

Appendix 3. How to Calculate the Economic Value of Jyväskylä Art Institutions

All over the world, numerous studies have been conducted to analyse the economic flows of culture, which have often focused on analysing the impact of opera houses, theatres, orchestras, and museums [1] (Cwi & Lyall, 1977; Throsby & O'Shea, 1980; Port Authority of New York, New Jersey & Cultural Assistance Center, 1983; Gratton & Taylor, 1986; Myerscough, 1988; O'Hagan, 1989; Bohlin & Ternhag, 1990; Stanley et al., 2000; Devesa et al., 2006; Clark & Apostolakis, 2007; Rivera et al., 2008; Centre for Economics and Business research, 2019). In Finland, studies on economic flows have focused widely on the impact of events. The economic effects of cultural events in Finland have been studied since the 1990s in various studies (Karjalainen 1991; Cantell, 1993; Cantell, 1996; Ilmonen et al., 1995; Tohmo, 2002; Haaga Instituutti -säätio, 2007; Mikkonen et al., 2008; Pasanen & Taskinen, 2008a; Pasanen & Taskinen, 2008b).

Studies related to economic flows of cultural institutions and events usually calculate the direct, indirect, and secondary effects associated with the event and generally result in notable multiplier effects. However, to achieve a multiplier effect, it is usually necessary to add inputs, some of which flow out of the area under consideration, for example, in the form of purchase expenses, salaries, or potential profits.

In this study, the analysis of the regional economic flows of the consumption of visitors to the Jyväskylä Art institutions is based on the input-output tables of Central Finland for 2014. The analysis in this study employs sector-specific input-output coefficients, the inverse matrix coefficients, and the basic inputs. When using such analysis, it makes sense to pay attention to what cash flows are included in the calculations and what is the area under consideration as well as the sphere of influence. It's worth noting that the consumption of residents will not bring export-type money to the area unless a local event is a substitute for a trip outside the area. Furthermore, generalising the impact can be challenging, as there may be problems in estimating the number of visitors to an event or culture institute.

Typically, when calculating the economic benefit of culture, tourists from outside the region are considered. If the tourist's primary reason for the trip is to visit a cultural institute or attend an event, the economic impact of the culture institute (and trip) is measured, for example, by changes in consumption, employment, income, and public income.

Expenses related to visitors to the Jyväskylä Art institutions are causing demand for different products at the regional level. This, in turn, affects the whole production chain since the production of purchased goods and services requires different inputs as intermediate products. Our study assesses the direct, indirect, and total impacts of these purchases in Central Finland in various industries through regional input-output analysis.

Based on the audience survey, for calculating the economic impact of the art institutions, we used the questionnaire's question as to whether the respondent arrived specifically for the art or cultural institution visit. This approach enables us to account for visitor's motives for their trips. If visiting the art department was the main reason for the trip, the effect is considered to be 100%. Similarly, if one of the main reasons was involved, the impact was considered to be 75%. When the visit to the art institute was one of the things that influenced the arrival, the impact was considered to be 50%. If the visit to the art facility was of only minor importance to the completion of the trip, the effects were considered to be 25%.

Table A1 shows an example calculation of the impact of the use of money by visitors to the Jyväskylä Art Museum. The calculations take into account the location of the visitors,

the importance of the art institution as the reason for the trip, and the average consumption by industry. The survey covers visitor spending in various sectors within Central Finland sectors 45–47: Wholesale and retail trade, repair of motor vehicles and motorcycles, 49–53: Transportation and storage, 55–56: Accommodation and food service activities).

Table A1. Example calculation of economic effects. Visitors' location, the importance of the facility as the reason for the visit (100%) and the average consumption by sector was used as the basis for calculations.

Place of Residence of Visitors to the Jyväskylä Art Museum	Estimated by the Jyväskylä Art Museum		Audience Survey Information			
	Visitors %	Visitors n	The Most Important Reason According to the Respondents 57.5 %	Sectors 45–47 Avg= 14.39 €	Sectors 49–53 Avg= 18.14 €	Sectors 55–56 Avg= 23.53 €
Jyväskylä	67	25,603	14,722	211,849	267,056	659,101
Rest of Central Finland	12	4,586	2,637	37,943	47,831	118,048
Rest of Finland	17	6,496	3,735	53,753	67,760	167,235
Foreign countries	4	1,529	879	12,648	15,944	39,349
Overall	100	38,214	21,793	316,193	398,591	983,733

Source: Author's own calculations

According to an audience survey, more than half (57.5%) of the respondents were visiting Jyväskylä Art Museum as the main reason for the trip. About a fifth (19.3%) thought that visiting the Art Museum was one of the main reasons for the trip. The visit to the Art Institute was one of the factors influencing the arrival for 15.1% of the respondents, while for 5.7%, it held a relatively minor significance.

Except the Alvar Aalto Museum, visitors to the other Jyväskylä Art institutions have quite a few foreigners (Table A2). More than half of the visitors to the Alvar Aalto Museum are foreigners. Most of the visitors to the other art institutes involved in the survey live in Central Finland, with the proportion varying from 69% at the Craft Museum of Finland to 94% at Jyväskylä City Theatre.

Table A2. The number of visitors to the Jyväskylä Art institutes and their place of residence

Place of Residence of Visitors to the Jyväskylä Art Institutes	Jyväskylä Art Museum %	The Craft Museum of Finland %	Alvar Aalto Museum* %	Jyväskylä City Theatre %	Jyväskylä Sinfonia %
Jyväskylä	67	54	-	69	84.5
Rest of Central Finland	12	15	30	25	12
Rest of Finland	17	25	15	5	3
Foreign countries	4	6	55	1	0.5
Overall (n)	38,214	35,027	19,846	60,000	41,170

Source: Author's own calculations based on estimates of Jyväskylä Art Institutes

*The museum did not distinguish between visitors living in Jyväskylä and elsewhere in Central Finland.

Out of the total count of 38,214 visitors to the Jyväskylä Art Museum, 67% lived in Jyväskylä. For the 57.5% of the respondents, visiting the Jyväskylä Art Museum was the main reason for the trip. Consequently, the number of visitors for whom the main reason for the trip was to visit the Jyväskylä Art Museum amounted to 14,722 individuals. According to the survey, the average spending per visitor in the accommodation and restaurants sector (sectors 55–56) on a visit to the Art Museum was EUR 23.53 per visitor. Thus, the total money spent was € 659,101 for the visitors who considered a visit to the Jyväskylä Art Museum to be the main reason for the trip.

The effects of the money spent by visitors to the Jyväskylä Art Museum on the production, employment, households' net income, and taxes are shown in Table A3.

Table A3. Economic impact of Jyväskylä Art Museum (impact of money spent by art visitors)

Impacts	Jyväskylä Art Museum €
Residents of Jyväskylä	
Production effects (total)	2,298,186
Impact on net household income	417,599
State taxes	49,566
Municipal tax	130,383
Impact on employment (person: years)	23:3
Residents of the Rest of Central Finland	
Production effects (total)	411,615
Impact on net household income	74,794
State taxes	8,877
Municipal tax	23,353
Impact on employment (person: years)	4:1
Rest of Finland	
Production effects (total)	582,121
Impact on net household income	105,958
State taxes	12,576
Municipal tax	33,083
Impact on employment (person: years)	5:9
Living abroad	
Production effects (total)	146,227
Impact on net household income	81,659
State taxes	2,959
Municipal tax	7,785
Impact on employment (person: years)	1:4

Source: Author's own calculations, Statistics Finland

[1] The UK government's Department for Culture, Media and Sport (DCMS) provides the economic contribution of Britain's creative industries. (DCMS, 1998; DCMS, 2001) In these documents, 13 creative industries have been identified, and they work as a basis for subsequent annual estimates of size and activities of those industries produced by DCMS. The study of the Centre for Economics and Business Research (2019) covers theatre, dance, literature, visual arts, music, and combined arts. (CEBR, 2019)