Tourism contribution to the SDGs: applying a well-being lens

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Abstract
Human well-being is an essential dimension of sustainable development. This implies that an understanding of well-being outcomes and associated indicators is necessary to determine the success of the global tourism industry in meeting the SDG 2030 Agenda. It is argued that assessment of tourism's progress toward achievement of the SDGs is incomplete without a full accounting of the outcomes of tourism development on human well-being. In addition to standard indicators of tourism industry performance, a 'well-being lens' is proposed comprising indicators that inform tourism stakeholders about changes in resident well-being, promoting sustainable development, and enabling a more comprehensive assessment of tourism's progress in fulfilling each SDG. The implications of this original proposal for tourism participation in the 2030 SDG agenda are highlighted and discussed.

Keywords: tourism industry, UN sustainable development goals (SDGs), sources of well-being, well-being indicators, tourism policy

1. Introduction

The United Nations Sustainable Development Goals (SDG) Agenda with 17 Goals, underpinned by 169 Targets, and with an initial set of 230 indicators, represents a broad and ambitious program for the world to achieve a path to sustainable development by 2030 (United Nations, 2015). The SDG 2030 Agenda calls for a global partnership between all destinations and stakeholders within the public and private sectors, to work together to achieve economic, social, and environmental objectives in harmony with intra- and inter- generational needs (United Nations, 2020).

The United Nations World Tourism Organisation has affirmed the great potential of the tourism industry to contribute to the achievement of the SDGs, directly and indirectly, and has developed partnerships with a variety of different actors (other UN agencies, national governments, development banks, private sector actors) in order to strengthen this contribution (UNWTO, 2018). There is consensus that the meeting the SDG agenda should become the 'over-arching' objective of global tourism' providing a detailed dashboard of goals, targets and indicators that can inform sustainable tourism development in every destination (Laimer, 2017; UNWTO, 2018)

In recent years, an increasing number of researchers have argued that human well-being is an essential component of sustainable development (Qasim, 2017; Stiglitz, Fitoussi and Durand, 2018a,b; Kanbur Patel and Stiglitz, 2018). Affirming that the primary purpose of economics is to contribute to enhanced wellbeing of persons, the notion of the 'well-being economy' is an approach that puts people and their wellbeing at the centre of governance, policy and decision-making (Pouw, 2020; Roy, 2021). The thrust of argument is to support the use of well-being metrics alongside economic, social and environmental indicators to capture changes in resident 'quality of life' associated with industry development, and to better assess and design policy to support sustainable development (Adler and Seligman, 2016). Several studies of the relationship between SDGs and human well-being have been undertaken outside of the tourism context (Costanza, Fioramonti and Kubiszewski, 2016a; Costanza et al, 2016b; Fioramonti, Coscieme and Mortensen, 2019). These broad studies have been complemented by studies of links between SDGs and particular dimensions of well-being, such as employment, health, education, environmental quality and social relations (De Neve and Sachs, 2020; Kubiszewski, Mulder, Jarvis and Costanza, 2021). Consistent with the wider social science literature, a growing number of tourism researchers explicitly avow that the ultimate goal of destination development is enhanced resident well-being (Crouch and Ritchie, 2012; Boley and Perdue, 2012; Berbekova, Uysal and Assaf, 2021), where the concept 'resident' extends beyond tourism stakeholders to include the entire population of a region (Dwyer, 2020).

While tourism researchers are devoting more attention to well-being issues generally (Uysal, Perdue and Sirgy, 2012; Smith and Diekmann, 2017; Hartwell, Fyall, Willis, Page, Ladkin and Hemingway, 2018), it seems fair to say that the connections between SDG targets and well-being outcomes are not being analysed in much detail. Despite an ongoing stream of contributions to the tourism and SDG literature (Spenceley and Rylance, 2019), and the ongoing development of relevant performance indicators (Rasoolimanesh, Ramakrishna, Hall, Esfandiar and Seyfi, 2020), resident well-being outcomes associated with tourism participation in the SDG 2030 agenda remain under-researched. Indeed, the evolving research effort addressing tourism participation in the 2030 SDG agenda, appears simply to assume that positive well-being outcomes follow upon progress towards achieving each SDG. This (false) assumption has resulted in the relative neglect by researchers of development of well-being indicators essential for assessing tourism progress in achieving SDGs.

Standard performance indicators of tourism success in achieving SDG provide only partial information as to well-being outcomes. Arguing that assessment of tourism's progress toward achievement of the SDGs is incomplete without a full accounting of the outcomes of tourism development on resident well-being, this paper represents a first attempt in the tourism literature to develop a well-being lens to enable a more comprehensive assessment of tourism success in meeting each of the SDGs. The overall aim of this paper is to analyse how well-being outcomes can be incorporated into key performance measures used to gauge tourism industry progress in respect of the SDG 2030 agenda. To the extent that tourism development fails to enhance resident well-being, the industry's success in meeting the SDGs is problematic.

The structure of the paper is as follows. Section two lists the 17 goals that comprise the SDG 2030 Agenda. Tourism's potential to help to achieve each SDG is emphasised. Section three identifies key dimensions of well-being from the wider social science literature Arguments are advanced in support of a conceptual framework and associated indicators to identify potential well-being outcomes for residents associated with tourism's progress in meeting the SDGs. Section four describes the nature and function of a lens to determine well-being outcomes of tourism strategies to achieve SDGs. The indicators comprising this lens can act as a 'filter' to identify potential well-being outcomes associated with achievement of the different SDGs. It is concluded that application of a well-being lens can inform tourism policy making to achieve sustainability objectives consistent with the 2030 SDG agenda.

2. The SDGs and potential tourism contribution to their achievement

Table 1 lists each of the 17 SDGs together with a brief statement on each. Some *potential* contributions associated with tourism industry activity are set out in the second column. The third column lists some important indicators of tourism performance in meeting each SDG.

Table 1. SDGs and some potential tourism contribution

Sustainable Development Goal	Potential tourism contribution	Tourism performance indicators
SDG 1 End poverty everywhere	tourism creates jobs and income at local and community levels; tourism has the potential to enhance the livelihoods of the least skilled, poorer members of society	Tourism Direct Gross Domestic Product (TDGDP) for a destination; tourism employment; tourism contribution to informal economy; average income of tourism workforce; hourly earnings in tourism
SDG 2 End hunger	tourism spurs agricultural production in general and via gastronomic tourism; tourism generates income and jobs in agriculture; agri-tourism (farm tourism) generates additional income for industry and local communities, promoting a more resilient agriculture sector.	share of tourism intermediate consumption from domestic agriculture; share of agricultural income from agri-tourism activity.
SDG 3 Ensure healthy lives and promote well-being for all at all ages	tourism development establishes health and public health structures required for tourists and from which local communities also benefit; tourism related activities promote resident physical and mental health; tourism provides facilities to improve health and well-being	share of health tourism related to total tourism; contribution of different health related tourism operations to TDGDP
SDG 4 Ensure inclusive and equitable quality education, promoting lifelong learning for all	tourism requires a skilled workforce; tourism education provides employment opportunities for youth, women, and minority groups; in-house training courses and skills development can transfer knowledge to wider society	Relative skill levels of tourism workers; proportion of employed persons in tourism industries with school education compared to overall population; Youth not in employment, education or training (NEET) rate (% of persons aged 15-24

Sustainable Development Goal	Potential tourism contribution	Tourism performance indicators
SDG 5 Achieve gender equality and empower females	tourism creates jobs and earnings for marginalized groups; tourism provides opportunities for women to better engage in the workforce	share of women in tourism; share of women in tourism management; average income of females and males in tourism industry employment; tourism informal sector employment
SDG 6 Ensure sustainable management of water and sanitation	tourism related infrastructure helps to achieve water access and security, and pollution control technology	final water use / TDGDP; share of treated waste water from tourism operators; waste water per visitor; sewage water per tourist per day
SDG 7 Ensure access to affordable, reliable, sustainable and modern energy for all	tourism promotes investments in clean energy sources, helps to reduce greenhouse gases, mitigate climate change and contribute to access of energy for all	share of final energy use related to TDGDP; share of renewable energy in total tourism energy use; net domestic energy use by tourism industries
SDG 8 Promote sustained, inclusive and sustainable economic growth, employment and decent work.	tourism .supports economic growth, locally, regionally and nationally; tourism is an important export earner globally; tourism provides decent work opportunities; diversification through tourism value chains reduces income inequalities.	growth in TDGDP; growth in tourism industry employment; tourism employment share of total employment; share of seasonal jobs to total tourism jobs; productivity growth of tourism industry and its composite sectors
SDG 9 Build resilient infrastructure, promote inclusive and sustainable industrialization, foster innovation	tourism supports community infrastructure development, making it more sustainable, innovative, resource-efficient, and reducing carbon footprint	tourism infrastructure share of total infrastructure investment
SDG 10 Reduce inequality within and among countries	tourism development engages local populations; tourism contributes to urban renewal and rural development; tourism facilitates economic integration and diversification.	net tourism exports; share of tourism exports in total service exports; average income and hourly earnings of tourism workers compared to all industry; income and wealth inequality and gender pay gaps in tourism sectors
SDG 11 Make cities and human settlements inclusive, safe, resilient and sustainable	tourism advances urban infrastructure and accessibility, promotes regeneration and preserves cultural and natural heritage assets; investment in green infrastructure promotes smarter and greener cities for residents and visitors	accessibility of tourism facilities; number of visitors per 100 residents; number of beds in tourist accommodation facilities per 100 residents
SDG 12 Ensure sustainable consumption and production patterns	tourism can adopt sustainable consumption and production modes; green tourism identifies environmentally friendly tourism activities; eco-tourism promotes conservation and delivers socio-economic benefits	tourism share of solid waste; sewage produced per tourist compared to per resident; energy efficiency in tourism compared to other industries; waste water per visitor; net domestic energy use by tourism industries; share of final energy use related to TDGDP; tourism energy use from renewables
SDG 13 Take urgent action to combat climate change and its impacts	tourism can play a leading role in climate change mitigation and adaptation strategies	greenhouse gas emissions from tourism industries compared to total economy; tourism carbon footprint total and by sector
SDG 14 Conserve and sustainably use the oceans, seas and marine resources	coastal and maritime tourism supports healthy marine ecosystems and sustainable use of marine resources; tourism as part of Integrated Coastal Zone Management helps conserve fragile marine ecosystems.	change in coastal ecosystem condition due to tourism; use of marine environments for recreation and education; sustainable fisheries as a proportion of GDP
SDG 15 Protect, restore and promote sustainable use of terrestrial ecosystems and halt biodiversity loss	tourism can help to conserve and preserve biodiversity and generate revenue as an alternative livelihood to local communities	contribution of national parks to TDGDP; share of protected areas related to total area of a destination; tourism generated revenue for conservation
SDG 16 Promote peaceful and inclusive societies,	tourism that engages local communities can foster tolerance and understanding between persons of different cultures	rates of crime in tourism destination visitor share of victims of crime; visitor numbers compared to resident population

Sustainable Development Goal	Potential tourism contribution	Tourism performance indicators
justice for all, and build inclusive institutions		
SDG 17 Strengthen the means of implementation and revitalize the global partnership for sustainable development	improved tourism governance strengthens private/public partnerships and engages multiple stakeholders to collaborate to achieve the SDGs	adoption of TSA and SEEA based frameworks; share of budget allocated for statistical tools to assess tourism performance

Source: United Nations (2015, 2020); Laimer (2017); UNWTO, 2018

For any destination, the extent to which tourism contributes positively to the achievement of each individual SDG may be debated. In reality, tourism growth is associated with substantial economic, social and environmental costs (Dwyer, 2018). Assessing tourism progress in meeting the SDG is also complicated by the fact that since the SDG are not independent of each other, progress toward one SDG may be at the expense of another (Laimer, 2017). Thus, economic growth that increases incomes to alleviate poverty may degrade landscapes and generate more pollution. Similarly, greater income equality may result in reduced productivity, adversely impacting economic growth. Additional complexities arise when progress towards one SDG (addressing hunger) may interact positively with one goal (increased health status), but negatively with another (ecosystem protection). As a consequence, various types of tourism development may impede, rather than progress, achievement of particular SDG. This raises the problem of how to weight the different goals and the targets within each goal (Costanza et al, 2016b). The SDG agenda is silent as to how such trade-offs may be made.

It has been argued an aggregate indicator of overall progress within the SDG 2030 agenda is required to determine the relative contribution of each of the SDGs and the effects of their interactions with each other (Qasim, 2017). For this purpose, ecological economists have proposed that the overarching goal be 'sustainable well-being' by which is meant a prosperous, high quality of life that is equitable, shared and sustainable (Costanza et al, 2016a; 2016b). However, since the goal of 'sustainable well-being' is itself a complex concept, the problem of weighting different values remains. At the present time, the notion of 'sustainable well-being' as a single overarching goal remains too vague to be operationalised. In the absence of an over-arching goal capturing human well-being, a useful option is to determine the well-being outcomes of the various strategies used to achieve the SDGs.

Tourism strategies can achieve well-being outcomes for destination residents *directly* through policy initiatives focussed on well-being enhancement as the primary objective or *indirectly* through progress made in achieving the SDG. Figure 1 helps us to understand how indicators of well-being can be employed as a 'lens' through which to identify and assess the well-being outcomes of tourism strategies to achieve SDGs.

The first box in Figure, corresponding to the first column of Table 1, identifies the 17 SDG that drive tourism development strategies associated with tourism participation in the United Nations SDG 2030 agenda. The second box, corresponding to the middle column of Table 1, identifies the action agenda of tourism stakeholders, both public and private sector, to promote particular SDGs. The third box comprises types of standard performance indicators used to assess tourism success in meeting the SDG 2030 agenda (Laimer, 2017). These key performance indicators correspond to those listed in the third column of Table 1. The fourth box identifies the outcomes of the standard assessment process using established performance indicators to assessing tourism's progress in meeting the SDG agenda. Given the arguments advanced in this paper that well-being outcomes are essential to SDG assessment,

additional boxes need to be included in Figure 1. The fifth box across consists of a well-being 'lens', a selected set of indicators to convert tourism-related impacts into well-being outcomes.). The lower box recognises the role that conceptual and empirical advances in the study of well-being can play in informing the indicators comprising the well-being lens. Given the need for well-being outcomes to inform tourism analysis and policy, the measures used by tourism researchers must be credible with a sound basis in theory (Diener and Biswas-Diener, 2019; Helliwell, Layard, Sachs and De Neve, 2020; Durand, 2020). The final right hand box lists the well-being outcomes of tourism's participation in the SDG 2030 agenda. It is these well-being outcomes that determine the success or otherwise of tourism strategies and policies toward SDG achievement and that have policy significance.
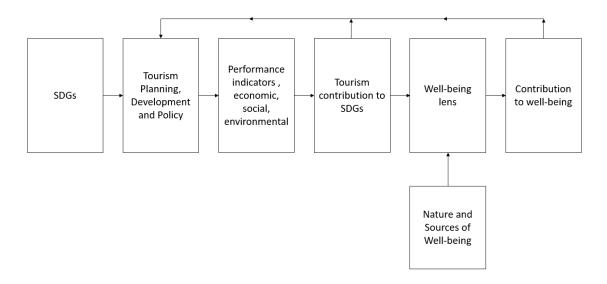

Figure 1. Applying a well-being lens to SDG achievement

In the framework displayed in Figure 1, well-being outcomes are the primary output for assessing tourism progress in meeting the SDGs, and it is these outputs that have policy relevance. This contrasts with the recommendation (Uysal and Sirgy, 2019; Berbekova et al, 2021) involving 'designing for well-being' that a selected set of well-being indicators (they single out health, education and safety) should sit alongside standard indicators to *complement* key destination performance indicators. However, taking seriously the view that the ultimate goal of tourism development is social well-being, well-being outcomes cannot be regarded merely as *complementary* to standard performance measures; rather they must be regarded as the ultimate measures of destination performance.

Given the importance of a sound conceptual underpinning for the indicators comprising the well-being lens it is appropriate at this time to discuss the type of well-being framework that can provide the theoretical basis for indicators to assess the well-being outcomes associated with tourism progress in achieving the SDGs.

3. Well-Being: sources and indicators

Defining and measuring 'well- being' is a much debated topic among social scientists (Searle, Pykett and Alfaro-Simmonds, 2021). Despite some differences of emphasis, there is widespread agreement that

well-being is a multi-dimensional concept embracing the things that people value, including material conditions, individual freedoms, opportunities, flourishing, subjective states and capabilities (Adler and Seligman, 2016; Smith and Diekmann, 2017; Stiglitz et al, 2018b). In recent years, several frameworks have been developed in recent years to advance our understanding of both the nature of human well-being as well as its drivers to advance social progress. Prominent examples include the *Better Life* Initiative (OECD, 2020), Planet Happiness (Musikanski, Cloutier, Bejarano, Briggs, Colbert, Strasser and Russell, 2017), Bhutan's Gross National Happiness Index (Lepeley, 2017), and the Happiness Alliance literature (Helliwell et al., 2020). Given the complexity of the concept, a balanced view of well-being, with potential to inform tourism analysis and policy, requires a comprehensive suite of indicators reflecting what matters to people, covering different dimensions of their needs (Durand, 2015, 2020).

Unfortunately, much of the tourism research effort pertaining to resident well-being is characterised by failure to develop measures in a consistent way. To date, tourism research has tended to 'cherrypick' well-being indicators, from resident survey data (Woo, Uysal and Sirgy, 2018; Hadinejad, Moyle, Scott, Kralj and Nunkoo, 2019) rather than base them upon established theoretical frameworks. To the extent that different variables and measures are used to assess resident well-being, the various findings of tourism researchers regarding the effects of tourism activity on resident well-being lack comparability. Failure to theoretically ground well-being concepts and indicators has resulted in the development of various measures of resident well-being that are unrelated to destinations' Systems of National Accounts (SNA). Unless tourism researchers adopt and develop the types of well-being measures employed by policy makers, the indicators employed will have little relevance to the wider public debate on appropriate resource allocation to enhance social well-being.

Measures of wellbeing are now being informed by a substantial body of empirical evidence (Helliwell et al, 2020). The quality of data and the empirical robustness of well-being measures may be expected to further progress as policy makers develop indicators to better capture the various dimensions of individual and social well-being (Musikanski et al, 2017); De Smedt, Giovannini and Radermachier, 2018; Diener and Biswas-Diener, 2019). A growing number of countries have now incorporated well-being measures into their assessments of social and economic progress (Iriarte and Musikanski, 2019). In support, international statistical agencies are progressively developing measures of well-being at individual, household and community levels (Exton and Shinwell, 2018; Fuchs, Schlipphak, Treib, Long and Lederer, 2020; Durand, 2020).

The most comprehensive conceptual framework for understanding the sources of well-being and associated indicators, is, arguably, the *Better Life* Index (Stiglitz et al, 2018a,b; OECD, 2020: Durand, 2020). A distinction made within the *Better Life* approach that is crucial to the study of well-being outcomes is that between current well-being (intra-generational) and future well-being (inter-generational), thus embedding sustainability considerations into well-being analysis. *Current wellbeing* of destination residents is measured in terms of outcomes achieved at the present time in two broad domains: *material living conditions* (income, wealth, jobs and earnings, housing conditions), and *quality of life,* featuring eight determinants - subjective well-being, health status, work-life balance, education and skills, social connections, civic engagement and governance, environment quality, and personal security (Durand, 2015, OECD, 2020). These dimensions concern the functional capabilities that residents need to effectively pursue their well-being, according to their own values and priorities. The distribution of current well-being embraces three types of inequality: horizontal inequalities, vertical inequalities and deprivations (share of the population falling below a given threshold of achievement). In contrast, *future wellbeing* emphasizes the capacity of key assets to transmit well-being over time, and whether current well-being is being achieved at the cost of depleting resources for the future (OECD,

2020). It is changes in the quantity and quality of each of four different types of capital stock- economic, human social and natural, that are essential for sustaining well-being outcomes over time (Arrow, Dasgupta, Goulder, Mumford & Oleson, 2012; De Smedt,et al, 2018; Dwyer, 2021).

The *Better Life* framework identifies over 80 indicators of current and future well-being (OECD, 2020), developed according to international principles (Durand, 2020). A particular strength of well-being indicators developed in consultation with statistical agencies worldwide is their consistency with Systems of National Accounts, SNA, providing a credible basis for benchmarking and policy making. The *Better Life* framework is flexible enough to include additional dimensions and associated indicators of well-being into the overall framework of analysis as these are developed (Durand and Exton, 2019). These features make it particularly suitable for the grounding of well-being measures to serve as key performance indicators to guide policy making in tourism development and its progress toward the SDGs (Dwyer, 2021).

The 15 sources of well-being emphasized in the *Better Life* framework are displayed in Table 2, alongside a selection of indicators that can be used for monitoring tourism industry contribution to well-being associated with the SDGs

Table 2. Sources and Indicators of Well-being

Sources of Current Well-being	Selected indicators relevant to tourism contribution to well-being
Material conditions	
Income and wealth are essential to individual and social well-being. Income allows people to satisfy their needs and pursue goals deemed important, while wealth provides the opportunity to sustain these choices over time.	household net adjusted disposable income per capita; household net wealth per household; income inequality; relative income poverty; consumption; financial insecurity; material deprivation; subjective evaluation of material well-being
Jobs and earnings. The availability and quality of jobs are affect people's well-being, creating opportunities for renumeration, to develop skills and abilities, to feel useful to society and to build self-esteem.	destination long-term unemployment rate; average annual gross earnings per full-time tourism employee; quality of work; safe working environment; share of women in tourism management roles; gender wage gap; job satisfaction; labour underutilisation rate; tourist worker insecurity due to risk of unemployment; job strain; tourism job satisfaction
Housing. Quantity and quality of shelter is essential to people's ability to meet basic needs,	overcrowding rate; housing affordability; share of households without basic facilities; housing cost overburden; quality of tourism worker accommodation; satisfaction with housing
Quality of Life	
Health status. Physical and mental health allows the performance of a range of personal and social activities that contribute to their well-being.	Healthy life years; life expectancy gaps among resident groups; access to healthcare; individuals affected by HIV, malaria and other transmittable diseases; perceived health status; self-reported limitations in daily activities
Education and skills acquisition is both an aspiration of humans, as well as contributing to economic and non-economic well-being outcomes	Opportunities for education; educational attainment; adult literacy rates; assessed and self-reported competencies
Work-life balance is important for people's well-being. Time devoted to leisure, personal care, family life and to other non-work activities help individuals remain healthy and productive.	working hours; time devoted to leisure and personal care; atypical working hours; flexibility of the work schedule; commuting time; gender gap in hours worked; satisfaction with time use
Social connections. Social networks provide material and emotional support in times of need, as well as access to jobs and other opportunities.	level of social support; time spent in social interactions with family and friends; sense of belonging; loneliness; trust in others; extent of volunteering; satisfaction with social relationships; perception of social inclusion

Sources of Current Well-being	Selected indicators relevant to tourism contribution to well-being
Civic engagement and Governance. Gives residents a political voice in their society and helps to shape community well-being	Voter turnout; trust in the legal system and government institutions; perceived corruption in business and government; existence of formal and open consultation processes on rule making; active citizenship;; opportunities to influence public policy; anti-discrimination regulations; access to and satisfaction with public services
Environmental quality. The quality of the natural environment where people live and work is important in itself and for peoples' ability to undertake activities with access to environmental amenities and quality recreation.	access to green and recreational spaces; clean air and water; environmental burden of disease; satisfaction with living environment.
Personal Security. Economic and physical security has both observed (objective) and perceived (subjective) dimensions of well-being associated with potential loss of life and property, stress, anxiety, feelings of vulnerability, lower productivity, absenteeism.	deaths due to assault; crimes against property and persons; feelings of safety in local community; prevalence of substance abuse; domestic violence; workplace accident rate; share of community lacking access to social protection; share of individuals with no access to social protection; number of visitors registering complaints with police
Subjective well-being. Extends beyond the idea of 'happiness' to cover three elements: life evaluations (an overall assessment of life, such as life satisfaction); affect (feelings, emotions and states); and eudaimonia (meaning and purpose in life)	overall life satisfaction; affects; eudaimonia
Future Well-being	
Produced (physical) capital includes machines and buildings, tools and equipment, transportation and physical infrastructure as well as financial resources such as stocks, bonds, bank deposits and other financial assets owned by households, businesses and governments.	net fixed tourism capital formation (annual growth rates); financial net worth of destination (per capita); intellectual property assets (per capita); household net wealth (per household); financial net worth of government (% GDP); stock of net foreign liabilities (% GDP); external debt service as a percentage of exports of goods and services; banking sector leverage; stock of net public and private debt (% GDP)
Human capital refers to the knowledge, skills and attributes embodied in each person that facilitate the creation of individual, social and economic well-being	Healthy life years per capita; premature mortality; investment in R&D; educational attainment; measures of human capital stock based on estimates of life-time income; labour underutilisation rate; adequacy and efficiency of health and education systems
Social capital comprises the social connections, attitudes, norms and formal rules or institutions that contribute to societal well-being through coordination and collaboration between people and groups in society	quality of bonding, bridging, and linking capital; trust in government, police, education system, the media, justice, health system; governance based on justice, inclusion, trust, and equitable power relations; resident sense of belonging; pro-social norms; gender parity in politics
Natural capital refers to the destination stock of renewable and non-renewable natural resources	protected areas-terrestrial and marine; threatened species; GHG emissions from domestic production; tourism carbon footprint; tourism ecological footprint; sewage water per day and capita for tourists; or per capita; share of treated waste water from tourism businesses; tourism related change in coastal ecosystem condition

Source: Column 1 based on OECD (2020). Column 2 based on Stiglitz, Fitoussi and Durand, 2018b, Table A.2, panels A and B and Eurostat, 2019).

The indicators listed in Table 2 can comprise the well-being lens depicted in Figure 1, used to inform tourism stakeholders about current and future well-being outcomes associated with strategies to achieve the SDGs.

4. SDGs and Current Well-being
Income and wealth. Tourism development stimulates economic growth and employment contributing to community income and wealth, increased material standard of living, improved infrastructure and

greater individual economic security (SDG 1,2,8,9). Economic growth drives well-being in early stages of destination development but becomes less significant later in the development cycle (Sachs, 2019). The pro-poor impact of tourism development (SDG 1) and the distribution of well-being outcomes, depend on how strongly the poor are integrated within the tourism value chain (SDG 10). Since the distribution of income and wealth affects individuals access to goods and services, individual well-being is strongly influenced by their position in relation to a peer group (Lustig, 2018).

Measures relevant to resident well-being outcomes associated with tourism development are listed in Table 2. Household net adjusted disposable income per capita indicates the standard of living of the 'typical' household in terms of income. A measure of the inequality of income distribution is the S80/S20 income quintile ratio. This indicator complements the at-risk-of-poverty indicator by providing a measure of the income of the poorest households relative to the richest (Eurostat, 2019). Since it accounts for differences across destinations in the shares of public financing for the provision of education and health services, individual consumption per capita is better suited than GDP to indicate the material well-being situation of households. Recent analysis shows that household spending has a greater impact on personal well-being than household income (Stiglitz et al. b, 2018). Net financial wealth of households allows individuals to sustain material well-being over time, protecting residents from economic hardship and vulnerability, including downturns in inbound tourism that could reduce their well-being. Material deprivation refers to a state of economic strain, relating to inability to gain a threshold material living standard (OECD, 2020). Perceived difficulty making ends meet, to pay for necessary expenses, reflects financial insecurity and the economic strain experienced by households in purchasing the necessities of life. The at-risk-of-poverty rate is the share of people with an equivalised disposable income (after social transfers) below the at-risk-of-poverty threshold, which is typically set at 60 % of the household national median equivalised disposable income (Eurostat, 2019). Resident self-perceived evaluations of material living conditions and economic insecurities offer a useful complement to objective measures.

Jobs and earnings. The availability of jobs, their quality and wage levels are each relevant to material well-being as well as outcomes such as self –esteem and personal dignity. However, job opportunities *per se*, do not guarantee fair wages or safe conditions in the workplace (Mahadevan and Suardi, 2019). Tourism is a large employer of females (SDG5) and youth (SDG8) but is notorious for low wages, persistent gender pay differences, poor working conditions, irregular hours, casualization, seasonal unemployment, and lack of restricted unemployment benefits (Mahadevan and Suardi, 2019).

Measures relevant to jobs and worker well-being are listed in Table 2. Long working hours reduce time available for leisure, personal care, and family (such as housework, caring for family members and volunteering). Unemployment is strongly associated with low levels of life satisfaction and happiness (Cazes, Hijzen and Saint-Martin, 2015). Long-term unemployment in particular leads to a loss of social status, self-esteem, increasing the risks of social exclusion, poverty and deprivation, while under-employment in the form of involuntary part-time employment or temporary contracts affects economic security and well-being (Eurostat, 2019). Labour market insecurity is the expected monetary loss that an employed person incurs, expressed as a share of previous earnings. Job strain exists when the job demands reported by workers (e.g. physical demands, work intensity and exposure to physical health risks) exceed job resources (e.g. work autonomy, opportunities for learning, career advancement opportunities and good workplace relationships). A safe working environment promotes worker well-being (Helliwell et al, 2020). Indicators include number of workplace accident reports, work-related health problems, and factors adversely affecting worker physical and mental well-being. Given evidence of a strong, positive relationship between employee well-being, employee productivity, and firm

performance (De Neve, Krekel and Ward, 2018), businesses can gain from promoting worker wellbeing and providing 'decent work' (SDG 8). A self- estimate of job satisfaction is important alongside more objective measures of resident well-being.

Housing. Quality of accommodation (including tourism worker accommodation provided by employers), positively affects individual subjective well-being through provision of shelter, health status (SDG3), opportunities for social connections (SDG 16), access to jobs and public services (SDG8,9), family functionings and personal security and opportunities to live in safer and cleaner communities (SDG 11, 16). Table 2 lists indicators relevant to housing and well-being. Housing is the largest component of many households' expenditures (Eurostat, 2019). Household affordability relates to the share of household gross adjusted disposable income spent on housing rent and maintenance. The housing cost overburden is an important determinant of resident well-being, reducing the amount that households can afford to consume and save to support other aspects of their well-being (Eurostat, 2019). Lack of basic services and overcrowding reduces individual well-being and increases the incidence of domestic violence. Household surveys can indicate the extent of satisfaction with existing housing conditions.

Health status. Good physical and mental health (SDG3) enhances the capacity of individuals to perform personal and social activities that contribute to their well-being (Maccagnan, Wren-Lewis, Brown, Taylor,2019). These include having a decent job with adequate income (SDG 1, SDG 8), participation in community life (SDG 16), to become educated and gain skills (SDG 4), as well as fostering a more productive workforce contributing to economic growth (SDG 8) (Llena-Nozal, Martin and Murtin, 2019). Health- related tourism infrastructure (SDG 9) includes facilities specifically devoted to health and well-being improvement such as health farms, and spa resorts that may be accessed by residents as well as tourists for activities such as adventure sports, recreation and sightseeing (SDG3). As listed in Table 2, relevant well-being indicators include healthy life years defined as the number of years that a person is expected to continue to live in a healthy condition, and risk factors relating to nutrition, access to healthcare, and share of individuals affected by HIV, malaria and other transmittable diseases (Eurostat, 2019). Perceived health refers to the self- reported overall health status of residents, while self- reported limitations in daily activities, and unmet medical needs provide additional information on the effects of diseases and conditions that affect health status (Helliwell et al, 2020)

Education and skills acquisition benefit both the individuals concerned and society as a whole. The direct benefits of education include job access, higher productivity, greater earnings capacity (SDG8), each of which drives well-being (Llena-Nozal et al, 2019; Helliwell et al, 2020). Education also indirectly supports several other well-being outcomes associated with SDGs such as better health status (SDG 3), addressing inequalities (SDG,5 10), more active participation in civic and political engagement, fostering tolerance between people, lower crime rates and appreciation of cultural diversity (SDG 16) (Maccagnan et al, 2019). Tourism education in particular is associated with attributes such as pro-environmental behavior, inclusiveness, tolerance, peacefulness and good citizenship (Moscardo, Konovalov, Murphy, McGehee and Schurmann, 2017) that promote SDG, 12,13,14,15,16. In the workplace, education and skills acquisition can help persons retain employment or gain promotion, increasing income, and job satisfaction (Cazes et al, 2015), all of which characterise 'decent work' (SDG 8). Table 2 lists indicators that tourism researchers could employ as components of a well-being lens associated with education. Educational attainment refers to the level of formal education attained by residents. Assessed skills can include literacy, numeracy, understanding and problem solving (Eurostat, 2019). Participation in adult education and training and lifelong learning can increase tourism worker skills, productivity and

earnings possibilities. Self-reported skills can usefully cover different skill sets such as internet (digital) or foreign language facility.

Work - life balance. An appropriate balance between time devoted to work and that devoted to recreation, personal care, family life and to other non-work activities promotes good mental and physical health (SDG 3), greater workplace productively (SDG 8), with positive impacts on life satisfaction (Helliwell et al, 2020).The quality of the physical and social environment in the workplace is associated with job satisfaction, personal recognition, social support, greater productivity, reduced absenteeism and reduced job turnover (Cazes et al, 2015; Winchenbach Hanna and Miller, 2019). In contrast, work-life conflicts can be stressful and de-motivating (OECD, 2020). In tourism, choice of an appropriate work-life balance depends importantly dependent on the extent of gender equality (SDG5) and the availability of decent work (SDG 8). Table 2 identifies several indicators of well-being associated with work-life balance. These include average hours at work, atypical working hours, proportion of time spent on unpaid domestic and care work, time devoted to leisure and personal care, flexibility of work schedule, gender differences in hours worked and satisfaction with time use (Eurostat, 2019). Estimation of the gender gap in hours worked must take account of both paid and unpaid work. Time use that is negatively associated with well-being, such as commuting, restricts time available for other activities (Krekel, Ward and De Neve, 2019). Satisfaction with time use can offer some insight into whether people are achieving the balance of activities that they themselves consider desirable.

Social connections. Societal well-being is enhanced through the social connections, attitudes, cooperative norms and civic engagement by way of formal rules, networks or institutions that increase levels of trust between citizens (Algan, 2018; Helliwell, et al, 2020). Individuals with extensive support networks are more likely to gain employment (SDG8), to have better opportunities for career progression, to be more highly renumerated, to have better physical and mental health (SDG3) and to have material and emotional support in times of stress (Diener and Biswas, 2019). The quality of personal relationships that foster trust are important drivers of several SDGs including gender equality (SDG 5), finding decent work (SDG 8), innovation (SDG 9), lower racial biases and reduction of inequalities (SDG 10), vibrant, smart cities and communities (SDG 11), sustainable consumption and production (SDG 12) combatting climate change (SDG 13), community engagement (SDG 16). The expanding sharing economy also contributes to poverty relief (SDG 1) and gender equality (SDG 5), each of which has links with social well-being. The social cohesion associated with strong social relationships allows societies to better cope with external crises (such as the COVID-19 pandemic that is currently having a devastating effect on world tourism). As listed in Table 2, indicators of social connections include network support; time spent with family and friends; sense of belonging; loneliness; trust in others; participation in formal voluntary work; perception of social inclusion; satisfaction with personal relationships (Eurostat, 2019).

Civic engagement and governance allows individuals to influence political decisions that affect their well-being (Algan, 2018). Citizen participation in public and political life promotes equality of opportunity (SDG10), and renders public policy more accountable to community values (SDG16). Community- based tourism can foster tolerance and understanding, thus promoting SDG 16 and successful governance (SDG17)(Moscardo et al, 2017). Ideal indicators of civic engagement, as listed in Table 2, measure whether residents are involved in a range of important civic and political activities that enable them to effectively shape the society where they live, including tourism policy. Key indicators include voter turnout; trust in judicial and government institutions; participation in political activities; the existence of both formal and open consultation processes on rule making; regulations against discriminatory practices; access to and satisfaction with public services (Eurostat, 2019).

Environmental quality. The natural environment is inextricably connected with biological evolution on the planet and human physical and mental wellbeing (Krekel and MacKerron, 2020). Human's use components of the environment for sustenance (SDG2) while experiencing a range of feelings (cognitive, symbolic, educational, spiritual, aesthetic) enhancing subjective well-being (Newton, 2007). Beyond its life supporting functions (SDG3, 12,13.14,15), the natural environment presents opportunities to access green space and undertake recreational and nature based activities to improve physical and mental health, stress reduction, the work-life balance, longevity, social connections thereby enhancing well-being (Sachs, 2019). As listed in Table 2, tourism related indicators of well-being associated with environmental quality relate to people's access to environmental services and amenities, including clean air and water, green and recreational space, and the impact of environmental hazards on human health. The environmental burden of disease quantifies the disease burden that could be avoided by modifying the environment as a whole (Eurostat, 2019). Surveys can provide information on resident satisfaction with quality of the living environment.

Personal safety and security embraces both actual and perceived economic and physical safety (Hacker, 2018), which are important drivers of well-being. Feelings of insecurity limit people's daily activities and functionings (Nilson, 2018) and can generate stress, anxiety and feelings of vulnerability, include physical and mental health problems (SDG 3) economic downturns and job losses generating income insecurity (SDG 1,8), terrorism, war and crime impacting on SDG11 and SDG 16, and risks to public health (SDG3) associated with pandemics such as covid-19. As listed in Table 2, well-being indicators associated with personal safety and security include deaths due to assault, the incidence of crimes against persons and property, feelings of safety in local community, gender gap in feeling safe at night, the incidence of domestic violence, prevalence of substance abuse, workplace accident rates; share of individuals with no access to social financial protection; number of visitors registering complaints with police (Eurostat, 2019). Within the workplace, occupational health and safety regulations are crucial to employee well-being (Krekel et al, 2019).

Subjective well-being. Each of the dimensions of subjective well-being (life evaluation, affective, eudaimonia) is itself complex with several interactive components (Stone and Krueger, 2018; Diener, Lucas and Oishi, 2018). Research (De Neve and Sachs, 2020) has revealed a strong correlation between self-reported measures of well-being (life satisfaction) and progress in achieving SDGs such as employment and income per capita (SDG1), health status (SDG 3), increased educational achievements (SDG 4), improved productivity (SDG 8) and more satisfactory social relationships (SDG 16). As listed in Table 2, indicators exist for measuring resident overall life satisfaction, affects (moment to moment emotions), and meaning and purpose in life, each a key component of subjective well-being.

While current stocks affect current well-being, as displayed in Figure 1, it is changes in the quantities and qualities of these different types of capital stocks that transmit changes in resident well-being over time. An important feature of well-being study is its growing emphasis on the importance of changing capital stocks for future well-being (OECD, 2020; Dwyer 2021). Detailed analysis of the well-being outcomes associated with tourism participation in the SDG 2030 agenda depends on consideration of the inter-generational effects as well as current well-being outcomes, and is essential to determination of whether tourism is or is not developing along a sustainable path.

5. SDGs and Future well-being
Economic (produced) capital in the form of physical infrastructure and financial resources supports the development of a range of goods and services that attract visitors and enhance resident well-being

(Kline, McGehee and Delconte, 2019). Table 2 lists some stock, flow and risk related indicators of future well-being associated with economic capital. Investment in R&D drives changes in the stock of intellectual property assets associated with tourism industry growth. Knowledge capital associated with tourism supply plays an important role in productivity growth SDG 1,8), contributing to future well-being. A destination's net financial position and financial net worth of government indicates its exposure to internal and external economic conditions. Household debt can place a heavy burden on families, both financially and psychologically, affecting the stability of financial markets (SDG8). High leverage of the banking sector (ratio of financial assets to equities) can increase the financial system's exposure to risk and cyclical downturns, limiting the funds available to potential tourism investors (Laimer, 2017). Tourism research typically has neglected such indicators despite their relevance to resident well-being outcomes resulting from tourism development.

Human capital provides individuals with the opportunity to participate in and enjoy a range of life-enhancing activities inside and outside the workplace. Two major bases of human capital as it affects tourism development are the *health* (SDG 3) *and education systems* (SDG 4). Human capital includes the skills of tourism operators and the capacities of trained staff to meet customer needs, supporting tourism supply across all sectors of the industry (Angrist, Djankov, Golberg and Patrinos, 2019. Indicators of future well-being associated with tourism human capital are listed in Table 2. Educational attainment among young adults reflects the stock of knowledge and skills available to future generations. Premature mortality, due to a range of medical conditions or lifestyle, reduces the level of human capital. The labour underutilisation rate captures the permanent effects of labour market slack in reducing the skills and learning opportunities available to people. It is a risk related variable, providing a wider view of joblessness and unrealised potential compared to unemployment alone (Eurostat, 2019).

Social capital comprises social networks as well as the shared values, norms and understandings they generate. Levels of trust generated by social networks influence a variety of well-being outcomes (Putnam, 2001; Stone and Kreuger, 2018; De Neve and Sachs, 2020). These include improved health and longevity (SDG 3), quality education (SDG 4), balanced gender relations (SDG 5), workplace productivity and economic performance (SDG 8), neighbourhood vitality, public safety and mutual support (SDG 11), greater social resilience to natural hazards, formation of pro-social and pro-environmental norms and values (SDG 12,13,14,15), civic-mindedness and tolerance of diversity (SDG 16) and effective governance (SDG 17). Various tourism-related studies have highlighted the importance of networking, trust, cooperation, information sharing, volunteerism, stakeholder collaboration in destination management, community attachment and sense of place, pride in local culture, heritage and environment, pro-social behaviour in influencing community support for tourism and gender parity in destination politics in guiding appropriate paths for tourism development (Nunkoo, 2017; Moscardo et al, 2017; Soulard, Knollenberg, Boley, Perdue and McGehee, 2018). Table 2 lists a set of well-being indicators associated with social capital and tourism. These include quality of bonding, bridging, and linking capital; trust in civil institutions; governance based on justice, inclusion, trust, and equitable power relations; resident sense of belonging; pro-social norms (Eurostat, 2019).

Natural capital. Preserving environmental and natural resources and ecosystem integrity are important requirements for the sustainability of well-being over time (Costanza et al, 2016a,b). Sufficient quantity and quality of natural capital is essential to achieving several SDGs, including production of materials and food (SDG, 2, 8), ending hunger (SDG2), promoting mental and physical health (SDG3), provision of clean water (SDG6), energy (SDG7), liveable cities (SDG11), sustainable production and consumption (SDG12), carbon storage, waste assimilation and environmental

protection (SDG9, 14,15) adapting to and mitigating climate change and environmental protection (SDG13). Natural capital in tourism has particular relevance as a visitor 'pull' factor while also essential to other types of capital (economic, human and social) that generate well-being into the future (De Neve and Sachs, 2020). As displayed in Table 2, indicators relevant to natural capital and well-being in the context of tourism development would include the stock, flow, risk and resilience indicators associated with changes in land cover, size and significance of protected areas, share of treated waste water from tourism businesses, waste water per visitor for tourism businesses, sewage water per day and per capita for tourists, material and carbon footprints, GHG emissions, soil and water stress, biodiversity, and threats to endangered species (Eurostat, 2019), all of which pose formidable threats to future human well-being, and even life itself.

6. Using the well-being lens in tourism research
The indicators of current and future well-being listed in Table 2 have been largely neglected in studies of tourism and well-being. The suggested well-being lens, comprising the indicator set listed in column two, can act as a 'filter' or 'prism' to identify potential current and future well-being outcomes associated with achievement of the different SDGs. Well-being outcomes help to inform policy trade-offs and provide better information for tourism stakeholder decision making than standard performance measures.

The indicators identified comprise a useful starting point and platform for further research to integrate tourism's pursuit of SDGs with estimates of resident well-being outcomes in a holistic way. Not all will be appropriate in all policy or research contexts, and other indicators may be added to better capture particular circumstances of tourism development in different destinations and tourism sectors. For present purposes, the listed indicators should be understood as being experimental and evolutionary making the lens a work in progress rather than a finished product.

Despite compelling reasons for employing a well-being lens to assess tourism progress in achieving the SDGs, substantial challenges remain for tourism researchers and policymakers, calling forth an important and relevant research agenda for tourism scholars. A detailed understanding of well-being outcomes in the tourism development context must recognize the relevance of both subjective and objective measures, with particular attention to the types of links between subjective (perception) indicators of human well-being and the objective measures (Smith and Diekmann, 2017). More research is needed to further identify the links between SDG achievement and well-being outcomes and to develop more robust well-being measures appropriate to tourism development affecting well-being outcomes for different segments of the resident population.

Determining the trade-offs between the well-being outcomes of different policies, and the possibility of multiple well-being objectives, introduces a new level of complexity beyond the standard 'goal prioritising' challenge that has occupied researchers of the SDG 2030 agenda (Costanza et al 2016a,b). Trade-offs must also be made between well-being outcomes achievable at the present time and those of future generations. Application of the well-being lens forces the value judgements underlying tourism strategy to achieve progress on the SDG 2030 agenda to be made more explicit.

Inevitably, different destinations will emphasise particular SDGs over others depending on their expected outcomes for resident well-being. An ideal well-being lens will comprise both 'generic' indicators based on credible frameworks and 'contextual' indicators relating to particular resident values within the destination. In constructing the well- being lens, it is essential that tourism policy makers and destination managers identify the underlying values that residents wish to satisfy (Durand

and Exton, 2019). Tourism stakeholders can provide ongoing input into the composition of the well-being lens, identifying indicators of resident well-being associated the different SDGs. At the grassroots level, residents can engage in a visioning exercise with public surveys, workshops and consultations to determine which dimensions of well-being are most valued by the community. The well-being lens is thus consistent with a community-based approach to tourism development, helping to ensure that tourism development meets the collective needs of host communities.

There is a need to go beyond the theoretical exercise and develop pilot applications and case studies to test the strength of the proposed framework comprising the well-being lens. The issue of sustainable well-being also needs more attention in tourism research. To give serious attention to the sustainability of tourism development, complementary studies are needed of the effects of changing capital stocks on both current and future well-being, and the links with the different SDGs. These are relatively neglected research areas to date (Dwyer, 2021). Much of current tourism research neglects the essential dynamics of the concept of sustainability, failing to appreciate the role played by changing capital stocks as sources of resident well-being (Dwyer, 2021). New metrics under development that incorporate current knowledge of how natural, social, human, and built capital assets interact to contribute to sustainable well-being (De Smedt et al, 2018) can be employed in research related to tourism participation in the 2030 SDG agenda. Well-being assessment should also include the transboundary impact of sustainability, recognizing the effects that decisions taken in a particular destination affect the well-being of persons elsewhere (Durand and Exton, 2019). At the tourism operator level, a host of research issues arise for enhancing worker and wider stakeholder well-being employing different business models that incorporate well-being indicators for performance assessment (De Neve at al, 2018). In the policy arena, institutional resistance to change, lack of political imperative or government support for the development of well-being measures must be overcome before well-being considerations can enter into policy assessment globally (Dwyer, 2020). These and other challenges will determine the direction of the tourism research effort in the future to refine the well-being lens.

7. Conclusions

This paper has highlighted the important role that tourism is expected to play in the SDG 2030 agenda, particularly the essential role of well-being outcomes in assessing progress. We have argued that the selection of indicators comprising the well-being lens must be informed by studies of the nature of well-being and its sources consistent with the research and policy literature on happiness, quality of life, and indicator development by statistical agencies worldwide. While the *Better Life* framework was argued to be particularly suitable as a 'lens' for the task of incorporating resident well-being measures alongside standard indicators of progress in achieving the SDG, the thrust of argument did not depend on the employment of any particular well-being framework.

Well-being outcomes with particular relevance to tourism can be employed to enrich the study of well-being in general and to inform the content of the well-being lens formulated for different tourism destinations and contexts. If well-being measures are to make a real difference to residents' lives, they must be explicitly employed in the tourism policy-making and assessment process. The proposed well-being lens can play an important role in analysing the well-being outcomes of alternative development paths and identifying policies that enhance social well-being. In the absence of integrating well-being measures into the SDG assessment process, destination participation in the SDG 2030 agenda might actually reduce social well-being in some circumstances.

By incorporating people's well- being as the primary tourism industry performance variable, policy-makers can take a more holistic people-centered perspective to assess the relative importance of the

different strategies toward achieving SDGs. Putting resident well-being as central to tourism policy making requires not just better measures and data but also embedding well-being into the culture and machinery of government decision making (Durand and Exton 2019). In this way, policy goals defined in terms of well- being outcomes are systematically reflected in decision-making across the economy. The well-being lens can be used *ex ante* (policy formulation) or *ex post* (policy evaluation), and can be adapted and improved over time as better statistics become available and as the links between the SDGs and well-being are better understood. While various conceptual and empirical challenges still need resolution, the recommended well-being lens can represent an essential component of policy making in the well-being economy. Its specific role in tourism development may be expected to be the subject of further research.

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