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A Rapid Appraisal of COVID-19 on Global Tourism:

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Abstract
Following the outbreak of currently un-vaccinatable novel corona virus (COVID-19), along with a dramatic increase in the number of cases and deaths, greater terror postdated necessitating to lockdowns and restricted travels within and between borders as control measures for the virus spread. This incident has largely ravaged global tourism and economic activities. In particular, global air-travels which are key component for tourism has drastically dropped by 20-to-30 percent within this short course. On account of emergence-based challenges, the present study undertakes a rapid appraisal of COVID-19 on tourism to discover observed and expected impacts of COVID-19 on global tourism business as well as proffers inferences for the future of tourism that would support the tourism business to strive and expedite during pandemic diseases such as corona virus.

Introduction
On 31st December 2019 pneumonia of obscure cause was detailed to the WHO Nation Office of China after recognized in Wuhan city. In early January 2020, 41 patients with affirmed infection by a particular coronavirus (COVID 19) had been conceded to clinics in China (Huang et al., 2020). Whereas the infection spread quickly inside the country‘s Wuhan locale, it completely was at first generally ignored by political leaders in other parts of the world (Washington Post, 2020). To diminish the spread of the infection, Wuhan was put into lock-down which included a combination of provincial and person isolate activities, hence the tainted case in China stabilized at around 80,000 by mid-February (ECDC 2020). By at that point, worldwide shipping had as of now carried the infection to any or all landmasses and, by mid-March, it had been set up in 146 nations. The number of affirmed diseases around the world rapidly multiplied, connected to the fashion of super-spreading occasions, (Anderson et al., 2020; Johns Hopkins, 2020)From here, the infection rate accelerated from side to side by community transmission drawn closer 2 million affirmed cases on 15 April, with more 125,000 deaths recorded in over 200 nations (ECDC 2020).

International, regional and local travel confinements promptly immediately affected national economies, counting tourism frameworks such as International and domestic tourism, day visits and other parts of tourism and hospitality such as accommodation, transportation, cafes and restaurants, meetings, sports events, festivals as well as cruises. With no counter performing vaccines to stop the infections and obliged restorative medications accessible to bargain with it, most of the nations countered with sorts of no pharmaceutical intercession such as lock-down (self and mass isolate), social distancing, the closing of

schools/colleges and non-essential businesses/workplaces, canceling of concerts, trade shows, festivals political elections and debates, sports and bans on gathering of people over certain numbers or putting off occasions abruptly. Countries scrambled to return tourists home, for example, the British Foreign Secretary on 23 March 2020 advised British tourists to come back home, "prompting against about essential international travel", and bring out that "International travel is getting the chance to be more hard-hitting with the closure of borders, airplanes hang up flights, air terminals shutting, entry and exit bans and energize restrictions being introduced day by day" (FCO, 2020). Cruise ships in a little while got the chance to be the most pessimistic scenario circumstance for anyone stuck inside the world tourism structure. Beginning with the Diamond Princess on 1 February 2020, a minimum of 25 cruise ships had confirmed COVID-19 infections by 26 March 2020 (Mallapaty, 2020) and at the tip of March; ten ships remained embarrassed with thousands of passengers held in-cabin quarantine and facing the challenge of returning home.

Nearly all parts of the hospitality value chain are affected by the COVID-19 within many countries. The effect of canceled occasions closed lodging for accommodation, and near up attractions got to be promptly felt in other parts of the hospitality supply chain, like laundry service and catering. Restaurants had to close moreover, even though in a few nations, a switch to take-away and delivery deals permitted a few to continue operations.

COVID-19 is an exceptional situation. Inside the space of months, the framing of the worldwide tourism system moved from over-tourism (Dodds & Butler, 2019) to non- tourism, distinctively outlined by blogs and daily paper articles delineating well-known tourism destinations in before and after photographs (Conde Nast Voyager, 2020). Whereas a few commentators as of now guess on what will tourism be like after the Coronavirus, the ultimate belief is that tourism will rebound because it's from previous crises (Hunter, 2020). However, there's much evidence that COVID-19 is visiting diverge and transformative for the tourism sector. Governments only begin to grasp that, unlike other business sectors, tourism revenue is permanently lost because unsold capacity as an example in accommodation can't be marketed in subsequent years, with corresponding implications for employment within the arena

COVID-19 and tourism

The world has experienced several major epidemics/pandemics in the last 40 years, yet none had similar implications for the global economy as the COVID-19 pandemic. COVID-19 is not as contagious as measles and not as likely to kill an infected person as Ebola, but people can start shedding the virus several days in advance of symptoms (Bai et al., 2020; Rothe et al., 2020). As a result, asymptomatic people transmit COVID-19 before they know to self-isolate or take other measures like physical distancing in public or wearing mouth/nose coverings to prevent the spread of the virus through speaking, coughing, or sneezing. With very limited testing in many countries, also due to the unavailability of tests, the unknowingly asymptomatic transmission is thought to be substantive (Li et al., 2020). Figure 1 reveals the rapid increase in and spread of confirmed COVID-19 cases from its epicenter (ECDC 2020).

Observed impacts of Covid-19 on global Tourism

As the number of COVID-19 cases exploded and spread globally, travel restrictions spread out from the Wuhan region epicenter (local lockdown beginning 23 January) to most countries by the end of March. Figure 2 shows countries with borders close to the movement of non-citizens and non-residents as of 31 March 2020 and partial border closures, including restrictions of people arriving from certain other countries or where not all types of borders are closed (air, land, sea). Using country population data, it can be estimated that over 90% of the world‘s population are in countries with some level of international travel restrictions and many of these countries also have some degree of restrictions on internal movement, including limited air travel and stay at home orders. This unprecedented response closed borders in a wide range of industrialized countries to all foreign nationals, and virtually all other countries have implemented at least some travel restrictions, including travel bans from selective countries, arrival quarantines, and/or health certificate requirements.

The rapid emergence, scientific understanding, and NPI responses to COVID-19 evolved over approximately eight weeks, and tourism organizations struggled to comprehend the scope of what was

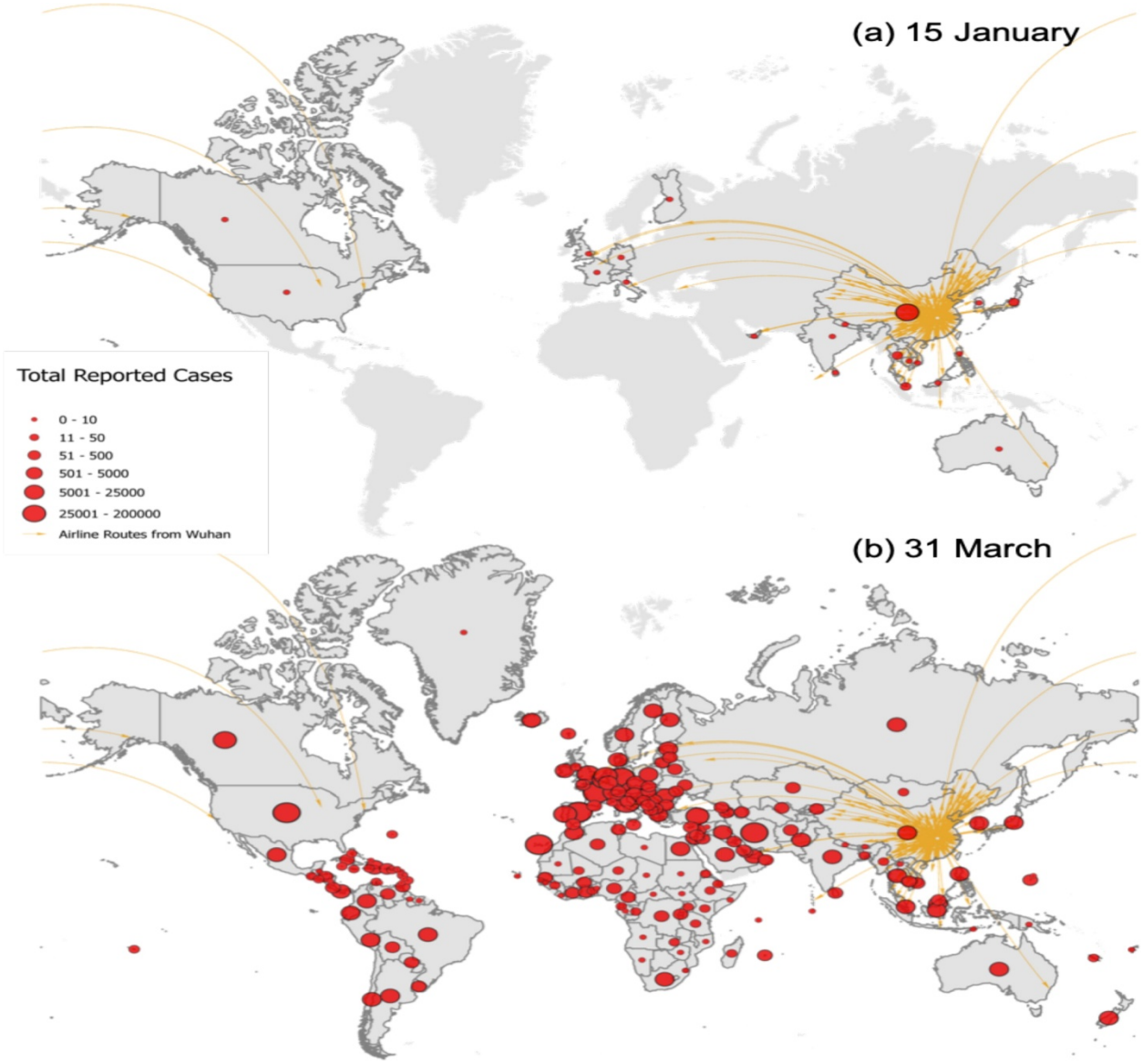
happening: The uncertainty and dynamics of the pandemic and policy responses are exemplified in estimates of COVID-19 impacts on the sector by the United Nations World Tourism Organization (UNWTO), which were significantly revised between early and late March 2020 press release from UNWTO (2020a) estimated the pandemic would cause international tourist arrivals to decline 1-3% (compared to 2019) rather than the forecasted 3-4% growth. Three weeks later, on March, a press release updated this assessment to a 20-30% loss in international arrivals (UNWTO 2020b). These major modifications demonstrate the difficulty of projections at this time, so that all estimates of eventual consequences for tourism must be interpreted with extreme caution, and are at best indicative at present.

As a result of travel restrictions and lockdowns, global tourism has slowed down significantly, with the number of global flights dropping by more than half (Figure 3): as case numbers rose, travel bans grounded a growing number of carriers. Passenger numbers are likely to have declined even more steeply, as many airlines adopted specific seating policies to maintain a distance between customers. As an example, Air New Zealand‘s seating restrictions to meet government requirements of social distancing imply that the airline is flying at less than 50% capacity even when full (Air New Zealand, 2020).

The impact of the crisis on the accommodation sector is illustrated in Figure 4 for the week of 21 March, in comparison to the same week in 2019. In all countries, guest numbers have declined significantly, by 50% or more. The hardest hit were countries heavily exposed to the crisis with large case numbers causing dramatic newspaper headlines (Italy) as well as countries imposing drastic measures to restrict movement in the population (Greece, Germany). Countries that appear to have fared better (Seychelles, Sweden, and New Zealand) may still have had large visitor numbers in March, with tourists considering riding out the crisis in countries perceived as safer. However, even in those situations, tourists are being asked by many countries to return home.

In one of the fastest reports on the impact of the COVID-19 crisis on national tourism, the Norwegian tourism organization (NHO Reiseliv 2020) published longitudinal (weekly) survey data on 31 March 2020. By 5 March 2020, 41% of member businesses had registered cancellations, including hotels, campsites, gastronomy, car rental, activities, and destination marketing organization.

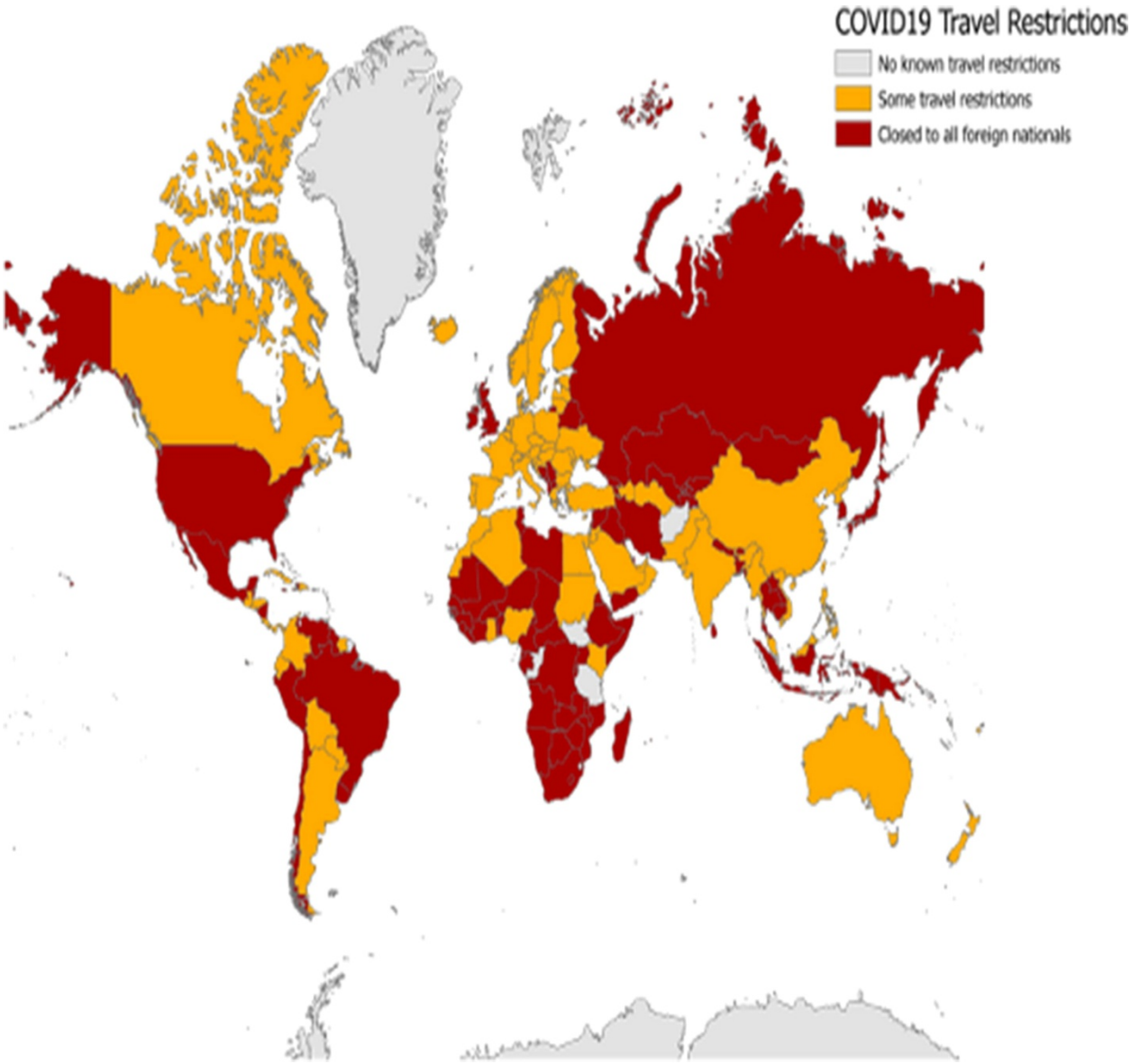
Figure 1: Global distribution of COVID-19 Cases (Jan-March 2020).



Source: ECDC (2020).

By 26 March 2020, 90% of member businesses had temporarily laid off staff, with 78% of businesses reducing at least three-quarters of the workforce. Hotels and gastronomy, as well as attractions, reported the largest decline in their staff numbers, while car rental and camping sites were less exposed. Concerning the latter, the structure of Norwegian campsites offering more space as well as the fact that the season has not started yet helps to explain the comparably better situation for these subsectors. However, on 26 March 2020, 65% of tourism businesses already reported difficulties in paying invoices. Liquidity problems were most relevant for cafes and restaurants (72%) as well as hotels (63%); in comparison, DMOs reported the best liquidity (55% still in a position to pay). The report also shows that tourism was hit particularly hard in comparison to other economic sectors in Norway, where seafood, oil and gas, shipping, and other industries did not report major impacts. Following tourism, services and retail reported the greatest pressure and temporarily lay off half of their workforce.

Figure 2: COVID-19 related global travel restrictions (as of 31 March).



Sources: Authors compiled from IATA (2020), International SOS Security Services (2020), and country travel advisory/ restriction websites on 31 March.

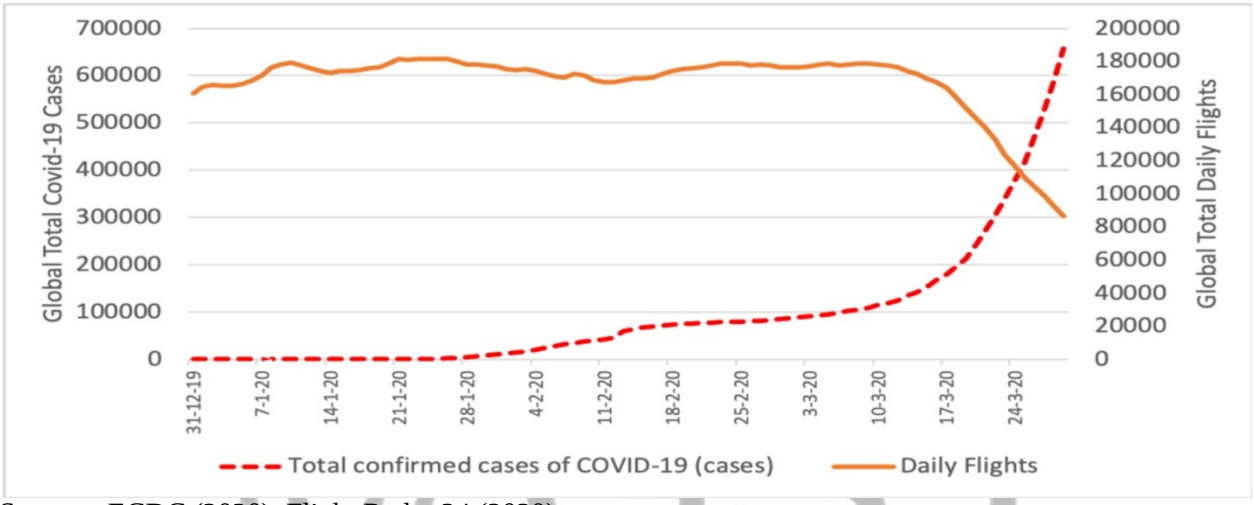
In the United States, consultancies such as McKinsey and Company (2020c) have reported that jobs in the accommodation and food services sector account for over 20% of all vulnerable positions, i.e. jobs that are subject to furlough, layoffs, or being unable to work as a result of social distancing. In terms of actual numbers, this definition accounts for a lower estimate of 10.5 million sector workers and a higher estimate of 12.6 million in the accommodation and food services sector (McKinsey and Company, 2020c). Among the overall estimated 13.4 million jobs that McKinsey and Company (2020c) suggest could be affected in the restaurant industry, 3.6 million involve food preparation and serving (includes fast food businesses), 2.6 million restaurant servers, and 1.3 million restaurant cooks are vulnerable. While these represent industry figures, they do illustrate the dire situation of many service workers. Significantly, workers in the accommodation and food services sector have the lowest annual earnings and the lowest levels of education of all sectors indicating how the pandemic may serve to reinforce already substantial disparities in income. Indirectly, the pandemic shines a light on social welfare and job security in tourism, with

differences in service employment models underlining vulnerabilities in North America in comparison to for example Europe (Gössling et al., 2020).

Expected impacts of Covid-19 on Global Tourism

Various industry organizations have already published estimates of the consequences of COVID- 19 for the global tourism industry in 2020. As indicated, these estimates need to be treated with extensive caution, as it remains fundamentally unclear how the pandemic will develop until September, and how travel restrictions and massive job losses will impact tourist demand during the important northern hemisphere summer season and beyond. While no organization has a crystal ball, the anticipated magnitude of the impact is vital to understand COVID-19 is no ordinary shock to global tourism and has no analog since the massive expansion of international tourism began in the 1950s.

Figure 3: Daily global COVID-19 cases and global flights



Sources: ECDC (2020), Flight Radar 24 (2020).

As highlighted, UNWTO (2020b) has projected a 20-30% decline in 2020 international arrivals that would translate into losses of tourism receipts of US$300-450 billion. Much higher is the estimate by WTTC (2020), anticipating a loss of up to US$2.1 trillion in 2020. Though very significant fiscal and monetary programs have already been implemented, it is currently unclear how these will profit the tourism sector, or whether they will stimulate tourism demand. The following sections discuss industry expectations and provide an outlook for major tourism subsectors, including aviation; accommodation; meetings, incentives, conferencing & exhibitions (MICE) and sporting events; restaurants; and cruises. For anyone employed in global tourism, the current crisis will also have become a personal one, as many businesses have already put off most of their staff. A key question for all tourism subsectors is thus when travel international as well as domestic, or when tourism and hospitality businesses such as accommodation, cafes, or restaurants can reopen.

Accommodation

With most hotels being closed or experiencing vastly lower tourism numbers, 2020 industry revenue forecasts point to a significant decline (e.g., US hotel revenue per available room is forecast to decline 50.6% STR, 2020b). Domestic markets can be anticipated to recover first. It is currently unclear how accommodation businesses can make sure that rooms are safe for newly arriving guests, or how individual COVID-19 cases occurring in accommodation establishments would be handled. In particular large chains will also have to reconsider their global supply chains, and the dependency structures these have created.

Restaurants

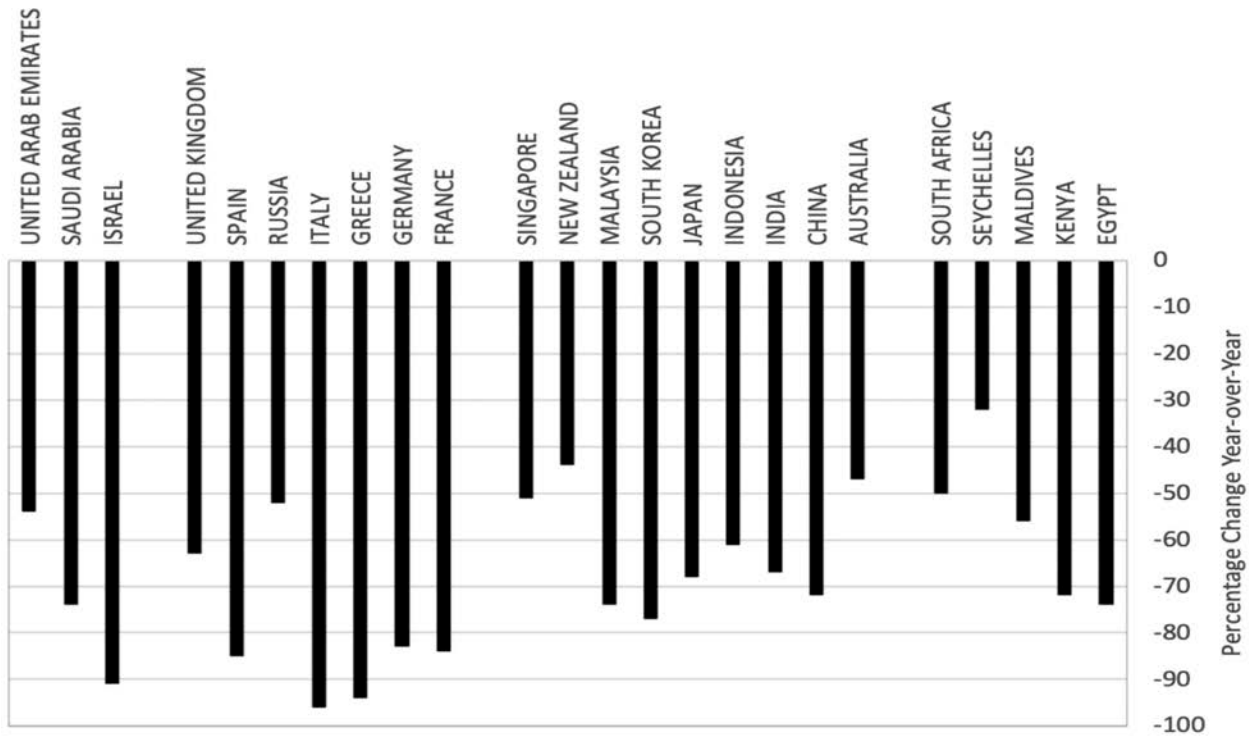
With restaurant closures in most countries and an expectation that social distancing will have to remain a key strategy to manage COVID-19 in many countries for several months, it can be expected that restaurants will face problems recovering, specifically as they usually have limited liquidity and small

profit margins. Where restaurants are allowed to stay open for takeaway customers, this is an operational alternative, also requiring fewer staff. Many smaller places, including cafes, may however have decided to stay closed, as diminished customer flows do not make it possible to operate at a plus. The initial easing of social distancing is likely to advantage fast food over fine-dining restaurants.

Airlines

The IATA estimate that revenue passenger kilometers (RPK) will be -38% lower in 2020 than in 2019, with a resulting revenue loss of US$252 billion (IATA, 2020), which can be compared to the expectation of a net profit of US$29 billion in 2020 (IATA, 2019). As outlined, at least three airlines (Scandinavian Airlines, Singapore Airlines, Virgin) and German tour operator TUI have already received more than US$15 billion in state aid, while US$50 billion have been awarded to the US passenger airlines (Reuters, 2020). As IATA explained, most airlines have less than three months of liquidity, and will not survive an extended period of air transport restrictions (IATA, 2020). Table 1 illustrates expectations under the assumption that travel restrictions will be lifted by July. Airports, just like airlines, are also facing a financial crisis, with estimated losses of US$76.6 billion in 2020 (Airports Council International, 2020). In light of the very substantial state aid contributions, and industry pressure to postpone de-carbonization efforts (Barbon Brief,2020), climate campaigners have already called on governments to bail out airlines only on conditions, including a focus on workers, emission reductions, carbon pricing, or levies on frequent flying (Stay Grounded 2020).

Figure 4: Accommodation occupancy rate change for the week of 21 March (year over year)



Data source: STR (2020a)

Table 1: Estimated impacts of three-month (March-June 2020) lockdown on air travel capacity

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Region of Airline Registration	Capacity Change (% year on year)*			
	Q1 (JFM	Q2 (AMJ)	Q3 (JAS)	Q4 (OND)
Asia Pacific	-18%	-50%	-25%	-10%
North America	-8%	-50%	-25%	-10%
Europe	-10%	-90%	-45%	-10%
Middle East	-23%	-80%	-40%	-10%
Africa	-10%	-60%	30%	-10%
Latin America	-9%	-80%	-40%	-10%

World Total	-14%	-65%	-33%	-10%

** Capacity estimates based on announced airline plans (as of 24 March) and assumed extension of government travel restrictions continuing through to the end of June (i.e., representing a 3-month lockdown).*
Source: IATA Economics (2020).

MICE and sport events

As most countries plan to avoid \peaking in COVID-19 cases that would exceed hospital capacity, social distancing will remain a major part of NPI strategies to limit the speed of the pandemic for several months. This will mean that all forms of events in which larger groups of people meet will be restricted, including events as diverse as concerts, meetings, conferences, sports, or large family gatherings (e.g., weddings). Major sports leagues across Europe and North America and other countries have all ended their seasons with the opening of others including the 2020 Summer Olympic Games or the UEFA EURO 2020 postponed. The combined economic impact is not yet known but will be in the hundreds of billions of US dollars. This will also have repercussions for associated businesses such as caterers. The MICE and sports tourism markets could thus be one of the hardest-hit tourism subsectors.

Cruises

No other tourism sub-sector has been in the global news as often as cruises, and it is unlikely that cruise ships can sail again before a vaccine is found or unless passengers can be tested before boarding. Rapid tests will not necessarily detect early COVID-19 infections, however. Tests are likely to also affect and potentially reinforce risk perceptions. As Moriarty et al. (2020, p. 347) affirms: ―Cruise ships are often settings for outbreaks of infectious diseases because of their closed environment, contact between travelers from many countries, and crew transfers between ships. Prospective travelers are likely to remember the images of passengers quarantined over weeks, and ports unwilling to let them disembark. Discounted prices for cruise trips are likely to make this sector‘s economic recovery much more difficult.
Implications for the future of tourism

Inferences for the future of tourism

At the time of writing, the number of COVID-19 infections worldwide exceeded 20.2 million and deaths have surpassed 740,276 (12 August 2020; ECDC 2020) and unemployment figures have risen steeply in many countries (e.g., US Bureau of Labor Statistics, 2020), illustrating the grave consequences the pandemic already has for economies. Given the prospect of future pandemics, there is a reason to reconsider global economic value chains and the specific role of tourism as a vector and victim in the occurrence of pandemics.

As outlined earlier, tourism is about movement, and transport does act as a vector for the distribution of pathogens at regional and global scales (Gössling, 2002; Hall, 2020). However, tourism also supports pandemics indirectly. As noted above, there is much evidence that food production patterns are responsible for repeated outbreaks of the coronavirus, including SARS, MERS, and COVID-19 (Pongsiri et al., 2009; Labonte et al., 2011). While these originated in Asia, the case can be made against industrialized food production more generally; this has been linked to animal disease outbreaks (OECD, 2012). As many tourism businesses source their food from global markets, preferably at the lowest possible cost, and as there are high volumes of food waste involved in tourism operations, the sector supports industrialized food production (Hall & Gössling, 2013). Another factor in virus outbreaks is humans interfering with wildlife as a result of deforestation and the conversion of remaining wilderness habitat (Barlow et al., 2016; Lade et al., 2020). Again, this is linked to industrialized food production, for instance, to produce palm oil (Schouten et al., 2012). Notably, climate change also exacerbates the risk of pathogen outbreaks, because climate change will lead to human migration and displacement, for example as a result of drought or flooding events (VSF, 2018). Tourism is a major source of emissions of greenhouse gases, and thus a factor increasing the risk of pandemics both directly and indirectly.

The COVID-19 crisis should thus be seen as an opportunity to critically reconsider tourism‘s growth route, and to question the logic of more arrivals implying greater benefits. This may begin with a review of the positive outcomes of the COVID-19 pandemic. For example, as a result of the significant decline in

demand, airlines have begun to phase out old and inefficient aircraft (Simple Flying, 2020). Video-conferences, a missed opportunity to reduce transport demand (Banister & Stead, 2004) for years, has become widely adopted by home office workers, including students forced into distance learning, and business travelers avoiding non-essential air travel. As affirmed by Cohen et al. (2018), many business travelers will welcome opportunities to fly less. Importantly, even high-level exchanges, such as the G20 Leader‘s meeting on 26 March 2020, have for the first time been organized through videoconference (European Council, 2020). After months of these new work arrangements, for how many organizations and workers will perceive the benefits of continued or partial adoption? More generally, views on mobility may also have changed in everyday contexts, as countries without full lockdown responses appear to have seen a significant rise in cycling and outdoor activities.

The COVID-19 pandemic should lead to a critical reconsideration of the global volume growth model for tourism, for interrelated reasons of risks incurred in global travel as well as the sector‘s contribution to climate change. Tourism success has been historically defined by virtually all tourism organizations such as UNWTO, ICAO, CLIA, or WTTC as growth in tourism numbers. This perspective has already been questioned in the context of the global financial crisis (Hall, 2009) and as the challenges of over-tourism, climate change, and COVID-19 pandemic further illustrate, this perspective is outdated. Even though growth lobbyists regularly pay lip service to climate change and the SDGs, there is no evidence-based strategy for climate change mitigation, and an overall silence regarding pandemic and other risks the global tourism system imposes on itself and the global economy (Scott et al., 2019). Volume growth agendas appear to be driven by individuals and large businesses profiting from such growth models. Specifically, this includes industries represented by ICAO, CLIA, or WTTC, the platform economy (e.g. Booking and Airbnb), aircraft manufacturers such as Boeing and Airbus, national DMOs, and individual large tourism corporations. The UNWTO is a notable case of a supranational organization that is responsible for advancing the SDGs in their entirety, yet in its current form represents a growth advocacy platform (Gössling et al., 2016; Hall, 2019).

These ongoing positive changes may be seen as precursors for change on a broader level that will lead the global tourism system reoriented towards the SDGs, rather than ―growth as an abstract notion benefitting the few (Piketty, 2015). To this end, resilience research in tourism has highlighted the need to consider the zero-carbon imperative in combination with destination models seeking to reduce leakage, and to better capture and distribute tourism value (Hall, 2009; Gössling et al., 2016). There may be an insight that tourism in its current form is not resilient, as profitability and liquidity are often marginal; a situation owed to overcapacity in air transport and accommodation, which again can be linked to subsidies, market deregulation, and the apparent disinterest of policymakers to address disruptive developments such as the global rise of Airbnb.

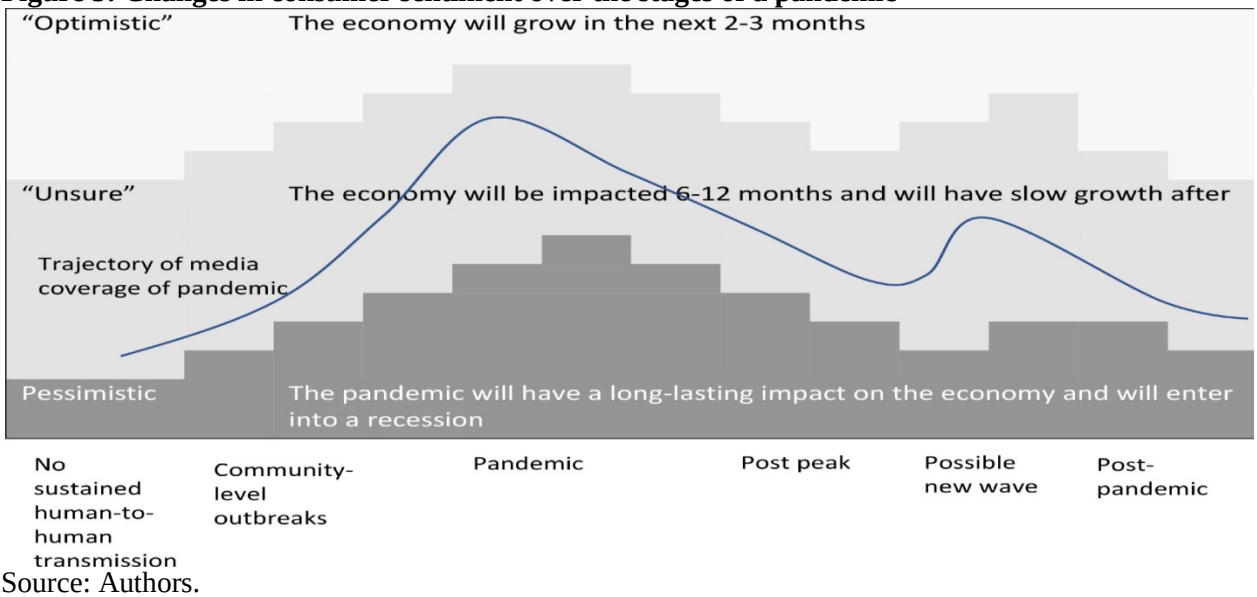
These general findings regarding the need for economic change can be contrasted with business expectations to get ―back to normal, and to possibly overcompensate for lost revenue. It can also be expected that in a situation of global recession (possibly depression), austerity will prompt calls to cancel existing attempts to introduce even modest carbon-pricing. Calls in this regard have already been heard from directions as diverse as the Global Warming Policy Forum to German carmakers (Euractiv, 2020; GWPF, 2020). Adding to this pressure is a historically low oil price (US$23 at the end of March 2020; Bloomberg, 2020), which may be exacerbated by competition is slowly recovering tourism markets, lead to price-driven competition specifically in the most energy-intense tourism subsectors, aviation and cruises. Notably, the price of air transport has declined by 60% over the past 20 years (IATA, 2018). Yet, if there is one message that should be heeded by global policymakers, it is that the pandemic is an analog to unmitigated climate change. Climate change risks have begun to be tangible, will build up over time, and include the added risk of tipping points (Lenton et al., 2019).

Complementing these business and policy perspectives is the question of changes in consumer behavior and travel demand. Behavior is influenced by several factors that include personal economic wellbeing and disposable income, changes in cost, perceived health risks, and changed capacities for consumption as a result of pandemic restrictions (Lee & Chen, 2011). As Fan et al. (2018, p.132) commented, Intense

media coverage may lead populations to overreact to mild pandemics‘ affirming that behaviors are strongly influenced by the communication of information from news and social media (Kantar, 2020; Kristiansen et al., 2007).

After conducting consumer sentiment surveys across China, Italy, Spain, UK, and the US McKinsey and Company (2020a) suggest that consumer optimism will be higher at the start/end of the pandemic, and vary between countries. In the case of China, the first country to go through the various stages of the COVID-19 pandemic, McKinsey and Company (2020b) found consumers were regaining confidence, and interestingly, a greater interest in environmentally friendly products. The pattern identified in consumer surveys is to be expected as it closely follows the notion of an issue-attention cycle across the different stages of an issue, problem, or perception of risk (see Figure 5; Hall, 2002). According to Downs (1972), modern publics cyclically attend to many issues. A problem ―leaps into prominence, remains there for a short time, and then, though still largely unresolved, gradually fades from the center of public attention (1972, p.38). The 2003 SARS outbreak illustrates this well, as tourism growth to Asia picked up very quickly once the perceived threat diminished (McKercher & Chon, 2004).

Figure 5: Changes in consumer sentiment over the stages of a pandemic



Source: Authors.

Conclusions

This assessment has provided an overview of the ongoing crises up to the end of March 2020, and discussed how it compares to earlier crises. With the magnitude of the COVID-19 pandemic, there is an urgent need not to return to business-as-usual when the crisis over, rather than an opportunity to reconsider a transformation of the global tourism system more aligned to the SDGs. This raises a considerable number of related questions and research needs, i.e. whether the pandemic will support nationalism and tighter borders even in the longer-term; the role of domestic tourism in the recovery and the longer-term transformation to more resilient destinations; the behavioral demand responses of tourists in the short- and longer-term, including business travel and widespread adoption of videoconferencing; the fiscal stimulus and its consequences for austerity and climate change mitigation; as well as the world‘s perspectives on the SDGs. Specifically, about the latter, the pandemic raises questions of vulnerability, as low-paid jobs in tourism have been disproportionately affected by the crisis and early indications are the tourism impacts in lower-income countries will be disproportionately considerably greater. COVID-19 provides striking lessons to the tourism industry, policymakers, and tourism researchers about the effects of global change. The challenge is now to collectively learn from this global tragedy to accelerate the transformation of sustainable tourism.

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