

Responsible Consumption and Production in the Creative and Cultural Industries

Actions, Policies, and Strategies for a Sustainable Future

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Chapter 4

Assessing the contribution of cultural tourism and creative sectors to a circular economy

A case from Sweden

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Introduction

The concept of the circular economy has been the subject of growing public debates and jurisdictional initiatives in Europe and globally. For instance, in 2020 the European Commission renewed the *Circular Economy Action Plan* originally implemented in 2015 as a policy tool to speed up Europe's transition towards a circular economy (European Commission, 2020). Likewise, the United Nations identified the circular economy as a best practice to prompt the implementation of the 2030 Agenda of the United Nations' Sustainable Development Goals (UN, 2024). This development also explains the occurrence of numerous policies and funding schemes aiming to facilitate the transition towards a circular economy, along with a growing interest in supporting the public and private sectors to embrace this transition. The idea of circularity is not new; rather, it represents an archetypical concept that humans have relied on throughout the centuries to make sense of their lives as well as of the cyclical nature of all biological processes and of all materials (Tomassini & Cavigliaro, 2022a, 2022b). The very idea of a circular economy builds upon an understanding of cyclical patterns of continuous regenerative processes where circularity appears as an inherent principle of continuity and order (Tomassini et al., 2024).

In the current understanding, a circular economy is an economy that does not produce any waste, because products and manufacturing processes are designed in ways that allow for materials to be reused without any loss of quality or to be disposed of without causing any damage to the natural and human environment. By this definition, it is not surprising that the circular economy has so far been investigated predominantly with respect to consumer products and industrial manufacturing processes, hence being framed in terms of “eco-effectiveness” and “eco-efficiency”, which primarily highlight the benefits for the economy and the environment (Suárez-Eiroa et al., 2019; Kovacic et al., 2020; Jakobsen et al., 2023). Consequently, despite such growing popularity at the policy, institutional, and private sector levels, the potentials and implications of the circular economy as a strong alternative to contemporary linear-extractive models of the economy have remained largely unexplored and undertheorized,

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especially regarding the socio-psychological and cultural spaces of tourism and their related leisure and creative subsectors. In fact, not only are material loops within manufacturing processes central to the circular economy; but, by following ancient cyclical archetypes and eudaimonic philosophies of the “good life”, ethical and spiritual aspects, such as hospitality, caring, fairness, justice, and creativity with a focus on social innovations are also at the heart of the idea of a circular economy (Kopnina & Poldner, 2022; Tomassini & Cavagnaro, 2022a, p. 343; Fuchs, 2023). Accordingly, recent tourism studies focusing on the circular economy have found that circular socio-relational practices in the small-scale regional tourism domain tend to facilitate regenerative processes for places, natural assets, and all living creatures (Fernandes Costa et al., 2020; Maines da Silva et al., 2021; Tomassini et al., 2024). The tourism literature has mostly remained conceptual, however, despite these arguments and circular tourism being in need of proven methodological approaches and indicators to establish and critically evaluate this new transformative paradigm of the circular economy.

Against this background, this chapter presents an advanced input–output (IO) methodology to assess how the cultural tourism and major creative sectors favour the formation of a regional circular economy over time. Through a brief review of the tourism literature on the circular economy, we stress the mutual relationships between cultural tourism and the creative sectors that are responsible for fostering regenerative processes and regional place making, thereby showing a strong influence in building and maintaining regional circular economies. We then introduce an advanced IO approach, which is empirically employed to investigate the Swedish county of Jämtland Härjedalen. After presenting and discussing the major findings, we outline the limitations and sketch an agenda for future research to improve the proposed approach.

Circular economy in tourism and the creative sectors

The tourism literature has adopted the concept of the circular economy only recently (Falcone, 2019; Sørensen & Bærenholdt, 2020; Martínez-Cabrera et al., 2021; Manniche et al., 2021; Xu et al., 2022; Tomassini et al., 2024).¹ As highlighted, tourism studies focusing on the circular economy typically emphasize that circular socio-relational practices facilitate regenerative processes that emerge from a multiplicity of transformative and creative interactions among regional stakeholders connected to the broad tourism and hospitality domain (Baggio, 2014; Fuchs & Baggio, 2017; Fuchs et al., 2021; Tomassini & Cavagnaro, 2022a, 344). Tourism literature links the concept of the circular economy to all enduring forms of regional tourism, hospitality, and mobilities typically to be found in so-called regenerative forms of tourism (Vargas-Sánchez, 2021; Tomassini & Cavagnaro, 2022a). Following Bellato and Pollok the regenerative paradigm is “living systems thinking” as a bedrock to build the capacity of humans to align and co-evolve with life’s systems (Bellato & Pollok, 2023, 3). Accordingly, regenerative tourism is achieved by three paradigmatic shifts: i)

from linear reductionism toward living systems, ii) from extractive growth toward contributing to growing the health and wellbeing of places and communities, and iii) from hierarchies and the concentration of knowledge as power towards co-creating plural, *place-sourced* ways of knowing, being, and doing (ibid., 2023; Bellato et al., 2023; Lazic & Della Lucia, 2024). Likewise, such place-sourced regenerative patterns can be identified in the concept of the innovative region and destination defined as an open, free, and interconnected territory which – through its unique history and specific beauty – shapes and fosters locals’ creativity to transform inherited location features into assets with high symbolic meaning (Feldman, 2014; Fuchs, 2023, 5). Through this transformation process, synergies, and symbioses emerge among regional stakeholders in the various tourism and hospitality subsectors, related governmental and non-governmental organizations, as well as in the broad creative and cultural subsectors, such as the entertainment businesses, the arts, and the museum and local culture and festival sectors.

By contributing to their mutual improvement, cultural tourism, and the regional creative subsectors are strengthening the region’s socio-cultural resources and cultural heritage and rehabilitating abandoned real estate towards socio-innovative usage patterns open to both residents and visitors alike (Maines da Silva et al., 2021; Tomassini & Cavagnaro, 2022b). The tourism literature on the circular economy strongly emphasizes the circular interplay of the various hospitality, culture, and creative subsectors at the regional level, defined as “hubs of transformative encounters and social inclusion” (Tomassini & Cavagnaro 2022a, p. 343). As such, tourism practices are refocusing on local and regional spaces, thereby undergoing cyclic regenerative processes. For instance, regional circular tourism is favouring green mobility through proximity tourism or regenerating monocultural farmlands. By so doing, biodiversity enhancement can be fostered through local organic food producers, who are regarded as the main suppliers of the regional accommodation and restaurant sectors (Maines da Silva et al., 2021; Stalmirska, 2024).

Finally, the tourism literature also discusses the circular economy as a serious post-growth alternative to current economic orthodoxy, which has increasingly functionalized the living world for economic interests (Sørensen & Bærenholdt, 2020; Tomassini & Cavagnaro, 2022a; Fuchs, 2022, 2023; Tomassini et al., 2024). Accordingly, regional circular economies are expected to contribute to the regionalization and deglobalization trend, thereby diminishing global dependency and socioeconomic vulnerability (Schröder et al., 2019; Dunlap & Laratte, 2022). More precisely, circular economies are assumed to empower regional economies and, as a result, build and maintain not only the commons and the public goods, such as publicly accessible and publicly (co-)funded leisure and culture infrastructures, but also intangibles, such as a strong place brand shaped by the territory’s unique cultural heritage (Maines da Silva et al., 2021; Tomassini & Cavagnaro, 2022a). In fact, a major contribution of the regional circular economy lies in democratizing regional economies (Söderbaum, 2017, 2019; Fuchs, 2022). By so doing, regional welfare can be grounded

in social innovation and ethical norms, such as fairness, reciprocity, and consideration for others, all with the capacity to crowd out selfish behaviours while encouraging benevolent creativity, thereby fostering social innovation and a stable and sufficiency-oriented regional economy (Sørensen & Bærenholdt, 2020; Niessen & Bocken, 2021; Mastini et al., 2021; Fuchs et al., 2021; Fuchs, 2022). However, approaches to democratize regional economies through tourism are scant (Higgins-Desbiolles, 2020). For instance, Kronenberg and Fuchs (2022) have recently shown that regional economic autonomy can be strengthened by stable occupations, distributive justice, low leakages, strong circular intersectoral linkages, and regionally induced capital flows controlled by cooperative and credit/saving banks that do not follow the non-reflected growth imperative of global capital markets, instead supporting locals' balanced asset-building (Kronenberg & Fuchs, 2022; Fuchs, 2023).

To conclude, the tourism literature has mostly remained conceptual so far and methodological approaches and indicators to critically evaluate the transformative paradigm of the circular economy are scant. To fill this gap, an advanced IO methodology is presented and successfully tested below.

Methodological toolbox

Based on a regional case study from Sweden, the subsequent section empirically displays the relationships between the regional tourism sector and the various creative and cultural subsectors. By so doing, quantitative estimates can be made about the multiple contributions of the cultural tourism and creative subsectors in building and maintaining a regional circular economy, thus fostering regenerative processes and regional place making. The study area is the region Jämtland Härjedalen, an administrative entity in central Sweden. The region is sparsely populated, with only 3.4 inhabitants per square kilometre. Geographically, however, the region is the third largest in Sweden. It is a popular tourism region mainly due to nature-based activities. The region is also rich in cultural attractions and has an active creative sector. Several cultural institutions are located in Östersund, the capital city of the region, including Jamtli, a cultural facility hosting various exhibitions and indoor and outdoor folk art; local history museums; and traditional folklore events. Numerous small and large artistic events and festivals are held in the region, including large music festivals, sporting events, and art centres. Finally, Jämtland Härjedalen is part of Sápmi, the major settlement area and cultural zone of the Sámi people, the indigenous population in the Nordics (Kronenberg & Fuchs, 2022).

In this chapter, we aim to empirically estimate the relative contribution of the cultural tourism and creative subsectors in Jämtland Härjedalen to the circular economy using the system of national accounts, including the annually generated IO tables. An IO table is a matrix that provides a macro-level perspective on the monetary activities of all economic sectors defined in a country's system of national accounts (Miller & Blair, 2009). More precisely, the table's columns show how much input x each sector requires from other sectors to

produce its total output X , including value added v (e.g. wages, profits, and taxes). By contrast, the rows show how much each sector contributes to other sectors' inputs and to final demand y (i.e. the demand of both households and governments). We used the IO table for domestic production, which shows the intersectoral relationships – or intermediate transactions – between domestic sectors in an economy. Imports are treated differently, which is discussed later in the section. Table 4.1 illustrates an IO table, with economic sectors' activities shown as monetary relationships.

From the IO table, we can derive a matrix A , which is defined as the technology matrix indicating the degree of interindustry transactions in relation to total output X (Table 4.2). Each cell represents the percentage share of total output X_i , also expressed as the national (c) IO coefficient \hat{a}_{ij}^c .

Since Swedish IO tables are only available for transactions at the national level, we regionalized the national technology matrix A to obtain regional (r) IO coefficients \hat{a}_{ij}^r and a regional technology matrix A^r specified for the economic circumstances of Jämtland Härjedalen. More precisely, through this regionalization, we adjusted the national coefficients \hat{a}_{ij}^c according to each sector's regional peculiarities proxied by regional employment (i.e. labour specialization), regional sectors' relative size (i.e. selling and purchasing volumes), and the region's relative territorial size – a method from the Flegg's location quotient (Flegg & Webber, 2000; Flegg & Tohmo, 2013). For more details on the regionalization technique, please refer to Kronenberg & Fuchs (2022). Based on the regional technology matrix A^r , we derived regional IO multipliers through the Leontief

Table 4.1 Simplified input–output table

	Sector $j = 1$	Sector $j = 2$	Sector $j = m$	Final demand y	Total output X_i
Sector $i = 1$	x_{11}	x_{12}	x_{1m}	y_1	X_1
Sector $i = 2$	x_{21}	x_{22}	x_{2m}	y_2	X_2
Sector $i = n$	x_{n1}	x_{n2}	x_{nm}	y_n	X_n
Value added v	v_1	v_2	v_m		
Total output X_j	X_1	X_2	X_m		

Source: adapted from Miller & Blair, 2009.

Table 4.2 Technology matrix A

	Sector $j = 1$	Sector $j = 2$	Sector $j = m$
Sector $i = 1$	\hat{a}_{11}	\hat{a}_{12}	\hat{a}_{1m}
Sector $i = 2$	\hat{a}_{21}	\hat{a}_{22}	\hat{a}_{2m}
Sector $i = n$	\hat{a}_{n1}	\hat{a}_{n2}	\hat{a}_{nm}

Source: adapted from Miller & Blair, 2009.

inverse matrix (Miller & Blair, 2009), a process attributed to the Russian American economist Wassily Leontief. The Leontief inverse is defined as

$$(I - A^r)^{-1}$$

where I is an identity matrix where the descending diagonal values top left to bottom right are 1 and the residual values are 0. In the Leontief inverse matrix $(I - A^r)^{-1}$, the sum of each column is the output multiplier for a specific sector. Thus, the inverse indicates the degree of intersectoral linkages between all sectors throughout the economy. We further developed the model to obtain employment and income multipliers and import shares to identify circularity in the regional cultural tourism and creative subsectors. More technically, a matrix for employment multipliers E is the result of multiplying the Leontief inverse matrix with the sectoral employment per output ratio l . Similarly, the matrices for income multipliers W and tax multipliers T require the multiplication of the Leontief inverse matrix with the income per output ratio s and the taxes gained per output ratio t :

$$E = (I - A^r)^{-1} \times l_{ij}$$

$$W = (I - A^r)^{-1} \times s_{ij}$$

$$T = (I - A^r)^{-1} \times t_{ij}$$

Finally, we estimated the regional import shares derived from IO tables for imports. Similarly to the table for domestic production, the columns of the import table show how an economic sector j uses imported products i . Likewise, the rows show how much of the imported products i are used by industry sector j . Thus, we can interpret the coefficients for imports as intermediate products imported for productive processes by a particular industry n . Following the regionalization above, the regional import coefficients are again expressed as \hat{t}_{ij}^r . Accordingly, we derived the regional import shares IM^r through

$$IM^r = 1 - \frac{\hat{a}_{ij}^r}{\hat{a}_{ij}^r + \hat{1}_{ij}^r}$$

As a result, the import shares indicate the percentages of total production output that come from imported products and services for sectors in Jämtland Härjedalen (Kronenberg, 2012). The sectors considered in this study included tourism-related sectors defined in the system of national accounts by SNI (*svensk näringsgrensindelning*) codes – an international standard to classify businesses, industries, and economic activities in the system of National Accounts: (a) wholesale and retail trade (SNI G45–47); (b) land transport services (H49); (c) air transport services (H51); (d) accommodation and food services (I55–56); (e) travel agencies, tour operators, and reservation services (N79); (f) creative, arts, entertainment,

museum, and cultural services (R90–92); and (g) sporting services, amusements, and recreation services (R93). Finally, our study covers the 13-year period 2008–2020, which allows us to identify trends and changes over time.

Findings and discussion

This section summarizes and discusses the findings gained from our IO methodology. The method provides empirical estimates for the economic output over the period 2008–2020, such as regional output multipliers, employment, and income multipliers (Kronenberg et al., 2018). To overcome the growth-oriented focus inherent to IO methodology, which leaves little analytical room beyond the gross domestic growth perspective, our focus is on the assessment of the region's cultural tourism and creative sectors' contribution to building and maintaining a regional circular economy, thereby enhancing socioeconomic regional autonomy. For this purpose, we analysed and interpreted the leakages, intersectoral linkages, and taxes induced by regional cultural tourism and creative sectors over time (Kronenberg & Fuchs, 2022).

The first result shows that the cultural tourism and creative sectors in the Jämtland Härjedalen region have the second-highest regional output multipliers among all tourism-related subsectors (Table 1.3). Output multipliers indicate the change in production throughout the whole regional economy resulting from a one-unit increase in demand (SEK 1) for a particular sector (Miller & Blair, 2009). This marginal increase of demand in the cultural tourism and creative sectors leads to an average increase of regional economic output of 16.5%. This high number points to the importance of the creative and cultural sectors for regional economies. As shown in Table 4.3, however, the importance tends to decrease slightly over time.

In regard to employment effects, the employment multiplier indicates the change in full-time equivalents throughout the regional economy resulting from a one-unit increase in demand for a particular sector (Miller & Blair, 2009). In comparison with other regional tourism subsectors, the contribution of the cultural tourism and creative sectors to regional employment is moderate: A one-unit increase in sectoral demand (SEK 1 Mill.) leads to an average increase of 1.021 full-time equivalents (Table 4.4).

Regarding income effects, the income multiplier indicates the change in wages and salaries throughout the regional economy resulting from a one-unit increase in demand for a particular sector (Miller & Blair, 2009). Again, in comparison with other regional tourism subsectors, the contribution of the cultural tourism and creative sectors to regional income is moderate: A one-unit increase in sectoral demand (SEK 1) leads to an average increase of wages and salaries of 0.24% (Table 4.5).

The focus of our analysis is on the assessment of the cultural tourism and creative sectors' contribution to building a regional circular economy. For this evaluative purpose, we assessed leakages, intersectoral linkages, and tax multipliers. Leakages tend to increase if the productive capacities of a region are

Table 4.3 Regional output multiplier by tourism-related sector, 2008–2020

<i>Year</i>	<i>G45–47</i>	<i>H49</i>	<i>H51</i>	<i>I55–56</i>	<i>N79</i>	<i>R90–92</i>	<i>R93</i>
2008	1.120	1.115	1.101	1.084	1.126	1.160	1.101
2009	1.117	1.131	1.145	1.092	1.111	1.181	1.101
2010	1.113	1.132	1.220	1.089	1.097	1.193	1.097
2011	1.112	1.137	1.291	1.094	1.095	1.187	1.087
2012	1.113	1.120	1.269	1.091	1.095	1.185	1.085
2013	1.114	1.124	1.309	1.091	1.091	1.177	1.083
2014	1.102	1.113	1.214	1.094	1.077	1.167	1.083
2015	1.118	1.113	1.130	1.096	1.140	1.157	1.084
2016	1.120	1.114	1.122	1.098	1.143	1.152	1.086
2017	1.121	1.115	1.168	1.098	1.142	1.152	1.082
2018	1.126	1.113	1.117	1.107	1.161	1.161	1.082
2019	1.117	1.114	1.121	1.121	1.150	1.144	1.104
2020	1.119	1.121	1.192	1.124	1.183	1.132	1.106
∅	1.116	1.120	1.185	1.098	1.124	1.165	1.091
Rank	5	4	1	6	3	2	7

Note: G45–47 = Wholesale and retail trade; H49 = Land transport services; H51 = Air transport services; I55–56 = Accommodation and food services; N79 = Travel agencies and tour operators; R90–92 = Creative, arts, and entertainment services; R93 = Sporting, amusement, and recreation.

Table 4.4 Regional employment multiplier by tourism-related sector, 2008–2020

<i>Year</i>	<i>G45–47</i>	<i>H49</i>	<i>H51</i>	<i>I55–56</i>	<i>N79</i>	<i>R90–92</i>	<i>R93</i>
2008	1.086	0.858	0.332	1.285	0.375	1.054	1.328
2009	1.125	0.904	0.307	1.301	0.349	1.091	1.332
2010	1.075	0.875	0.332	1.306	0.333	1.100	1.278
2011	1.020	0.842	0.321	1.242	0.319	1.052	1.200
2012	1.036	0.811	0.306	1.272	0.295	1.053	1.166
2013	1.032	0.798	0.272	1.268	0.290	1.031	1.124
2014	0.980	0.766	0.272	1.216	0.304	1.030	1.141
2015	0.802	0.733	0.229	1.143	0.262	1.026	1.197
2016	0.789	0.717	0.235	1.092	0.249	0.984	1.201
2017	0.776	0.681	0.237	1.055	0.233	0.956	1.102
2018	0.734	0.665	0.232	1.024	0.223	0.963	1.036
2019	0.667	0.628	0.221	1.095	0.218	0.919	1.144
2020	0.686	0.667	0.359	1.240	0.432	1.017	1.057
∅	0.908	0.765	0.281	1.195	0.299	1.021	1.178
Rank	4	5	7	1	6	3	2

Note. G45–47 = Wholesale and retail trade; H49 = Land transport services; H51 = Air transport services; I55–56 = Accommodation and food services; N79 = Travel agencies and tour operators; R90–92 = Creative, arts, and entertainment services; R93 = Sporting, amusement, and recreation.

Table 4.5 Regional income multiplier by tourism-related sector, 2008–2020

Year	G45–47	H49	H51	I55–56	N79	R90–92	R93
2008	0.305	0.223	0.117	0.284	0.118	0.247	0.311
2009	0.327	0.237	0.121	0.293	0.114	0.248	0.318
2010	0.311	0.242	0.159	0.292	0.106	0.243	0.311
2011	0.306	0.240	0.191	0.295	0.110	0.243	0.307
2012	0.319	0.235	0.230	0.302	0.102	0.245	0.313
2013	0.326	0.237	0.178	0.306	0.106	0.241	0.310
2014	0.322	0.235	0.126	0.309	0.108	0.245	0.311
2015	0.284	0.234	0.107	0.319	0.101	0.241	0.305
2016	0.284	0.236	0.108	0.319	0.097	0.240	0.302
2017	0.284	0.233	0.114	0.324	0.092	0.241	0.306
2018	0.281	0.234	0.118	0.322	0.091	0.252	0.301
2019	0.268	0.231	0.121	0.330	0.088	0.238	0.306
2020	0.275	0.244	0.231	0.373	0.193	0.257	0.310
∅	0.300	0.235	0.148	0.313	0.110	0.245	0.308
Rank	3	5	6	1	7	4	2

Note: G45–47 = Wholesale and retail trade; H49 = Land transport services; H51 = Air transport services; I55–56 = Accommodation and food services; N79 = Travel agencies and tour operators; R90–92 = Creative, arts, and entertainment services; R93 = Sporting, amusement, and recreation.

insufficient, which is typical in rural or peripheral areas, such as the Swedish region under study. The usual remedies against such regional capacity constraints are importation (either from other regions domestically or internationally), external labour (labour migration), and the various forms of foreign ownership and control (Garrigós-Simón et al., 2015). Our study estimates regional leakages by analysing regional tourism's import shares over time, thereby assessing the tourism subsectors' dependency on imported goods and services for their specific economic output. The findings show that among all the tourism-related subsectors analysed, the cultural tourism (i.e. museums) and creative sectors (i.e. arts and entertainment) most strongly contribute to the formation and sustainment of the regional circular economy. More precisely, regional leakages as indicated by importation shares are high across regional tourism subsectors, while the creative and cultural tourism sectors have the lowest average importation share, amounting to only 9.5% (Table 4.6).

These low importation shares clearly imply that the cultural tourism and creative sectors are characterized by relatively low resource and capacity constraints and thus show a low dependency on imported goods and services. It can be conjectured that the primary resources consumed by the creative and cultural tourism sectors are either available within the regional territory and/or show the form of capabilities which are embodied in the talent, passion, and skills of the regional population and in the relevant businesses (Morana et al.,

Table 4.6 Regional import shares by tourism-related sector, 2008–2020

<i>Year</i>	<i>G45–47</i>	<i>H49</i>	<i>H51</i>	<i>I55–56</i>	<i>N79</i>	<i>R90–92</i>	<i>R93</i>
2008	18.9%	10.1%	41.4%	18.8%	26.3%	9.1%	10.4%
2009	18.1%	15.4%	61.9%	18.6%	25.2%	8.9%	10.4%
2010	19.5%	17.3%	57.1%	19.9%	23.2%	7.9%	9.9%
2011	19.5%	17.1%	50.1%	18.9%	18.4%	8.1%	10.0%
2012	18.9%	13.8%	52.2%	19.2%	18.9%	7.5%	9.5%
2013	18.8%	13.9%	48.7%	19.5%	18.3%	7.7%	9.6%
2014	20.1%	8.6%	34.3%	18.9%	22.3%	9.0%	10.1%
2015	18.6%	8.4%	51.3%	20.3%	13.6%	11.0%	9.8%
2016	18.6%	7.8%	49.5%	20.5%	11.8%	11.0%	10.2%
2017	18.4%	6.8%	49.4%	20.4%	11.9%	11.8%	11.0%
2018	18.2%	7.3%	50.1%	14.1%	12.7%	10.3%	8.3%
2019	21.8%	7.6%	52.0%	14.8%	14.7%	10.4%	8.3%
2020	21.0%	7.1%	58.0%	18.3%	8.8%	10.3%	7.5%
∅	19.3%	10.9%	50.5%	18.6%	17.4%	9.5%	9.6%
Rank	6	3	7	5	4	1	2

Note. G45–47 = Wholesale and retail trade; H49 = Land transport services; H51 = Air transport services; I55–56 = Accommodation and food services; N79 = Travel agencies and tour operators; R90–92 = Creative, arts, and entertainment services; R93 = Sporting, amusement, and recreation.

2014: Ziegler, 2020). By contrast, other tourism subsectors, such as accommodation and food services and the air transportation sector, have average importation shares from 18.6% up to 50.5%, respectively. Notably, however, development trends after 2013 are negative for the cultural tourism and creative sectors in our Swedish case study region, implying that the potential to strengthen the regional circular economy weakened over time (Table 1.6). Notably, behind this trend we detect a dynamic pattern which aligns with a global poly-crisis, such as the financial crisis in 2009 and the SARS pandemic, followed by a phase of economic prosperity characterized by (near) full employment and multiple opportunities to import at low price rate. However, this phase of economic boom ended abruptly due to the COVID-19 pandemic, which since then is only slowly recovering economically (SCB, 2024)

We analysed the degree of intersectoral linkages to describe the region's macroeconomic industry structure (Miller & Blair, 2009). By applying regional IO coefficients, we estimate the share of intermediate inputs the regional tourism and creative sectors require from other sectors to produce their economic output. Again, the regional tourism sectors show considerable variation, ranking between 16th (air transport services) and 45th (amusement, recreation & sporting services) among all 60 branches of economic activity (Table 4.7).

With a rank of 34, the regional cultural tourism and creative sectors have a moderate degree of intersectoral linkages, equivalent to a 12% share of

Table 4.7 Degree of intersectoral linkages by tourism-related sectors in 2020

<i>Rank</i>	<i>Regional sector</i>	<i>Regional coefficient</i>	<i>Tourism sector rank</i>
1	Paper and paper products	47%	
...	
16	Air transport services	17%	1
...	
21	Travel agency, tour operators, and other reservation services	16%	2
...	
34	Creative, arts, and entertainment services; library, archive, museum, and other cultural services; gambling and betting services	12%	3
...	
38	Land transport services and transport services via pipeline	11%	4
...	
40	Accommodation and food services	11%	5
41	Wholesale and retail trade and repair services of motor vehicles and motorcycles	10%	6
...	
45	Sporting services and amusement and recreation services	9%	7
...	
60	Social work services	4%	

intermediate inputs from other regional sectors to produce their own economic output (Table 4.7). This intermediate input is most strongly sourced by regional tourism subsectors, such as accommodation and food services; travel agency, tour operators, and reservation services; wholesale and retail trade; and land transportation services (Table 4.8). Notably, compared to other tourism subsectors, the regional cultural tourism and creative sectors show a broader range of sectors being interlinked, which again proves their crucial trans-sectional function in contributing to socioeconomic flourishing and the formation and sustainment of a regional circular economy (Burlina et al., 2022).

Finally, by applying regional tax multipliers, we can assess the cultural tourism and creative sectors' contribution to the creation and enhancement of public goods and common pool resources in a particular region (Millar & Blair, 2009). Regional taxes show the capacity for strengthening and fostering the

Table 4.8 Degree of intersectoral linkages of cultural tourism and creative sectors in 2020

<i>Rank</i>	<i>Intermediate input for creative, arts, and entertainment services (R90–92)</i>	<i>Intermediate inputs (%)</i>
1	Real estate services including imputed rents	2.64
2	Security and investigation services; services to buildings and landscape; office administrative, office support, and other business support services	1.05
3	Wholesale and retail trade and repair services of motor vehicles and motorcycles	0.96
4	Public administration and defence services; compulsory social security services	0.81
5	Creative, arts, and entertainment services; library, archive, museum, and other cultural services; gambling and betting services	0.61
6	Constructions works	0.61
7	Legal and accounting services; services of head offices; management consulting services	0.45
8	Electricity, gas, steam, and air-conditioning	0.36
9	Accommodation and food services	0.34
10	Financial services, except for insurance and pension funding	0.31
11	Rental and leasing services	0.28
12	Land transport services and transport services via pipelines	0.27
13	Food products, beverages, and tobacco products	0.21
14	Travel agency, tour operator, and other reservation services and related services	0.20
15	Computer programming, consultancy, & related services; information services	0.20
16	Employment services	0.17
17	Wood and of products of wood and cork, except furniture; articles of straw and plaiting materials	0.17
18	Motion picture, video and television programme production services; sound recording and music publishing; programming and broadcasting services	0.16
19	Postal and courier services	0.15
20	Repair and installation services of machinery & equipment	0.15
21	Publishing services	0.14
22	Printing and recording services	0.14
23	Architectural and engineering services; technical testing and analysis services	0.13
	Total	10.52

promotion of regional institutions with shared norms, cultures, and experiences in societally vital domains, such as public health, public education, public transport, public trade, public leisure, and cultural infrastructures (Kallhoff, 2014). Sectors with a high tax multiplier contribute more to the principles of regional fiscal equivalency (Olson, 1969), which has later been subsumed by the concept of regional tax subsidiarity. In line with the concept of regional circular economy, this concept implies that the smallest appropriate regional jurisdiction should decide on and provide the public goods and common pool resources in a political jurisdiction (Sandler, 2013). Only by so doing can the lowest transactions costs and symmetric information guarantee the highest levels of trust and tax expenditures that are most ideally channelled into the public goods that most strongly serve the interests of locals and regional stakeholders (Sandler, 2013, 21).

Technically, the regional tax multiplier indicates the change in regional government income resulting from a one-unit increase in demand (SEK 1) in a particular sector (Miller & Blair, 2009). In regard to the regional tax multipliers induced by the tourism-related subsectors in Jämtland Härjedalen, the cultural tourism and creative sectors again rank highest in their capacity to contribute to the regional tax base, thus showing the strongest relative potential to promote regional public goods and common pool resources (Table 4.9). In numbers, a one-unit increase of demand in the regional creative and cultural sectors leads to an average increase in regional government income of 5.6%. Although the

Table 4.9 Regional tax multipliers by tourism-related sector, 2008–2020

<i>Year</i>	<i>G45–47</i>	<i>H49</i>	<i>H51</i>	<i>I55–56</i>	<i>N79</i>	<i>R90–92</i>	<i>R93</i>
2008	0.009	0.051	0.001	0.036	0.006	0.057	0.052
2009	0.010	0.054	0.002	0.038	0.006	0.060	0.052
2010	0.009	0.057	0.002	0.036	0.005	0.057	0.050
2011	0.009	0.056	0.002	0.034	0.005	0.057	0.048
2012	0.009	0.056	0.002	0.033	0.005	0.053	0.046
2013	0.009	0.056	0.002	0.032	0.005	0.051	0.045
2014	0.008	0.054	0.002	0.033	0.037	0.052	0.045
2015	0.006	0.054	0.001	0.031	0.046	0.063	0.042
2016	0.006	0.056	0.001	0.031	0.045	0.059	0.041
2017	0.006	0.055	0.001	0.031	0.042	0.059	0.039
2018	0.005	0.053	0.001	0.030	0.044	0.061	0.039
2019	0.005	0.051	0.001	0.031	0.045	0.054	>0.039
2020	0.005	0.052	0.002	0.034	0.052	0.050	0.042
∅	0.007	0.054	0.001	0.033	0.026	0.056	0.045
Rank	6	2	7	4	5	1	3

trend within our sector of interest is slightly negative, other tourism sectors' tax multipliers are low, such as those of the air transport service sector and the wholesale and retail trade sector, which rank at only 0.1% and 0.7%, respectively.

Conclusion and outlook

The findings demonstrate the crucial role of the cultural tourism and creative sectors in transforming current linear-extractive economies into regional circular economies (Burlina et al., 2022; Tomassini et al., 2024). As highlighted in Fuchs (2023), as a promising alternative to contemporary economic thinking and in full line with regional circular economies, Brodbeck (2001) proposes a post-mechanistic economic paradigm which places creativity at its centre. Herein, human creativity is deemed a social process with the ability to change the meaning of situational phenomena thereby cancelling "outdated" phenomenological distinctions and creating new ones (Brodbeck, 2000). In fact, the main activity within economic spaces redefined as socio-communicative networks is creativity which comprises the creation of diversity, superfluity, and the *ethically* guided selection of ideas, linkages, and goods (Brodbeck, 2002, 6; Fuchs, 2023, p. 5).

Although there are still scholars who subsume creativity in contemporary neoliberal development discourse which links creativity to the primacy of global markets as a factor in place-competition (Booyens, 2016), the aim of this chapter was to debate the role of the creative and cultural tourism sectors within regional circular economies by employing local and regional resources thereby supporting traditional livelihoods as well as place-making what in turn enables social participation and leaves space for creative expression and ethical narratives (Boccella & Salerno, 2016). More concretely, entrepreneurs as well as persons employed in the creative, arts and cultural tourism sectors are characterized by strong and locally embedded social relations which contribute to successfully implementing their business concepts often aligned with the values gained from lifestyle entrepreneurship (Mackay et al., 2021). While entrepreneurs in the creative economy heavily engage in local communities, they also support volunteer work, create places for creative thinking and contribute to the formation of place identity (Stupples, 2014). By respecting local socio-cultural peculiarities, they add to the creation of commons and public goods, like place-brands and ethically grounded social norms. The latter comprise norms, like fairness-seeking and Others-regarding and show the capacity to eliminate selfish-behaviour in the long run (Fuchs, 2023, p. 6).

Moreover, the empirical outcomes show the capacity of the proposed IO methodology to assess regional sectors' contribution to building and sustaining a circular economy (Kronenberg & Fuchs, 2022). As major limitations of our approach, one could point to the adverse implications derived from the assumptions inherent to the IO-based methodology, such as the non-consideration of

economies of scale, price elasticities, and substitution effects (Miller & Blair, 2009). However, these theoretical drawbacks are, at least empirically, outweighed by the fact that Statistics Sweden provides IO tables annually. By so doing, structural changes of the regional economy are considered (Kronenberg et al., 2018). A further limitation is attributed to the data used. First, IO models follow a top-down multisectoral data aggregation principle (Miller & Blair, 2009). However, reliability issues may arise due to economic agents' self-declaration of sales and other transactions to national statistics institutions. Second, the application of the Flegg location quotient implies equality between both national and regional employment and income per output ratios (Flegg & Tohmo, 2013). To overcome these two drawbacks, regional IO tables should in the future be generated bottom-up; that is, through a survey-based process by interviewing the responsible persons about the sales figures of their regional businesses (Antolini & Grassini, 2020).

There are further possibilities to improve our proposed IO methodology. First, the variety of observed regional economic sectors strongly interlinked with the cultural tourism and creative subsectors should be further explored and assessed more systematically with a focus on their level of regional embeddedness. As shown in this chapter, this could be best achieved by analysing their degree of regional intersectoral linkages. Second, it seems crucial for future research to also consider more explicitly the proximity of the tourism and creative sectors' transregional sources of major importation, such as neighbouring regions, Swedish territory, neighbouring Scandinavian countries, European Union countries, and non-European Union countries. Only by such measures can the full ecological impact and economic benefit of global supply chains be critically assessed vis-à-vis regional circular economic alternatives (Dunlap & Laratte, 2022).

Given the peculiarities of cultural tourism and the creative sectors, the study of supply chains seems to be a practicable avenue for ensuring circularity (Tomassini et al., 2024). Technically, network analytical methods also provide the analytical outcomes needed to describe the shape of the supply chains and the flows of materials and information therein (Baggio, 2017; Fuchs & Baggio, 2017). In line with the IO approach discussed in this chapter, intersectoral linkages mirrored by regional IO coefficients should be studied by network analytical methods to discover clusters of structurally equivalent and strongly interlinked regional subsectors. It is then possible to determine those players in the cultural tourism and creative sectors that are most strongly involved in the regional economic production process, thus strengthening regional circular economies (García Muñiz, 2013). Increasing the level of regional circularity provides each actor and society as a whole with benefits deriving from the capacity to operate in a well-maintained socioeconomic and ecological environment, exceeding the sustainable outcomes that it would have in an unbalanced triple-bottom arrangement (Tomassini et al., 2024).

Note

- 1 A major scholars' initiative is the special interest group Circular Economy in Tourism & Hospitality by the International Association for Tourism and Leisure Education and Research (ATLAS). See, e.g., the two webinars: <https://www.youtube.com/watch?v=ka-uxmcRqIo>; <https://www.youtube.com/watch?v=cFMFXcSPI5A&t=786s>

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