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# Economic effects of tourism and its influencing factors

An overview focusing on the spending determinants of visitors

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**Zusammenfassung:** Zahlreiche Studien belegen die ökonomische Bedeutung des Tourismus, die mit Hilfe verschiedener theoretischer Konzepte und Methodenansätze analysiert werden kann. Dieser Einführungsbeitrag in das Themenheft gibt einen Überblick über die unterschiedlichen Konzepte zu den wirtschaftlichen Wirkungen des Tourismus und arbeitet deren wichtigste Einflussfaktoren heraus. Häufig werden der räumliche Maßstab sowie die Kostenseite des Tourismus übersehen. Besonderes Augenmerk richtet der vorliegende Beitrag auf einen weiteren, entscheidenden Einflussfaktor ökonomischer Effekte, die Besucherausgaben. Die Rolle des Ausgabeverhaltens der Besucher wird unter Rückgriff auf einen umfassenden Literaturüberblick vorgestellt. Auf diese Weise ist es möglich, auf verallgemeinerbare und systematische Weise die wichtigsten Treiber des Ausgabeverhaltens von Besuchern zu identifizieren.

**Schlüsselwörter:** Tourismus, ökonomische Wirkungen, ökonomische Effekte, Ausgabeverhalten, Übersichtsbeitrag

**Abstract:** The economic relevance of tourism has been proven by numerous studies using various theoretical constructs and methodological approaches. This introduction to the special issue provides an overview of the different concepts of the economic effects of tourism and distinguishes their most relevant influencing factors. Often overlooked influences are the geographical scale and the cost side of tourism. A special focus of this paper lies on a further determinant of economic impact of utmost importance: visitor spending. The role of visitors' expenditure behavior is comprehensively reviewed using an extensive literature

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base. Thus, we are able to identify the most important driving factors of visitor expenditure in tourism in a generalizable and systematic way.

**Keywords:** tourism, economic contribution, economic impact, expenditure behavior, review paper

## 1 Introduction

Tourism is often regarded (and used by regional developers and funding institutions) as an economic development path for structurally weak, peripheral areas, as a cure-all providing jobs and income, capital inflow and finally stopping outmigration by creating a positive socio-economic perspective for the future. However, more often than not these high hopes fall short and either the number of visitors or the resulting economic contribution or even both do not meet earlier expectations (Vogt 2008; Blake et al. 2008, p. 115; Lehmeier 2015; Mayer, Job 2016). In order to put these expectations on more realistic grounds, respectively to choose more suitable development strategies, a deeper understanding of the mechanisms is required: What influences the economic outcomes of tourism and can these determinants in turn be optimized by decision makers? However, before dealing with this question, it appears necessary to first clarify what the economic consequences of tourism activities actually are – as stakeholders tend to become confused by different concepts like economic contribution, impact or benefits, gross turnover, value added, or economic value (see section 2)–, how they occur, how different measures vary and what costs have to be taken into account. In practice, these considerations should lead to a more realistic picture of tourism as a means of regional development and to better-reasoned strategies.

There are also additional reasons why the topic of the economic effects of tourism is very relevant for both academic research and practitioner-oriented consultancy: First, and in contrast to other sectors whose economic relevance is not contested, respectively broadly recognized (like car manufacturing in Germany for instance), tourism stakeholders need to underline the economic relevance of tourism in order to emphasize lobby efforts regarding financial resources, laws, planning, regulation, taxation and subsidies (Hall, Page 2006, p. 155; Stabler et al. 2010, p. 199). There is a danger as Crompton (2006, p. 67) puts it: “Most economic impact studies are commissioned to legitimize a political position rather than to search for economic truth”. Second, due to the complex structure of the different branches forming the tourism sector huge empirical efforts are

required to measure the economic relevance of tourism for these sub-sectors and branches as well as for the national/regional economy in total. This complexity opened up the path for an own field of research dealing with economic analysis in tourism which has achieved considerable progress over the years. Third, studies evaluating the economic effects of tourism provide the only quantifiable results of tourism impact in monetary terms compared to image, infrastructure or competence effects of tourism where several other variables intervene (Bieger 2001).

For these reasons, this special issue presents recent progress in the field of economic effects of tourism and its influencing factors by researchers from the German-speaking community. As an introduction to this special issue, this article provides an overview of the different measures of the economic importance of tourism and summarizes the influencing factors on the economic contribution of tourism using a self-developed framework (Section 2). One of the most important drivers is the spending behavior of visitors. Thus, this paper offers a comprehensive review of studies dealing with the different determinants of visitor spending by systematizing the influences and drawing generalizable conclusions (Section 3). Finally, this paper provides an outline of the special issue (Section 4).

## 2 Economic effects of tourism and its influencing factors – an overview

### 2.1 Definitions and differentiations

The economic effects of tourism are often divided into tangible (quantitative or directly quantifiable in monetary values) and intangible (qualitative or not directly quantifiable) effects (Woltering 2012, p. 68; Metzler 2007, p. 33). The positive tangible and intangible effects correspond to the benefits of tourism for societies and economies. Dwyer et al. (2010, p. 222) point out that economic benefits of tourism equal neither the economic impact of tourism nor the economic contribution of tourism (see Figure 1). The notion of economic benefits of tourism require that a territorial entity or citizen has to be better off with tourism than without tourism. Thus, it is the *net benefits* that have to be analyzed, which encompass both the consideration of the costs of tourism development as well as the opportunity costs of tourism activities (Dwyer et al. 2010, p. 222) – defined as forgone income from alternative investment possibilities (Job, Mayer 2012). This notion

is related to the often neglected difference between real and distributive effects (Hanusch 1994, p. 8 f.; Schönböck et al. 1997, p. 4 f.): real effects lead to an overall improvement in the private households' supply of goods and thus to a positive influence on the overall welfare level. In contrast, distributive effects sum up all monetary changes in the aftermath of a measure where the gains in one sector of the economy mirror the corresponding losses in another – the general welfare level remains constant (Mayer 2013, p. 93). Other negative economic effects of tourism for destinations are rising prices due to imported inflation and increasing demand (Bull 1991, p. 135) as well as potentially rising taxes because governments need to finance costly tourism infrastructure (Stynes 1997, p. 15).

“The *economic contribution* of tourism refers to tourism's economic significance – to the contribution that tourism-related spending makes to ... Gross Domestic (Regional) Product, household income, value added, foreign exchange earnings, employment” (Dwyer et al. 2010, p. 11, p. 213 f.). One common approach to quantify this economic contribution of tourism is Tourism Satellite Accounts (TSA) (Spurr 2006, Frechtling 2010). However, TSA as an accounting approach only measure direct effects (Fig. 1), while indirect and induced effects have to be assessed using modeling approaches like input-output-(IO) models (Ahlert 2003, p. 19) or more recent advancements (see 2.3). This means that results of TSA and IO approaches are not directly comparable.

“While the economic contribution of tourism measures the size and overall significance of the industry within an economy, *economic impact* refers to the changes in the economic contribution resulting from specific events or activities that comprise ‘shocks’ to the tourism system. This should not be confused with the contribution itself” (Dwyer et al. 2010, p. 216). These changes are brought about by new/non-regular tourism expenditure injected into a destination. Watson et al. (2007) provide two related definitions of economic impact underlining this understanding: “Economic impacts are the net changes in new economic activity associated with an industry, event, or policy in an existing regional economy” (p. 142). “Economic impact is the best estimation at what economic activity would likely be lost from the local economy if the event, industry, or policy were removed” (p. 143). In our case, this refers to tourism activities, such as a special event, a specific attraction or the shut-down of a previously popular accommodation. Thus, technically, the difference between the analysis of the economic contribution and the impact of tourism lies in the scope of the analysis (overall significance vs. the effect of “shocks”/“changes”) and not in the methods.

Central to both the evaluation of the economic contribution and the impact of tourism is the concept of *leakages*, occurring in the form of imported intermediate input from outside the country/region but also in the form of profit transfer to external headquarters or tax payments to a government. This means that not the

complete share of tourism expenditure leads to income at the destination (Hjerpe, Kim 2007, p. 144 f.). On the national level, only the leakages to foreign countries are of interest while on a regional/local level the share of income remaining in the survey area is crucial. This share is termed *capture rate* in English (Stynes 1997) or “Wertschöpfungsquote“ in German (Küpfer 2000, p. 107 ff.; Job et al. 2009, p. 33) and can be defined as “tourist expenditures minus leakage“ (Hjerpe, Kim 2007, p. 145). A similar concept is the Regional Purchase and Absorption Coefficient (RPC), defined as “the percentage of demand for a sector’s output from within the study area that is supplied by production within the study area” (Watson et al. 2008, p. 575). The higher the RPC, respectively the higher the capture rate, the higher the share of tourism income occurring in the survey area (Hjerpe, Kim 2007, p. 145; Watson et al. 2008, p. 575). That means, from an economic geography perspective only the money actually remaining in the survey region is relevant.

As explained above, the economic contribution/impact of tourism refers to the actual expenditures of visitors. In economic valuation terminology, these expenditures represent the visitors’ revealed willingness to pay (WTP) and thus, a (quasi-)market price for recreation (Moisey 2002, p. 235 f.; Küpfer 2000, p. 36). Based on this notion, one aspect is often overlooked, the *value of the recreational experience*, referring to the consumer surplus of visitors measured in their maximum WTP for visiting a destination/attraction minus their actual expenditure. In other words, the consumer surplus of visitation equals the difference between the visitors’ WTP and the actual expenditure. This is because visitors’ expenditures do not completely reveal their maximum WTP, which differs individually. Consequently, the economic impact only constitutes a subset of the tourism benefits and it does not equal the economic value of recreational use. This aspect is especially important where tourism attractions share characteristics of public goods, such as protected areas which do not charge entrance fees, etc. The recreational value can be estimated, for example, with the help of the travel cost method (Carlsen 1997; Moisey 2002; Mayer, Job 2014, p. 77).

## 2.2 Spatial aspects of the economic effects of tourism

The economic effects of tourism occur and are measurable on different spatial scales, from the global, continental, national to the regional and local level. Also the relevance of the effects vary along these scales. For instance, on the national level, the effects on the foreign exchange earnings are of great importance. Zooming in to the regional/local level job creation and leakages become increasingly relevant (Metzler 2007, p. 33).

Not only the spatial scale should be taken into account but also the location where expenditures occur and which actors actually profit. Referring to Freyer (2011, p. 41 ff.) we can distinguish between (a) the source area of tourists, (b) the travel area and (c) the destination. Each area has a differing mix of expenditure categories and empirical problems. Ad (a): in the source area, travelers seek information, book their trip and buy equipment. However, it is often problematic to assign expenditures for equipment to a specific trip or holiday. Ad (b):

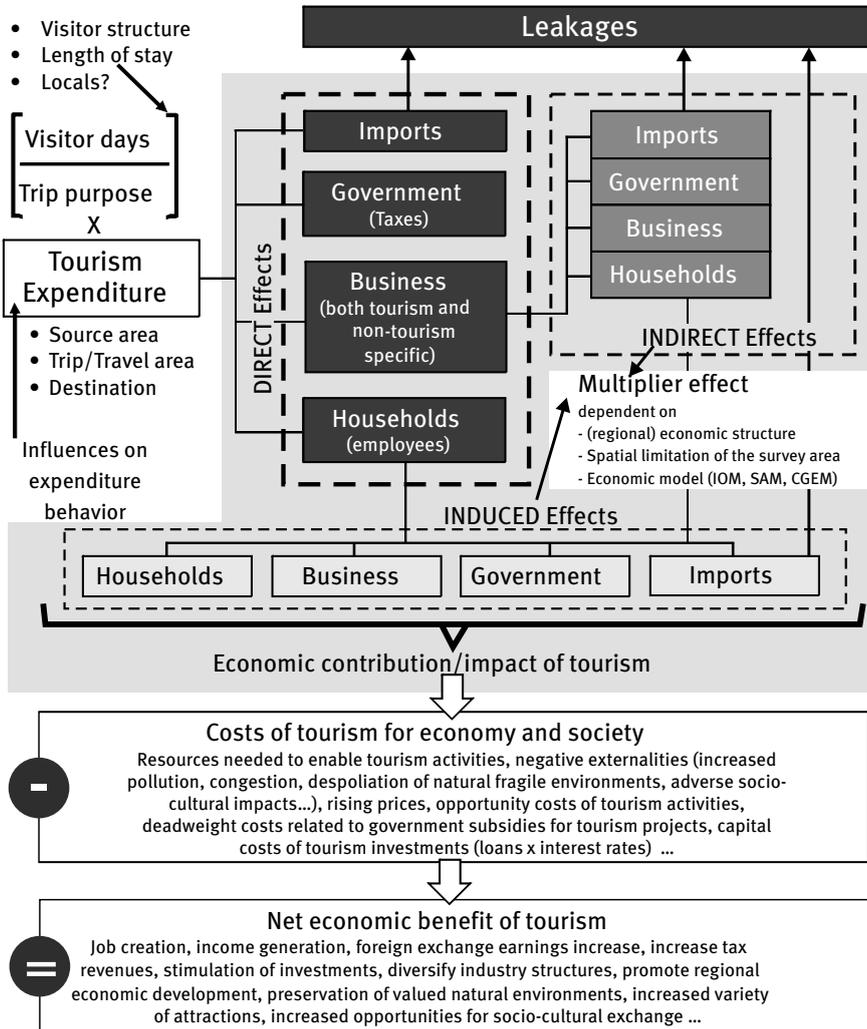


Figure 1: Economic contribution, impact and benefit of tourism and influencing factors.  
Source: own draft, based on Ennew 2003 and Dwyer et al. 2010, p. 213 ff.

while on the trip, travelers spend money for gas, food, road toll, accommodation for stopovers, etc. Two problems occur: First, most transport expenditures are booked and paid for in advance in the source area and the area crossed by airplanes, trains or ships does not gain any benefits. Second, if one wants to assign the travel expenses to a specific attraction the multiple-trip bias has to be considered (round trips) (Freeman 2003, p. 421 f.). Ad (c): at the destination, tourists pay for accommodation, gastronomy, groceries, activities, souvenirs, services, etc. Thus, for a regional economic analysis (for instance of events or specific attractions), the spatial limitation, respectively the size of the destination are crucial influencing factors (see below) “because a good proportion of total spending by spectators might not [have] been incurred within the community” (Gelan 2003, p. 411). Furthermore, for these evaluations of attractions or events mostly only the expenditure at the destination is considered while expenditure on the trip or in the source area is disregarded. In general, the economic impact of an event/attraction is likely inversely related to the distance from its location in space (Gelan 2003). Additional insights into the spatial aspects of the economic effects of tourism can be found in several, mostly case study contributions (e.g. Connell, Page 2005; Daniels 2007; He et al. 2008) which cannot be presented here in detail due to space constraints. However, there is to date no comprehensive review of these works and it would be worth compiling.

## 2.3 Factors influencing economic effects of tourism

This sub-section presents the factors influencing the economic effects of tourism and discusses the input variables for its analysis. Loomis, Caughlan (2006, p. 33 ff.) sum up the basic requirements for any analysis of the economic contribution/impact of tourism: (a) number of visitor days; (b) spending amounts per visitor; (c) types of visitors and trip purposes; and (d) an economic model to calculate multiplier effects. In addition, there is a moderating effect of the spatial limitation of the survey area.

Ad (a): *The number of visitor days* is often confused with the number of visitors which could be identical in some cases but most often both measures differ. For overnight tourism also the length of stay, the number of visits to specific attractions or the frequency of an activity have to be taken into account. In this issue, Arnberger et al. (2016) discuss the methods of visitor counting in detail.

Considering visitation it is debatable whether economic impacts of tourism should be used on a national scale, because those of domestic tourism represent distributive effects only (Küpfer 2000, p. 68 f.). These visitors would have spent

their vacation in their home country anyway or would have visited another destination there instead. Only incoming tourists provide additional input for the national economy (Schönbäck et al. 1997, p. 191; Baaske et al. 1998, p. 159 f.). However, one might argue that a domestic trip can avoid a trip abroad which would lead to leakage from the national economy (Mayer, Job 2014, p. 79).

Similarly, it is contested whether local residents in the survey areas should be included in the regional economic assessments. Some maintain that locals should be excluded as their expenditures are considered a re-circulation of preexisting income in the region (Dwyer et al. 2004, p. 313 f.; Loomis, Caughlan 2006; Crompton et al. 2001, p. 81). Conversely others argue that ignoring locals' expenditures will lead to an underestimate of total impacts (Johnson, Moore 1993, p. 287). Locals could also spend their money outside their home region again leading to leakages (Ryan 1998, p. 345).

*Ad (b) Expenditure:* Stynes, White (2006) sum up the most important dos and don'ts when it comes to analyzing visitors' spending behavior, while Frechtling (2006) reviews several methods and models used to estimate visitor expenditures. The third section of this article deals with the influences on expenditure patterns in detail. In addition, Butzmann (2016) analyzes the expenditures of nature tourists in his contribution to this issue.

*Ad (c) Trip purpose:* In order not to overestimate the economic contribution of specific attractions/activities the trip purpose has to be analyzed. It is decisive that only those expenditures are considered which are spent in addition to the money spent anyway at the destination as the spenders would have traveled there even if the attraction in question did not exist (Dixon, Sherman 1990, p. 155 ff.; Küpfer 2000; Job et al. 2009; Loomis, Caughlan 2006, p. 33 ff.).

*Ad (d) Multipliers:* Economic models are inevitably necessary to estimate the indirect and induced economic effects of tourism and are often regarded as the most complex part of the evaluation process. The evolution of methodologies started with comparatively simple multipliers (Archer 1977) and continued with superior input-output models (IO) (Fletcher 1989). The latter, however, exhibit methodological shortcomings owing to restrictive assumptions like the "free, unrestricted flow of resources to [...] the economy. [...] As a result, it [the IO model] does not capture the feedback effects, which typically work in opposite directions to the initial change" (Dwyer et al. 2004, p. 307; Armstrong, Taylor 2000, p. 56 ff.). As important improvements to the IO social accounting matrices (SAM) (Wagner 1997) and computable general equilibrium models (CGE)<sup>1</sup> (Dwyer et al. 2004) were proposed, which are able to incorporate resource restrictions and feedback effects (Zhang et al. 2007). The CGE are most likely the most advanced group of multiplier models overcoming many of the overestimation effects of IO-models (Blake 2005; Song et al. 2012), even though they still have their drawbacks. These

include some restrictive assumptions like constant returns to scale in production functions and perfect markets (Croes, Severt 2007), high input data quality requirements and related costs or the not very vivid presentation of results (Pfähler 2001). Thus, when comparing CGE models to conventional IO Klijns et al. (2012) conclude that CGE models are inferior in terms of transparency (the predictability of results), efficiency (data, time and cost) and comparability (standardization of model structure, complexity and assumptions). In addition, the analysis of past data is beyond the scope of CGE models because they “simulate what will happen in the economy as a consequence of external shocks, but do not state what has already happened” (Ivanov, Webster 2007, p. 380). Further (dis)advantages of the modeling approaches are discussed in the academic literature (West 1995, Dwyer et al. 2010, Chap. 7-9, Pratt 2015, p. 151).

The magnitude of multiplier effects is decisively influenced by three factors (Archer 1977: 29 ff., Archer, Fletcher 1996: p. 58 ff., Wall 1997, p. 447; Hall, Page 2006, p. 155): (1) The size of the survey area to which the multiplier refers because the possibilities for economic autarky largely depend on this size. The number of potential spending rounds is also influenced. The larger the survey area, the larger the multipliers and the lower the leakages. (2) The level of economic development of a region: “The more that the inputs of enterprises can be acquired locally, the smaller will be the leakage and the larger will be the multiplier” (Wall 1997, p. 447). However, there is no automatism for higher multipliers due to complex interregional value chains nowadays. (3) The expenditure structure: the higher the locally produced share of goods/services, the higher also the resulting direct and indirect effects.

The sensitivity of the economic contribution of tourism to changes in these influencing factors is seldom analyzed, one important exception being Woltering (2012, p. 249 ff.). Finally, all estimation approaches necessarily rely on reliable empirical data input about the number of visitors and their expenditures. Without those appropriate measures, even the most detailed, theoretically sound economic model would provide misleading results (Tyrrell et al. 2001, p. 94). Besides, Crompton et al. (2001, p. 80 ff.) stress that “economic impact analysis is an inexact process, and output numbers should be regarded as a ‘best guess’ rather than as being inviolably accurate”. This quotation refers to the inherent problems of all economic valuation approaches, as does the lack of comparability of TSA and IO results: estimations of the economic effects of tourism should not be regarded as incontestable, because they are open to interpretation and misuse (Crompton 2006). Consequently, a critical assessment of different economic valuation studies should take into account who is estimating which values using which approaches and models based on which assumptions and data input funded by whom. As issues of power and attempts to influence results can never

be completely excluded it would be a task for a critical (economic) geography of tourism in the sense of Britton (1991) to deal with these related questions.

The following section focuses on one of the four basic requirements for any economic evaluation of tourism, variable expenditure. Along with visitor days spending behavior is the most influential driver of the economic effects of tourism and, thus, warrants special attention. Section 4 makes clear how the other influencing factors on the economic importance of tourism are addressed in this special issue.

## 3 Tourist expenditure: an overview of spending drivers

### 3.1 General issues

The research history of tourists' spending patterns is comparatively short. Wang and Davidson (2010) highlight that apart from a study undertaken in the 1970s (Mak et al. 1977a, b) the research community started focusing on the issue only in the 1990s. Most of these studies have been case studies (Xiao, Smith 2006), so conclusions referring to a larger population cannot be drawn (Gerring 2007). For a validation of such findings they can be triangulated by comparing results with those from case studies at different sites (Decrop 1999). Brida, Scuderi (2012), however, point out the problems of generalizing such empirical findings, as different models, dependent variables and regressors using *inter alia* different scales of measure are employed. Mak et al. (1977a) showed, furthermore, that different spending measurement methods (spending diaries vs. recall after their return home) lead to different results. Considering the *caveats* mentioned this chapter aims at outlining the most significant findings on expenditure patterns using a narrative review approach. Sampling of studies was based on a systematic research in the web of knowledge® provided by Thompson Reuters; search terms were "tourism\* expenditure\* determinants", "tourism\* expenditure behavior", "tourism\* expenditure", combined with tourism forms (nature tourism, mountain tourism) in addition. We have included only destination-based studies in the analysis and omitted studies comprising expenditure in the areas of origin. Database entries up to December 2015 have been taken into account. 50 papers fulfilled the criteria and form the basis for the following evaluation.

To obtain a quick overview, it helps to systematize the predictor variables analyzed. Following Pouta et al. (2006) and Woltering (2007), we systematize drivers of expenditure of the empirical studies into tourist-, travel- and destination-based variables analyzed. Omitted are macroeconomic variables such as the GDP or the price level in the countries of origin, destination and competing destinations (analyzed e.g. by Saayman, Saayman 2015); they are mainly relevant for explaining spending behavior of international tourists in different countries.

Tables 1-3 summarize the findings from previous studies regarding the statistical significance and the signs of the independent variables. The statistical methods used range from variance analyses to regression methods (OLS or quantile regression) or more advanced econometric techniques (double-hurdle, Heckit and similar methods). Moreover, the expenditure variable varies and takes the level or the log form (Thrane 2014). Some studies apply several statistical models in the same paper to compare results (being usually but not in all cases quite similar); only the first mentioned model is included here. Studies differ, furthermore, regarding how they define spending (average per person or group, respectively per day or journey). Moreover, few studies not only measure spending at the destination itself but also in the country or region of origin (e.g. Alegre et al. 2011). In these cases, only expenditure at the destinations or total spending has been considered. Further studies do not use a single expenditure variable but differentiate spending in categories such as accommodation or food and beverages (e.g. Marcussen 2011, Brida et al. 2013). If these studies include a total expenditure indicator only this variable is analyzed, if not, the variables considered are indicated.

### 3.2 Tourist-based variables

Tourist-based variables relate to the travelers themselves and are based upon variables identified as decisive for consumption decisions in general (Meffert 2000). They include socio-demographic variables such as age, gender, marital status, income, education and profession, and geographical variables reflecting the spatial and economic structure in the visitors' region of origin (Table 1). In many studies, age has been tested as a predictor variable with ambiguous results: in 11 out of 31 studies age was not found to influence spending in a statistically significant way, in seven studies spending depends positively on the age of visitors and four times a negative relation was found. The findings of Aguilo Perez, Juaneda Sampol (2000), Pouta et al. (2006), Thrane, Farstad (2011) or García-

	Tourist-based drivers						
	socio-demographic variables					geographical variables	
	age	gender	income	marital status	profession/ education	country of origin	type of residential location
Mak et al. 1977a	p.s.					p.s.	
Mak et al. 1977b	p.s., non-linear		+	s.	s.		
Taylor et al. 1993			+				
Hsieh et al. 1997	n.s.	n.s.	p.s.	p.s.			
Mudambi, Baum 1997	-				p.s.	p.s.	
Leones et al. 1998	n.s.		n.s.				
Agarwal, Yochum 1999	n.s.		+	n.s.			
Mok, Iverson 2000	+	n.s.	n.s.	n.s.	n.s.		
Aguilo Perez, Juaneda	p.s., non-linear				p.s.	s.	
Sampol 2000	n.s.		+	n.s.			
Lee 2001	n.s.		+	n.s.			
Cannon, Ford 2002			+	s.			
Thrane 2002	-	s.	+				
Downward, Lumsdon 2003			n.s.	+			
Jang et al. 2004	+	n.s.	+	m. n.s.			
Suh, Gartner 2004						s.	
Jang et al. 2005			+				
Kastenholz 2005	+					s.	
Díaz-Pérez et al. 2005					p.s.	s.	
Pouta et al. 2006	p.s., non-linear		n.s.	+			
Skuras et al. 2006	+	n.s.	+	n.s.	n.s.	n.s.	
Soteriades, Arvanitis 2006						s.	
Wang et al. 2006	-	n.s.	+	n.s.			
Kastenholz 2007	-					s.	
Mehmetoglu 2007	n.s.		+				
Fredman 2008	n.s.		+	p.s.			

	Tourist-based drivers						
	socio-demographic variables				geographical variables		
	age	gender	income	marital status	profession/ education	country of origin	type of residential location
Kozak et al. 2008	n.s.		+	n.s.	n.s.	p.s.	
Craggs, Schofield 2009	+	s.			n.s.		n.s.
Alegre, Cladera 2010	p.s.				p.s.	s.	
Oh, Schuett 2010			n.s.				
Shani et al. 2010	n.s.		n.s.		n.s.		
Wang, Davidson 2010	p.s.		+				
Alegre et al. 2011	n.s.	n.s.	m. +		p.s./ n.s.	s.	
Kim et al. 2011	n.s.	n.s.	o	n.s.	s.	n.s.	
Marcussen 2011	p.s.	n.s.	+			p.s.	
Svensson et al. 2011	p.s.	s.			s.	p.s.	
Thrane, Farstad 2011	+, non-linear	n.s.	+				n.s.
Brida et al. 2013 <sup>1,2</sup>	+ <sup>1</sup> , n.s. <sup>2</sup>	n.s. <sup>1,2</sup>	+ <sup>1</sup> , s. <sup>2</sup>			s. <sup>1</sup>	
García-Sánchez et al. 2013	s. non linear		+		s.		
Abbruzzo et al. 2014					s.		
Brida et al. 2014	n.s.	s.			p.s.	p.s.	
Marrocu et al. 2015	n.s.	n.s.	p.s.		p.s.	s.	
Serra et al. 2015	p.s.	s.	p.s.	p.s.	p.s.	s.	

Significant results (p<0.05):      + = positive      - = negative      o = neutral  
s. = significant categorical variable; n.s. = tested, but results not significant; p. (= partly)/m. (= mostly) s.: categorical variable with some but not all significant feature characteristics / ... with significant feature characteristics except for one.

<sup>1</sup> dependent variable: spending on accommodation, <sup>2</sup> spending on food and beverages

Table 1: Tourist-based drivers of visitor expenditure

Sánchez et al. (2013) suggest that age might not be related to expenditure in a linear but curvilinear way. That means low spending is found in the youngest and the oldest age segments whereas high spenders are middle aged. Gender and marital status do not seem to predict spending in general (Lawson 1994; Wang et al. 2006); this is reflected in the large share of non-significant results in the studies reviewed even though, for example, Mak et al. (1977b) found the latter variable to be significant. In contrast, income can generally be regarded as a reliable predictor (Fish, Waggle 1996): consistent with economic theory the relationship between income level and tourism expenditure is positive in 21 out of 29 studies with Agarwal and Yochum (1999), Downward, Lumsdon (2003), Fredman

(2008) as well as Thrane, Farstad (2011) reporting inelastic relations. This means with growing income, tourism expenditure increases as well but at a lower rate. Profession and level of education are only significant occasionally (possibly due to multicollinearities with the income variable), whereas the country of origin tends to be a good indicator of spending levels. The type of residential location does not seem to influence travel expenditure.

### 3.3 Travel-based variables

Table 2 summarizes the results of visitor expenditure studies regarding observable characteristics of the journey. The sign of group size seems to vary ambiguously: 10 out of 29 studies report positive signs, 14 studies negative signs, and two different signs according to the dependent variable (Kozak et al. 2008; Marcussen 2011). The most straightforward explanation for the varying sign is the dependent variable. With group spending, expenditure tends to rise the larger the group, whereas with individual spending expenditure tends to fall due to cost-sharing.

The effect of travel length depends on the exact specification of the dependent variable as well. It is usually positive when total travel expenditure is analyzed. The influence of length of stay tends to be negative with per day expenditure as a dependent variable. Non-linear effects can be observed: for longer trips the generally positive relationship between length of stay and total expenditure becomes weaker, a diminishing positive effect was observed, theoretically explained by economies of scale (Thrane, Farstad 2011; Aguilo Perez, Juaneda Sampol 2000; Roehl, Fesenmaier 1995).

The variable visitor type (vacationists vs. day trippers) has a significant influence as day trippers spend significantly less than overnight visitors due to lack of accommodation expenditure. The type of accommodation is usually a significant variable as well. As expected, commercial accommodation (i.e. hotels) is generally economically most relevant, followed by rented apartments, with campgrounds and friends/relatives generating the lowest expenditures (e.g. Agarwal, Yochum 1999; Fredman 2008; García-Sánchez et al. 2013). Interestingly, Kastenholz (2007) found camping tourists to be the heaviest spenders in nature tourism destinations in Portugal, and Kozak et al. (2008) reported a negative relationship between hotel accommodation and spending in Turkey, which might be explained by the sun-and-sand character of the destination. Individually organized travelers tend to spend more than package tourists in the destination region. In visitor surveys, however, it remains unclear which part of the package tour expenses paid in the region of origin flows to the destination. Only eight studies

Travel-based drivers									
	group size	travel length	vacationists vs. day trippers	type of accommodation	Organization of the journey	means of transportation	number of visits	travel motive	travel activities
Mak et al. 1977a	-(d.v. 2a)			s.	s.		+	s.	
Mak et al. 1977b	-(d.v. 2a)	-(d.v. 5)		s.	s.		n.s.	n.s.	
Spotts, Mahoney 1991	+(d.v. 1)	+(d.v. 4)							s.
Taylor et al. 1993	-(d.v. 2a)	n.s. (d.v. 5)		s.					
Hsieh et al. 1997	+(d.v. 1)	p.s. (+; d.v. 4)			p.s.				
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Mudambi, Baum 1997		n.s.		s.				s.	
Leones et al. 1998		-(d.v. 5)	s. (+ 6)					s.	s.
Ryan 1998			s. (+ 6)						
Agarwal, Yochum 1999	+(d.v. 1, 1a)	+(d.v. 4)		s.					
Aguilo Perez, Juaneda	-(d.v. 2a)	-(d.v. 5)					+		
Sampol 2000	non-linear	non-linear		s.	s.				
Mok, Iverson 2000	-(d.v. 2)	+(d.v. 4)			s.		n.s.	s.	
Lee 2001	+(d.v. 3)								
Cannon, Ford 2002		-(d.v. 5)							
Thrane 2002			s. (+ 6)				n.s.	s.	
Downward, Lumsdon 2003	+(d.v. 1)	+(d.v. 4)						n.s.	n.s.
Downward, Lumsdon 2004	+(d.v. 1)	+(d.v. 4)						s.	



	Travel-based drivers			
Alegre et al. 2011	-(d.v. 2a)	-(d.v. 5)	s.	p.s.
Kim et al. 2011	+(d.v. 2a)	n.s. (d.v. 5)	n.s.	n.s.
Marcussen 2011	-(d.v. 2a, 2)	-(d.v. 5)	s.	s.
	+(d.v.1a, 1)	+(d.v. 4)	s.	+
Svensson et al. 2011	-(d.v. 2a)	-(d.v. 5)	p.s.	p.s.
	-(d.v. 2)	+(d.v. 4)	s.	p.s.
Thrane, Farstad 2011	non-linear	non-linear	s.	s.
Brida et al. 2013 <sup>1,2</sup>	+(d.v. 5) <sup>1</sup>	s. (- 7) <sup>2</sup>		p.s. <sup>1,2</sup>
García-Sánchez et al. 2013	-(d.v. 2a)	+(d.v. 5)	s.	-
		non-linear		s.
Abbruzzo et al. 2014	-(d.v. 2a)		s.	p.s.
Brida et al. 2014	+(d.v. 1)			n.s.
Marrocu et al. 2015	-(d.v. 2a)	-(d.v. 5)	s.	+
	in 3 out of 4	ln 1 out of 4	n.s.	n.s.
Serra et al. 2015	years - (d.v. 2a)	years + (d.v. 5)		+
				p.s.

Table 2: Tourist-based drivers of visitor expenditure

Significant results (p<0.05): + = positive - = negative o = neutral; n.s. = tested, but results not significant; s. = significant categorical variable; p. (= partly)/m. (= mostly) s.: categorical variable with some but not all (not) significant feature characteristics / ... with significant feature characteristics except for one.  
 d.v.: dependent variable; (1) group spending per stay; (1a) group spending per day; (2) individual spending per stay; (2a) individual spending per day; (3) not specified, probably group spending per day; (4) total travel spending per stay; (5) spending per day; (6) overnight; (7) day-visitor

<sup>1</sup> dependent variable: spending on accommodation, <sup>2</sup> spending on food and beverages

measured the influence of the means of transportation on visitor spending. In most cases the influence on expenditure levels is significant. Following Downward, Lumsdon (2004) and Svensson et al. (2011) visitors traveling by car spent more than those using public transport, whereas Fredman (2008), Marcussen (2011), Thrane, Farstad (2011), Abbruzzo et al. (2014) report higher expenditure by visitors using planes and trains. The number of visits to a destination usually reflects loyalty to a destination as well as familiarity with the place and insider knowledge, with more visits possibly associated with less spending (Alegre, Juaneda Sampol 2006). However, eight of the 13 studies with significant results for this predictor found that repeaters spent more. The existence of potential non-linear effects has not been controlled for, yet. The variable travel motives often produces significant results as motives tend to be very heterogeneous and can be both push and pull motives.

Activities are not a straightforward predictor of visitor spending because, as with motives, results depend on the heterogeneity of activities sampled. In general, there seems to be a tendency for more infrastructure-related activities to influence higher expenditure. Kozak et al. (2008) find, for example, that those tourists who rate the standard of nightlife and entertainment as very important are heavy spenders.

### 3.4 Destination-based variables

Table 3 sums up the impact of destination-based factors on spending. According to Mak et al. (1977a), Leones et al. (1998), Lee (2001) and Pouta et al. (2006) distance to the destination and visitors' expenditure are positively related. The perception of prices at the destination affects spending as well. Aguilo Perez, Juaneda Sampol (2000) found that visitors, who regard the destination as expensive tend to spend more. Abbruzzo et al. (2014) focused on satisfaction with the price level and figured out that those tourists spent more who had a positive opinion of the price level but the opposite was also true. Satisfaction with the holiday had a positive effect on visitor spending (Aguilo Perez, Juaneda Sampol 2000; Craggs, Schofield 2009; Serra et al. 2015). The characteristics of a destination or site are only testable if the sample covers different destinations/sites at a destination. Lee (2001) and Díaz-Pérez et al. (2005) analyzed the influence of various types of boating trips and accommodation on different Canary Islands and obtained some significant results. Abbruzzo et al. (2014) show that visitors at famous destinations in Uruguay spent significantly more than tourists who stayed in other places. Brida et al. (2013) demonstrated that different spending levels of visitors

for food and beverages were related to different Christmas markets in Northern Italy. Territorial effects of tourist spending were also found by Svensson et al. (2011) for Andalusia: visitors in cities caused larger turnover than those in rural areas and both types spent more than tourists at coastal destinations. Likewise Thrane, Farstad (2011) found that depending on the urbanity, respectively location size and remoteness the expenditures of Norwegian domestic tourists vary significantly with visitors in rural and mountain/wilderness settings spending the least. Pouta et al. (2006) tested the influence of the supply of outdoor services and recreation opportunities on expenditure at a destination level. Down-

	Destination-based drivers				
	dis- tance	per- ceived price level	opinion of holiday/ day trip	characteris- tics of the destination	season
Mak et al. 1977b	+				n.s.
Taylor et al. 1993				s.	
Mudambi, Baum 1997		s.			
Leones et al.1998	+				
Aguilo Perez, Juaneda Sampol 2000		s.	p.s.		
Lee 2001	+			p.s.	
Díaz-Pérez et al. 2005				p.s.	p.s. (- low season)
Jang et al. 2005					s. (+ summer season)
Pouta et al. 2006	+			p.s.	
Wang et al. 2006	+				
Kastenholz 2007					s. (+ low season) mostly s.(+ low season months)
Koc, Altinay 2007					
Kozak et al. 2008	n.s.				
Craggs, Schofield 2009			s.		
Kim et al. 2010			s.		s. (weekday)
Wang, Davidson 2010			n.s.		
Marcussen 2011	+				p.s. (+ July/high season)
Svensson et al. 2011				s.	n.s.

	Destination-based drivers				
	dis- tance	per- ceived price level	opinion of holiday/ day trip	characteris- tics of the destination	season
Thrane, Farstad 2011				s.	
Brida et al. 2013 <sup>1, 2</sup>				s. <sup>2</sup>	
Abbruzzo et al. 2014		s.	p.s.	s.	s. (+ spring, - winter)
Brida et al. 2014					p.s. (+ April/end of high season)
Marrocu et al. 2015					n.s.
Serra et al. 2015			p.s.		

Significant results ( $p < 0.05$ ): + = positive - = negative o = neutral  
s. = significant, categorical variable; n.s. = tested, but results not significant; p. (= partly) s. =  
categorical variable with some but not all significant feature  
<sup>1</sup> dependent variable: spending on accommodation, <sup>2</sup> spending on food and beverages

Table 3: Destination-based drivers of visitor expenditure

hill skiing possibilities are associated with a probability for higher expenditure, while berry and mushroom picking opportunities are related to a low spending level. These findings show, that, as expected the roles of outdoor activities and their supply are strongly connected.

Finally, the seasonal effect is unclear. In two studies low-season tourists spent more than high-season visitors, but in other studies the opposite was observed. Three studies did not find any statistically significant results.

### 3.5 Discussion and implications

To sum up, the most significant tourist-based determinant of tourism spending is income no matter how operationalized. This finding fits well in general microeconomic theory that postulates the importance of income for demand. Profession and education did not achieve significant results in many cases. A better proxy for income seems to be the country of origin. Gender, marital status, and the type of residential location are not drivers of tourism expenditure according to most of the studies. This shows that these variables influence neither spending capacities nor preferences. Age, in contrast, determines spending in some studies, but

not, if included as a linear metric variable. This might be due to a link between age and income with middle aged groups earning and spending the most, but this might also be caused by a correlation of age groups with specific interests and activities, which differ in price. Future analyses could therefore limit tourist-based variables to income and age. However, although economic factors are decisive as they permit people to travel, they cannot fully explain tourist expenditure. Several travel-based variables increase the explanatory power of spending models. Group size obviously influences the amount of spending in a significant way. Apparently, scale effects occur, leading to cost savings. Economies of scale also come into effect with length of stay of tourists. Nevertheless, for destination organizations it might be more efficient, from a cost-benefit perspective, to convince tourists to stay longer (as difficult as that may be) than to make great efforts to attract more visitors. Comparing vacationists and day-trippers, the dominant role of accommodation as a spending variable becomes evident. Overnight tourists spend significantly more. Higher sales are generated with specific types of accommodation, in detail dependent on destinations. Concerning the impact of the trip organization it might be interesting from a regional economic perspective to take a closer look at the share of all-inclusive prices paid by package tourists that actually becomes effective at destinations. Due to inconsistent results concerning the transportation mode, conclusions cannot be drawn. It could be assumed that specific means of transportation are related to the place of origin of tourists and the distance to destination. So, transportation mode might be a proxy for the country of origin, the GDP and the income. The influence of means of transportation on spending levels would thus depend on the destination.

Further investigation is needed for the relation between the number of visits and spending levels as results are quite contradictory. Moreover, the travel motives and activities examined are very heterogeneous so that clear results are missing, although infrastructure related activities seem to have a positive influence. Therefore, it might be interesting to compare the impact of specific travel activities on expenditure at specific types of destinations (such as monumental cities, mountains, sun and sea).

We suggest that the incorporation of variables related to supply and characteristics of destinations would help to further understand spending behavior as demand usually also depends on attributes of supply and satisfaction with it. Especially regarding the characteristics of destinations the findings show a significant impact on the spending level. Further research is needed to verify these results. Particular attention should be paid to differentiate destination characteristics if implications for destination management are to be provided. The same holds true for the influence of season on expenditure as existing results do not provide a clear picture. According to microeconomic theory, high expen-

diture levels would be expected for high seasons (when demand is high for scarce resources) but some findings contradict this assumption. Future studies should thus analyze the impact of season together with travel motives, activities and destination characteristics.

In conclusion, this review showed that several travel- and destination-based variables are under-researched and future studies should devote special attention to these factors. Further practical implications are very difficult to make at this aggregate level without referring to specific destinations (cp. Mayer, Vogt 2016).

## 4 Outline of the special issue

The remaining articles of this special issue either center on the factors influencing the economic effects of tourism or deal with the actual economic outcome of tourism activities.

Arnberger et al. (2016) focus on visitor monitoring methods and exemplify their best practice approaches for the case of the frequentation of three short-distance recreation areas in and near Vienna, Austria (among others, the Donau-Auen National Park). These detailed analyses of visitation intensities and patterns showcase the essential base for reliable economic contribution/impact assessments.

The next influencing factor in the logical sense of an economic impact analysis is the expenditure behavior of visitors. While the introductory article concentrates on the general determinants of visitor spending (see Chap. 3) Butzmann (2016) conducts an in-depth analysis of the visitor expenditures in Berchtesgaden National Park situated in the German Alps. He uses two different visitor samples of park visitors to work out an expenditure-, attitude- and behavior-based visitor segmentation employing statistical latent class procedures. This segmentation aims at closing the often bemoaned sustainability-profitability gap in nature tourism by trying to identify economically as well as ecologically favorable visitor groups.

The next contribution by Stettler et al. (2016) demonstrates how economic impact analyses could be practically applied to assess the profitability of several sport events of varying scope, prominence and impact (among others the European Football Championships 2008, jointly hosted by Switzerland and Austria) from a societal perspective: Is it worth investing public funds in these events? Their article also clearly shows the limitations of this approach as the economic impact of event-motivated tourism only constitutes parts of the benefits of these events while the cost side is mostly disregarded.

Finally, Küblböck and Standar (2016) deal with one of the major economic benefits of tourism, the tourism labor market. They analyze the effects and reasons for shortages of a skilled labor force in the hospitality sector in Germany, exemplified with detailed empirical fieldwork in the region Braunschweig-Wolfsburg. In addition, they discuss potential strategies for coping with this apparent problem which could reduce the economic benefits of tourism in the near future.

## Annotation

<sup>1)</sup> Computable General Equilibrium (CGE) models do not seem to be widely used in the German speaking research community so far. This holds especially true for tourism research. A Web of knowledge®-research using the keyword combination “Computable General Equilibrium\* tourism” found 59 results (as for July 8, 2016) but only one result for “Computable General Equilibrium\* tourism\* Germany”. An additional Google Scholar®-research did not reveal any deviating results.

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