions also affect the travel, tourism, and hotel industry (Huo & Qiu, 2020), specifically in Beijing. This decline in these tourism activities and flights led the firms to decrease prices of goods and services, which ultimately reduced the revenue generation and increased expenditures in fixed and other variable costs such as employees' wages, maintenance costs, etc. The decline in firms' revenue leads to reduce employees that postulate extra burden on the firm. However, employee reduction leads to increased unemployment (Blustein et al., 2020; Isidore, 2020). An increase in the unemployment ratio and the decline in the revenue of these firms do not contribute to economic growth but are considered a burden instead. Therefore, it is concluded that the impact of Covid-19 is negative on the tourism economy.

5. Conclusion and policy implications

5.1. Conclusion

The recent contagious pandemic affects the whole world in many directions. Along with its different hazardous impacts on different health, social, and economic related indicators, Covid-19 also influenced the tourism economy. In this regard, the current research study analyzed the economic impact Covid-19 pandemic on the tourism industry for the case of Beijing, the capital of China, which is one of the leading tourist destinations in China. This study used a primary data collecting tool, i.e., a questionnaire survey to collect data from 385 respondents who are directly or indirectly related to the hotel industry's tourism. For empirical analysis, we employed descriptive statistics and graphical analysis techniques. The study's empirical results found that the Covid-19 holds a strong and negative impact on the tourism sector, which also indirectly affects the economy of China. Generally, the tourism industry acts as a backbone for a country's economy. However, the Covid-19 pandemic disturbed every possible factor of the tourism and hotel industries, and all these negative effects are the results of the restrictions on international and domestic flights, travelers, and tourists. Though these restrictions on international flights contribute to health factors by limiting external contagious pandemics and diseases, the tourism economy is strongly affected.

Specifically, this study found that due to the sudden outbreak of the current contagious virus, the tourism sector's revenue dropped down, which indirectly reduced the purchasing power of the people. The unemployment rate has been raised due to the low demand for labor in the tourism industry during the current pandemic; even the employed labors have lost their jobs due to the burden on the tourism and hotel industries. The fixed costs are reported as not covered due to no or low level of occupancy rate. Because of the less or no revenue, the laborers' salaries, and

employed workers had been cut off or reduced. Also, the healthcare measures and the maintenance costs increase the expenditures of these sector(s) that lead the owners to borrow capital and invest more in their business firms. However, most of the firms did not find any opportunity to support and maintain their businesses, which barely support them to pay high governmental taxes. Hence, this reason leads the owners to a situation where they are ready to temporarily or permanently shut down their business. The shutting down of business may cause huge damage to the economy, as the tourism industry is holding 319 million employment opportunities and $5.7 trillion contributions to the GDP globally (Isidore, 2020). Moreover, as per WTTC forecast for the year 2020, the pandemic may lead up to a deficit of $2.1 trillion. Therefore, revised policy implications are required to support and maintain both the tourism industry and economy.

5.2. Policy implications

Based on the pre-mentioned empirical findings, this study recommends few practical policy implications. As there are both complete and partial lockdowns in different regions and restrictions on the flights and tourist arrivals across the world, the hotel and tourism sector should provide space for the quarantine sectors that would generate revenue for the firm but also helps combat the pandemic issues. The hotels could also be used for temporary accommodation for the state security or essential economic sectors. Moreover, the tourism sectors affected the most in this pandemic period raise the poverty and unemployment ratio. Therefore, policies must be revised that allow the domestic tourists to travel while following the SOPs and impose high charges on violation of these SOPs. Moreover, human capital efficiency needs to grow by providing advanced and innovative techniques to prepare such a large population for future disasters. Accordingly, these sectors will start recovering and will surely contribute to the economic growth of China as earlier the outbreak.

Notes

1. http://documents1.worldbank.org/curated/en/648261588959603840/pdf/Tourism-Industry-Survey-of-South-Africa-COVID-19-Impact-Mitigation-and-the-Future-Survey-1.pdf
2. Size has been determined by number of employees. 5 - 19 = micro; 20 - 99 = small; 100 - 199 = medium; 200 + = large.

Disclosure statement

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