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Preface

The tourist industry is growing in Finland and elsewhere in the world clearly faster than the other sectors of the economy. The growth possibilities of tourism are also closely connected outside the actual tourism industry itself. Upward trends have been, inter alia, cultural and natural travel in which the environment, either built or natural, has an important part in creating travel decisions.

Museums have a substantial role in the growth possibilities of cultural travel. They are important destinations for many travellers and create possibilities for the growth of the tourist industry itself. The tourist industry employs tens of thousands of Finns and its economic impact is significant. As a growing and labour-intensive industry, it has great importance both regionally and for the whole Finnish economy.

This study examines the economic impact of museums on their operational environment. It has been observed that museum visitors spend a multiple amount of money outside the museum compared with their spending in the museum. These money flows support considerably the regional economy of museum locations. Restaurants, hotels, transport services, and the retail trade are the primary beneficiaries, but indirectly also municipalities receive their share. Increases in tax revenues and better employment benefit the actors in the local communities even more widely. Even though the primary task of Finnish museums relates to cultural values and they do not make a profit from their own operation, the economic impact provided by the museums is significant.

This study was commissioned by the Finnish Museums Association and it was implemented in cooperation with museums operating in Finland. The museums collected the questionnaire data used in this study between May and September 2013. From the University of Vaasa, Professor Hannu Piekkola and Research Manager of the Levón Institute Arttu Vainio were involved in carrying out the study. Mr Otto Suojanen, a student of Economics, contributed to the research. I wish to acknowledge the museums which acquired the research data, the researchers at the University of Vaasa and the museum visitors who answered the questionnaire for their valuable input.

This publication was originally issued in the Finnish language. I wish to thank Ms Jaana Hokkanen, M.A., for the excellent English translation of the report.

Vaasa, March 2014

Jukka Peltoniemi
Director, Levón Institute

Contents

Abstract

Museums are, above all, cultural destinations but they are also tourist destinations and thus have an impact on economic activity. This study focused on examining the economic impact of museums. The aim was to find what kind of economic impact the activity of the museums themselves and, moreover, the spending of museum visitors have. Museum visitors use the services of passenger transport, hotels, shops, and restaurants for sums considerably larger than the price of a museum ticket. This study established how this spending affects the regional economy in the localities of museums.

The empirical data of this study were collected in Finnish museums by a survey which enquired particularly about the spending of museum visitors and their travelling motives. Over 6,500 museum visitors responded to the enquiry between May and September 2013. The aim was to find out spending occurring on the trip related to the museum visit and its allocation for different goods and services. By means of the survey, we also determined the reasons for the trip and the role of the museum in the travel decision. Based on data thus acquired, we excluded from the spending the share on which the museum was not considered to have an impact.

Museum visitors have better income and higher education than the average person. Furthermore, only a smallish portion of the country's population visit museums but they visit museums several times a year. According to the findings of this and previous studies, the visitor group is biased towards the middle-aged, managerial employees, clerical employees, and experts. For many persons belonging to these groups, it is typical to have higher incomes than the average. This study concluded that higher incomes also mean larger spending in connection with the trips. For this reason, the economic impact of trips made by museum visitors was greater than that of tourists on average.

The economic impact of museum visits was first evaluated at a museum visitor level. In a simple minimum assessment of impact, we totally excluded local inhabitants who would spend their money in the region even though they never visited the museum. In this model, we decreased the regional economic impact of sums stated by the museum visitors considerably, inter alia, based on factors related to the motive of the trip. Additional demand calculated for each museum visitor in the region was €32.80 in this minimum model. This sum can be used as the basis for the assessment. It shows the minimum spending caused by each museum visit in the region of the museum.

An alternative assessment employed statistical analyses. Here, we also excluded spending which is not allocated to the region. By means of the model, we determined tourists' decision-making related to spending and examined day-visitors and overnight tourists separately.

The average spending of day-visitors was estimated to be €15.20 and that of overnight tourists €73.80 per visitor. The average spending of all museum visitors was estimated to be €49.40 per visitor. The estimate is higher than that of the minimum assessment, which is a result of differences in the starting points of the assessments.

In the scale of the whole Finnish economy, museums with their multiplier effects provide an additional demand between €340 and €500 million in their local regions. This is a significant amount of money for regions as, for example, the total input of municipalities in financing the museums is about €75 million. The increase in total demand provided by museums in the region is thus at least about five times larger than this. The share of foreign tourists of the total impact is about one fifth.

The activity and role of museums are often considered through their central objectives related to cultural values. This study established that museums also have an important role for the regional economy of their localities. This impact is primarily based on spending occurring outside the museums and the admission fees of museums have minor importance.

1. Introduction

1.1 Background of study

According to a definition by the International Council of Museums (ICOM), "a museum is a non-profit, permanent institution in the service of society and its development, open to the public, which acquires, conserves, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment". Museums systematically collect material related to art, cultural history or natural science. (ICOM 2013)

Even though the primary task of museums is related to cultural values, there is a connection between museum activities and the formation of regional tourism income. This connection is based on the fact that the trips of museum visitors to museums generate economic activity which is related not only to museums but also to enterprises in the tourist industry, retail business and many other destinations in the locality of museums. Often trips have many purposes: meeting friends, going to a fun park or a theatre, visiting a museum, relaxing in a different environment, and so on. Even though the motives for the trip can be various, museum visits are most often connected with leisure time.

Central motives of leisure tourism are the desire to experience something new and different and the need to detach from daily routines and surroundings. Tourism can be considered a sort of luxury spending. It is characterised by a speedy increase in demand when disposable income increases. In the past decades, the quantity of travel and its economic impact have increased along with the improvement of the standard of living. (Laakkonen 2002)

The increase of tourism income provided by museums is related to the tourists' versatile use of services. The income received by the locality of the museum consists of income received by the museum and, above all, of tourists' other spending which is a multiple of the spend on the ticket receipts of the museum. Spending related to tourism can include, inter alia, accommodation, food and beverages, passenger transport, and retail trade. These services form an entity in which museums play their own small but important part.

This study was implemented at the Levón Institute of the University of Vaasa between the spring and autumn of 2013. The study was commissioned by the Finnish Museums Association and carried out by Professor Hannu Piekkola, Research Manager Arttu Vainio and Mr Otto Suojanen, a student of Economic Sciences.

1.2 Aim of study

This study examined the economic impact of museums. The object of the study was the impact which the museums have to their surrounding regional economy and, partially, to the whole national economy. These are visible in industries directly related to tourism but also e.g. in the demand of retail trade and restaurants. Furthermore, we examined the impact of the activity of the museums themselves and all multiplier effects of the activity on the regional economy (Figure 1).

The motives of museum visitors' activity and, therefore, their activities as consumers differ from each other greatly. Some museum visitors travel directly to and from the destination. Still, most visitors act in a different way. Often, day-visitors also use the services of passenger transport, retail trade or food and beverage sector with a sum which is larger than the price of an admission ticket. If the tourist lives far from the museum, he/she also uses accommodation and restaurant services. The combined monetary value of these services is clearly greater than the price of the museum ticket. Evaluating the magnitude of this spending and their total impact on the regional and national economy is a central aim of this study.

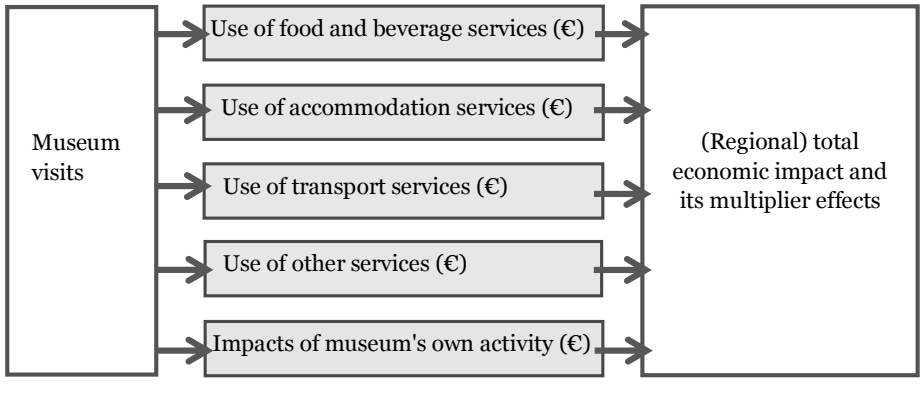

Figure 1 . Division of economic impact of museums by main groups.

The analysis of the economic impact of museums locally, regionally and for the whole national economy involves many factors the most central of which is related to the tourism industry. Previous studies concluded that the amount of money spent for the admission ticket is only a small part of the total costs of the trip destined for the museum. Most of the money is used for acquiring services outside the museum.

In addition to the above tourism spending, this study considered the regional economic impact of the activity of the museums themsel-

ves with its multiplier effects. Museums pay, inter alia, salaries to their employees and compensations for facilities and services used. For its most part, this spending is supplied to the economy of the locality.

The multiplier effect is based on the fact that additional income brought by tourists to the destination area increases the sales of enterprises in the locality which, in turn, circulates to the demand in the area as increased income. The spending of the museums themselves has a similar effect. Furthermore, the public sector collects taxes from the enterprises and from employees in the tourist industry which are mostly used for producing public services locally.

This study particularly examines the following issues:

1. How much money is spent on trips destined for museums?
2. How is this amount of money allocated between various services and museum activities?
3. What kind of total economic impact the activities of museums have on regional economies?
4. What is the economic impact provided by museum activities with its multiplier effects?

2. Tourism and museums

2.1 Tourism as industry

There is no unambiguous definition for the tourist industry. Many quite different industries are linked to tourism and its development. Figure 2 illustrates the diversity of the tourist industry as an object of study. Often, tourism spending is divided into products specific and characteristic of tourism and ones connected with tourism.

Industries specific to tourism are totally dependent on tourism. On the other hand, they are also crucial for the development of the tourist industry. Such are e.g. accommodation and transport services. Industries connected with and non-specific of tourism are, inter alia, the retail sale of fuels and other retail activities which would also exist without tourism but on which tourism makes a considerable impact. Tourism is, indeed, connected with the operations of many industries and enterprises. For this reason, it is difficult to distinguish tourism clearly from other service industries. (See e.g. Vanhove 2005)

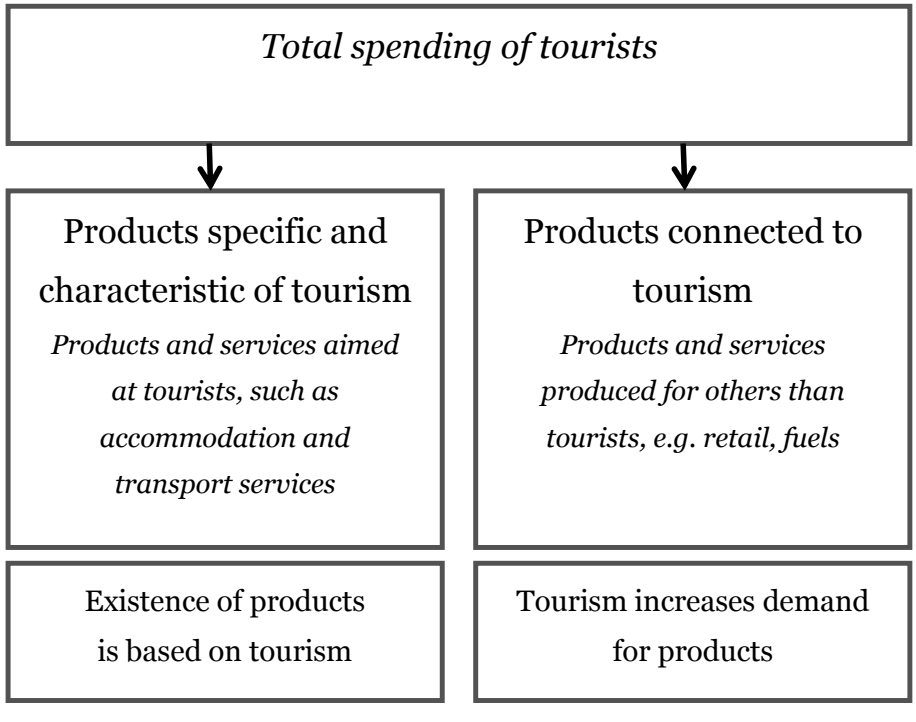

Figure 2. Tourists' demand for products specific and characteristic of tourism and for products connected with tourism (e.g. Vuoristo & Arajärvi 1990).

For the reasons described above, there is no commonly accepted and unambiguous definition for tourism. The following characteristics were found to be associated with it (see e.g. Burkart & Medlik 1974, Karppinen & Vähäsantanen 2011):

- tourism consists of people's journey – trip – from their normal living and work surroundings to a destination and spending time in the destination;
- tourism spending is short-term and seasonal;
- income elasticity of tourism demand is typically high (i.e. change in income creates a greater and parallel change in tourism demand);
- tourism is a growth industry (grows faster than total production) and, particularly in developed countries, the tourist industry is labour-intensive in relation to traditional industries;
- tourism supply is typically the local service activity of small- and medium-sized enterprises in which the interdependency of tourism products and tourist destinations is considerable and consumers contribute directly to a service event.

Most important costs related to tourism are the costs of the actual trip (i.e. journey) and those of accommodation and food and beverages. The part of other goods and services acquired by tourists from the total spending is smaller than those of the above but not negligible

2.2 Importance of tourism for economy

Tourism is a growing industry and, being labour-intensive, it is an important employer. As an industry, it has grown faster than total production for decades. Currently, the share of total tourism income (direct and indirect impacts) is on average 11% of the gross national product (GNP) of Organisation for Economic Cooperation and Development (OECD) countries and the share of tourist industry and activities related to it from total employment is even bigger than this. (Karppinen & Vähäsantanen 2011)

The tourism of the Finns themselves has increased for the past few years and also for the past few decades (Figure 3). The annual total number of trips in domestic tourism has already exceeded 40 million. The number of work and conference trips has been established to be about 5 million. The growth of tourism has been allocated to both domestic leisure tourism and tourism abroad. By numbers, most domestic trips are destined to holiday houses or are visits to acquaintances and relatives. Paid accommodation is used on about a quarter of all trips.

The most popular destinations in Finland are located in Uusimaa, Pirkanmaa and Varsinais-Suomi (Statistics Finland 2013b). However,

the relative importance of tourism on regional economies is the greatest in localities where tourism is a central industry. At province level, tourism is relatively most important in Lapland, the Åland Islands, Kainuu, Uusimaa, and southern Savo. (Konttinen 2006: 40)

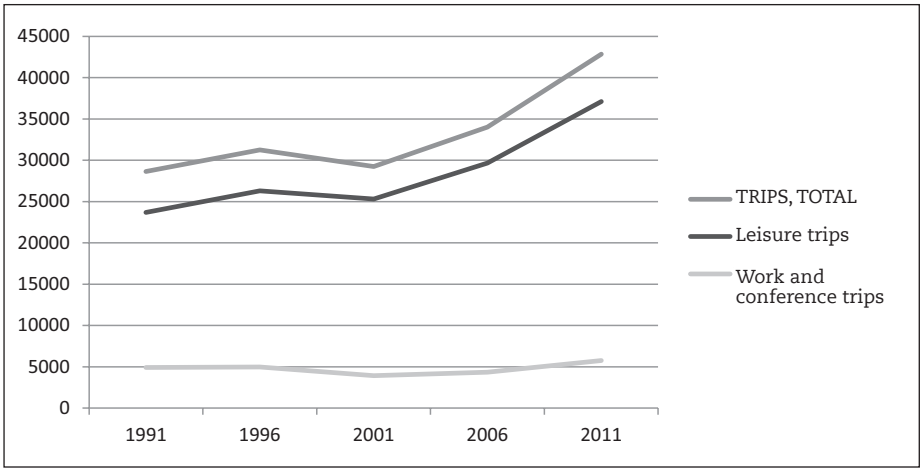

Figure 3. Domestic tourism of Finns in 1991–2011. On the vertical axis, total number of trips as thousands. Database tables by Statistics Finland www.stat.fi.

In 2012, 7.6 million foreign travellers visited Finland. The number of foreign visitors in Finland has increased at least at the same rate as the tourist industry has generally grown. Foreign tourists spent a total of €2.3 billion in Finland in 2012. Russian travellers were the largest group of foreign visitors, constituting almost half of all tourists. The second largest visitor group was from Estonia and the third largest from Sweden. (Statistics Finland 2013a)

Most foreign travellers to Finland were on a leisure trip. Slightly over a fifth of all foreign visitors were on a business trip and about a tenth were on a transit trip. About half of the foreigners staying overnight in Finland in 2012 were accommodated in a hotel or a motel. The share of day-trips was about 45% of all arrivals and most day-visitors were from Russia. On their visit, foreign travellers spent €300 on average in 2012. The sum spent for a trip could be larger as, e.g. in the Netherlands, visitors spent about €544 per stay (Aarsman et al 2012). Per travel day, foreign visitors in Finland spent €59 on average. (Statistics Finland 2013a)

The total expenditure of domestic and foreign tourists in 2012 was altogether about €15 billion. The share of foreign tourists of the total expenditure of tourism was 29%, that is, about €4.4 billion. The appreciation i.e. value added provided by tourism in 2012 was about €5 billion, which is about 3% of Finland's gross national product. According

to Tourism Account (Statistics Finland 2009), the total employment of the tourist industry in 2007 was about 64,000 persons. The sector also employs about double this number of persons as part-time employees. Thus, tourism has an important impact on the Finnish economy both as an employer and a producer of productive value added.

The World Travel and Tourism Council estimates that the tourist industry will grow further (WTTC 2010). Tourism demand is sensitive to changes in economic development, but the industry has proven to recover from crises quite fast (OECD 2010: 52). The United Nations World Tourism Organization UNWTO (2010: 11) has estimated tourism to grow in the near future globally at the average annual rate of 4% and in Europe on average about 3% annually. (Puhakka 2011)

The World Travel and Tourism Council (WTTC, 2010) estimated that tourism demand and the economic and employment impacts of the industry will also grow in Finland by the year 2020. According to experts, domestic travel remains the basis of tourism in Finland. At the moment, its share of the total tourism demand is over 60%. Safety becoming an important factor in tourism products (Yeoman 2008: 35), the popularity of Finland can still increase as the destination of foreign travellers. (Puhakka 2011)

2.3 Cultural tourism in tourism supply

According to the Finnish Tourist Board, cultural tourism includes all such tourism the motivation of which is the desire to observe the cultural resources of the destination, to learn from them or to participate in them. Such a cultural resource is any place, structure, handiwork or event the experience of which increases the visitor's appreciation of the origins, customs, tastes, habits, and skills of the host country. The definition by the Finnish National Board of Antiquities also emphasises the respect of the preservability of the destination and of historical and cultural values (Finnish Tourist Board 2005).

Cultural tourist destinations include museums, art galleries, churches, fortresses, lighthouses, milieus with wooden houses, stately homes, theatres, cultural centres, settings having cultural history, and cultural events. The museum database of the Finnish Museums Association contains over a thousand museums. About a quarter of them is located in Uusimaa and Varsinais-Suomi. About half of all Finnish museums are cultural-history museums. According to Statistics Finland (2012b), the significance of cultural sectors as an employer in Finland is by far greatest in Uusimaa.

According to a border interview survey by Statistics Finland and the Finnish Tourist Board (Statistics Finland 2012a, Finnish Tourist Board 2013a, 2013b), about 35% of tourists having arrived in Finland on a visit with at least one cultural destination or event in mind. In the Nether-

lands, the corresponding figure is 41% (Aarsman et al 2012: 66) and, in Sweden, about 20% (Armbrecht 2013: 3). In the Netherlands about 8% and in Sweden about 5% of tourists have arrived in the country to visit museums as their main destination. All in all, about 15% of tourists travel to visit cultural destinations (Armbrecht 2013: 3). In Finland, cultural tourism is mainly concentrated in museums, exhibitions, cultural heritage venues and architectural destinations (Finnish Museums Association 2007).

According to a decision in principle on tourism policy made by the Finnish Government, tourism is a significant industry creating economic growth and employment which must be developed. The European Union (EU) has for long time supported cultural tourism projects in Finland. Cultural tourism is one of the focus areas of the Finnish Tourist Board.

Cultural tourism utilises regional and local culture in creating experiences for tourists. At the same time, the tourist can learn something of the culture, history or way of life of the destination region. An attraction factor is therefore the culture of the destination or the destination showing it. (Statistics Finland 2003, MacDonald & Jolliffe 2003)

2.4 Museums as sub-sector of cultural tourism

Museum as cultural institution and service for tourists

Museums accumulate, manage and present cultural-historical national heritage and record, produce and communicate information. The Finnish Museums Act (887/2005) defines the task of museums as promoting the availability of information on cultural and natural heritage. Within this task, museums document and conserve cultural heritage, conduct research, education and communication related to it and carry out exhibition and publication activities. A museum is a cultural and research institution as well as a protection authority which provides versatile services for its customers. (Finnish Museums Association 2009)

In addition to carrying out the above primary task of a museum, a museum operates as part of economy. Its service is primarily related to the conservation and presentation of cultural heritage, but it can also have other tasks, targets and effects. Many museums are significant tourism destinations and, therefore, they provide impacts related to the tourist industry and retail trade. (Travers 2006, Frey & Meier 2006)

In most cases, museums cannot be considered part of the tourist industry but, still, they have a considerable impact on engaging in the tourist industry and its location. For many tourists, museums are the most important attractions and, without them, many a trip would not be realised or it would be shorter (Aarsman et al. 2012). Hence, museums play a role in increasing tourism and affect the tourist industry

in their home localities and the economic impacts provided by it.

According to previous studies, museums generate a multiple of the spending of its own sales (admission fees, cafeterias, secondary sales and other services) outside the destination itself (Travers 2006). This is created by visitor spending on a trip to the museum which most typically consists of food and beverages, direct travel expenses and accommodation expenses. On museum trips, there is also other spending as visitors shop on the home locality of the museum for goods which they would otherwise shop at home or at some other location. It is likely that the museum trip does not increase total spending but it affects its allocation at least in a regional review (Armbrecht 2013).

Impact of museums on regional economies

Museums have a significant role in the development of the tourism industry. Tourists spend money both in museums and especially outside them. This spending has a great importance for local economies particularly in popular destinations (Frey & Meier 2006: 1019, Aarsman et al: 65). In addition to direct economic impacts, museums can have impacts on the image of their home localities (Aarsman et al. 2012: 62) which can affect both tourism and happiness of local inhabitants and, according to some opinions, the location decision of enterprises. However, the significance of the last impact is doubtful (Armbrecht 2013: 6).

The attractiveness of museums is most often based on the contents of their exhibitions but also on their age, size and reputation as a cultural destination. An important characteristic of the destination can be the museum building which is considered interesting as such. Examples of such Finnish museum destinations are the National Museum of Finland and the Museum of Contemporary Art Kiasma. Particularly old and large museums are known so widely that visiting them is considered part of all-round education. Interest related to such museums attracts many kinds of visitors and they are cultural destinations but also significant creators of tourist flows (Frey & Meier 2006: 1022).

Recently established and less known museums acquire their reputation by various means of communication. In part, they use conventional marketing communications but often utilise the media by providing them with, for example, information on interesting exhibitions or changed offerings. According to earlier reports, it is possible to acquire new visitors by means of varying and allocating exhibitions, by attracting attention and by offering wider cultural experiences. In the past few years, some museums have utilised social media effectively. It seems to be essential to attract attention for the museum and to maintain the interest created (Aarsman et al 2012).

The price of the museum ticket seems to have almost no impact on the visitor numbers, at least in international reports. If the admission costs a few euro, variation of one euro more or one euro less does not affect the visitor numbers according to Frey and Meier (2006). Some

studies observed that the visitors would have been willing to pay even more of their tickets than the current price. Completely free admission seems to only increase the number of such visitors who visit the same exhibition several times. The results of earlier reports support this observation. In a previous study by the Finnish Museums Association, only 7% of respondents wished that the admission were completely free. The suitable ticket price was commonly a sum between €4 and €7 (an average of €5.28). Over 70% of respondents thought that the price of about €4–€10 was suitable. (Finnish Museums Association 2012: 13–14)

An explanation for the visitors' willingness to pay can be the total trip budget of museum visitors. Tourists coming from far spend particularly so much money for other activities that the price of the museum ticket is marginal when compared with it. Here, a ticket costing a few euro is not a considerable item of expenditure. (Frey & Meier 2006: 1040)

Museums as economic agents

In Finland as well as elsewhere in Europe, the economy of museums is mostly based on income other than those of admission and secondary sales at the museum. In Finland, independent funding of museums covered about 13.5% in 2011 and about 15% in 2012 of the total funding. The share of the public sector was a little below 80% (National Board of Antiquities 2012 and 2013). The shares were similar e.g. in Great Britain where independent funding is about 18% of the total income of museums (Travers 2006: 24–33).

The funding of Finnish museums is mainly based on government and municipal funding. The government share of the total funding is about 45% and that of the municipalities is about 34%. Slightly less than 20% is obtained from other sources, such as admission fees and other sales as well as grants paid by foundations and associations. Museum operations are very labour-intensive of their costs. Almost a half of all expenditure is spent on the salaries of personnel and less than a third on property costs. Other expenses come to about a fifth and collections purchases slightly over 1% of all expenses. (National Board of Antiquities 2012: 4–8, National Board of Antiquities 2013: 7–9)

On one hand, the economic impact of museums can be studied from the viewpoint of spending generated by them or, on the other hand, from the viewpoint of their returns and increase in economic activity caused by museums. The spending of museums increases economic activity through the salaries of their personnel, the maintenance of their buildings, public relations and other activities related to managing the museums. The sole existence of museums thus provides economic impacts. In addition to this, museum visitors increase the impact of museums with their own spending decisions. Expenditure outside the museum includes the use of restaurant and accommodation services, purchases in shops and kiosks, purchases of travel tickets and fuel and many more typical tourist spending decisions. Hotel and

restaurant services, in particular, were found to benefit from the spending of tourists attracted by cultural destinations. (Frey & Meier 2006: 1022. Travers 2006: 17, Armbrecht 2013: 6)

Despite museums having a significant role in increasing economic activity, their existence can rarely be justified by economic factors alone. Museums are, above all, providers of cultural experiences and the object of their establishment has rarely been to increase economic activity (Frey & Meier 2006: 1024). However, the economic importance of museums is often considerable and, in the past decades, it has further increased (Travers 2006: 17–19).

Museums have some long-term economic impacts, for which, it is not possible to place a monetary value. According to Armbrecht, such impacts are on the visitors' self-knowledge, conception of identity and personality as well as attitudes and work motivation. Through this, museums increase creativity and can also support the production of innovations. With their activity, the museums produce wellbeing which also has long-term economic impacts (Armbrecht 2013: 7).

The largest regional economic impact is with such museums which have a large number of visitors. Large and well-known museums attract more visitors than small museums also in relation to their size and employee number. For this reason, they make the most profit because an increase in the visitor number increases the maintenance costs of the museum only in name but can have a considerable impact on the museum income. The special impact of large museums is explained by the fact that the fixed costs of a museum are in any case high. Expenditure on buildings, exhibition items and personnel salaries is in short-term invariable and often quite high. Instead, variable costs do not vary even though the visitor number were to increase significantly, that is, museums can in this sense avail from economies of scale. Thus, increasing the number of museum visitors grows the economy of both the museum and its operational environment without causing considerable additional costs (Frey & Meier 2006: 1025–1026).

Despite the above, many museums do not actively attempt to increase their visitor numbers but, instead, have chosen an approach which minimises costs and risks. Often, this has been considered to be caused by the situation of museum management, as museums are mostly funded by public funds. Overspending causes problems but the museum receives no corresponding benefit from increased income. Then, it is easiest to lean on the stable public funding (Frey & Meier 2006: 1029). Hence, visitor numbers and the economic impact of the museum can remain smaller than those of a museum which actively aims at increasing its visitor numbers. Museums make their decisions by combining targets related to cultural values with economic boundary conditions of operation.

As economic agents, museums are in competition with other social and recreational activities. Increasing leisure time has also increased

other offerings, but museums are still significant providers of free-time activities and tourist destinations. The museum sector has maintained its earlier significance and, in places, the visitor numbers have even increased. There has been various ways to react to the new competition. Many museums have increased their interest factor by special exhibitions attracting new visitor groups, and by a more attractive format and solutions related to the use of the museum space. Often, museum visitors are offered a chance to 'touch or experience' instead of just looking. This aims at increasing the attractiveness of museums and making them more approachable. (Travers 2006)

Museums attract large numbers of foreign tourists e.g. in the Netherlands and Great Britain (Aarsman et al. 2012, Travers 2006: 38, 80). For many, museums are either the most important or at least an important factor affecting the travel decision. According to a Swedish study, about 16% of all tourists having visited a museum considered the museum visit the main reason for the trip (Armbrecht 2013: 7) and about 5% of all trips were a result of tourists wishing to visit museums and other cultural attractions. These data give reference to the fact that the more active operation of museums and other cultural tourist destinations can support economic development both regionally and nationally.

Museum visits in Finland

In Finland, the visitor numbers to museums have been almost invariable for a decade. The total number of museum visits is about five million. In 2011, 4.9 million visits were recorded (National Board of Antiquities 2012: 12–13) and, in 2012, about 5.3 million visits (National Board of Antiquities 2013: 14). Annual visitor numbers have varied a little e.g. due to exhibition renovations and extremely popular exhibitions. The visitor numbers have still remained at the same level even though the number of museums has increased and many more museums have no admission fee. At least partially, this is due to the fact that museums compete, on one hand, for public funding and, on the other hand, for visitors in a situation in which the offerings of other possibilities to spend leisure time has increased for decades (Travers 2006).

In 2012, the most popular Finnish museums were the Ateneum Art Museum (about 400,000 visits), the Museum of Contemporary Art Kiasma (182,000), the Finnish Museum of Natural History (152,000) and the National Museum of Finland (105,000). In Finland, there are 158 professional museums, of which, 50% are cultural history museums, 27% specialised museums, 17% art museums, 4% natural history museums, and 3% combination museums. (National Board of Antiquities 2013, Finnish Museums Association 2012)

The total numbers of visitors to museums per inhabitant are considerably larger in other Nordic countries than in Finland. Calculated per inhabitant, there are twice as many museum visits in Sweden, Den-

mark and Norway compared with Finland. With other European countries, the differences are smaller. For example the Dutch, the British, the Germans, and the Hungarians visit museums only slightly more often than the Finns. In many countries of southern and eastern Europe, there are clearly fewer museum visits per inhabitant than in Finland. (EGMUS 2004: 152)

Profile of museum visitors

The established number of museum visits seems to offer a stable base for museum operations. It should still be noticed that the stability of visitor numbers also means that no new visitor groups have been attracted. Both Finnish and foreign studies found that museum visitors are mostly women, middle-aged and well-educated when contrasted with the whole population. This group has a better income than the average and seems to spend more money on their travels than those less educated or having smaller income. The visitor profile as well as the visitor numbers of museums seem to remain similar from one year to the other.

In addition to the museum visitors' visitor profile being similar, museum visits also accumulate. About a third of museum visitors visit museums more than five times a year. Respectively, a large group of people visits museums almost never. Of all Finns, only slightly over 40% visit museums. The situation is the same elsewhere in Europe, for example in Great Britain, the corresponding share is about 43% and, in Italy, slightly less than 30%. The same age, education and occupational groups seem to be the most active museum visitors all over Europe (EGMUS 2004). Many studies and particularly the daily work at museums aim at increasing visitor numbers and attracting new visitor groups. The means include making the exhibitions more interactive, increasing activities and changing the format of the museum more attractive. In addition to these, marketing has utilised both traditional methods and newer ones of electronic communication and social media.

According to the National Visitor Survey 2011, 14% of non-local visitors of Finnish museums travelled to the locality specifically to visit the museum (Finnish Museums Association 2012). This piece of data is similar to observations in Sweden, according to which, about 16% of museum visitors travels primarily to visit museums and other cultural attractions (Armbrecht 2013). An enquiry implemented in connection with this study further supports these observations because, if we exclude local inhabitants from those who have travelled specifically for the museum visit, the share of those having travelled to the locality for the museum visit is 17.9%. It can be roughly generalised that about every sixth or every seventh museum visitor travels primarily to visit a museum – for other visitors, the museum visit is part of a larger travel itinerary.

3. Assessing the total economic impact of tourism

3.1 Assessment methods

There are various approaches to measuring the economic impact of tourism. Methods used include input-output analysis and the Nordic income-expenditure model (Huhtala 2006: 11). The importance of the whole tourism sector or larger entities was also examined by means of satellite accounts and the economic base method. The latter ones are not well suited for studying a narrow sub-sector such as the museum sector. Furthermore, the logic of museum operations is different to that of commercial tourist services, because of which, the suitable approach to the issue is directly the viewpoint of service users i.e. museum visitors and the economic activity provided by them, not solely the viewpoint of museum sales. (Huhtala 2006: 11–14)

The Nordic income-expenditure model is well suited for assessing the regional economic impacts of tourism. It determines, on one hand, visitors' spending and, on the other hand, regional tourism receipts and their multiplier effects. The Nordic model was found a feasible way to examine the economic impacts of tourism. The model is based on empirical data collection: visitors' expenditure and its allocation are determined and generalised to apply to the whole visitor base. The method has its shortcomings which, for example, Vuoristo and Arajärvi (1990) have discussed. Internationally, the method is not popular but, globally, assessment methods based on the input-output analysis or sole multipliers describing the multiplier effects are favoured. (Huhtala 2006: 11–14)

Input-output analysis, regional multipliers and other methods

The regional economic impact of activity can be assessed by combining visitor survey data and regional input-output tables (Stynes & White 2006). In this method, data on the visitors in the region and their spending are collected by visitor surveys similarly as in the Nordic income-expenditure model. Thus, it is possible to obtain information on visitors' average spending in the region which can be multiplied by multipliers deduced from an input-output model describing the economy of the region and, hence, assess the direct impact of visitors' spending and its multiplier effects. Examples on studies based on the so-called multiplier analysis include those by Milne (1992) and Khan et al. (1990) on the impacts of tourism income. The multipliers used as the basis of assessment can also be obtained from previous studies, but they should be used very cautiously.

The regional economic impacts have also been examined by a social accounting matrix which particularly enables the study of derived demand impacts. The matrix is an extension of the input-output model which includes both production and unproductive areas. However, these approaches were not applied for assessing the economic impact of museums or destinations comparable to them. (Huhtala 2006: 11–14)

Collecting data on spending

This study examines the economic impact of museums based on the spending information of museum visitors. Spending data can be collected by questionnaires, interviews or spending diaries (Karppinen & Vähäsantanen 2011). The most common method is the questionnaire whose benefits are cost-effectiveness, easiness and quickness compared with interviews or spending diaries. Its shortcoming is inaccuracy which is due to the fact that the respondent forgets to record spending or cannot estimate it. For example according to Silberstein and Scott (1991), both questionnaires and diary methods underestimate respondents' spending but, in questionnaires, forgetfulness is more extensive and underestimates thus more common.

Due to the extensive nature of the object of this study, interviews and spending diaries could not be used. Hence, data were collected by means of questionnaires. This option produces an underestimation of the actual spending difficult to calculate. The underestimate thus produced can still be utilised as a basis for a sort of a minimum impact and, based on it, it is possible to contemplate the probable spending by utilising data on tourists' spending obtained from other sources. (Huhtala 2006: 14–15)

3.2 Multiplier effect and leakages of spending

The total economic impacts of tourism consist of the actual spending and the multiplier effects of spending occurred (e.g. Huhtala 2006: 8). The tourist's amount of money spent leads to direct income effects, i.e. a growth of demand in tourist industry enterprises. At the same time, the growth of demand leads to indirect income effects in enterprises servicing tourism enterprises and increases the total demand due to its employment-improving impact. Along with the growth of earned income, the economic impacts of tourism further transfer downstream to other enterprises due to increased demand and to the public sector as increased tax revenues.

In the regional economy, growing demand leads to direct, indirect and derived impacts (Figure 4). Some of the impacts escape the region through purchases occurred elsewhere. These are leakages of the regional economy which are created when tourism enterprises purchase goods or services from outside the region. Part of the growing demand

still remains to contribute to the region and provides a multiplier effect which increases the impact of the original growing demand. This multiplier effect can be quite large, particularly in geographically or politically isolated regions. For example on islands having poor transport connection or in countries such as Singapore, the multiplier effect can almost double the impact of the original tourism income (e.g. Khan et al. 1990).

In this study, the term 'region' mainly refers to an entity of sub-regional level which often corresponds to the size of an employment area. We settled on the term because, on one hand, municipalities do not describe the functional entity in a meaningful way and, on the other hand, provinces are too large entities for this review. A sub-region is closest to the regional level to which the regional economic impacts of activities examined here apply. The definition of a region was earlier considered, for example, by Aro (2013: 5)

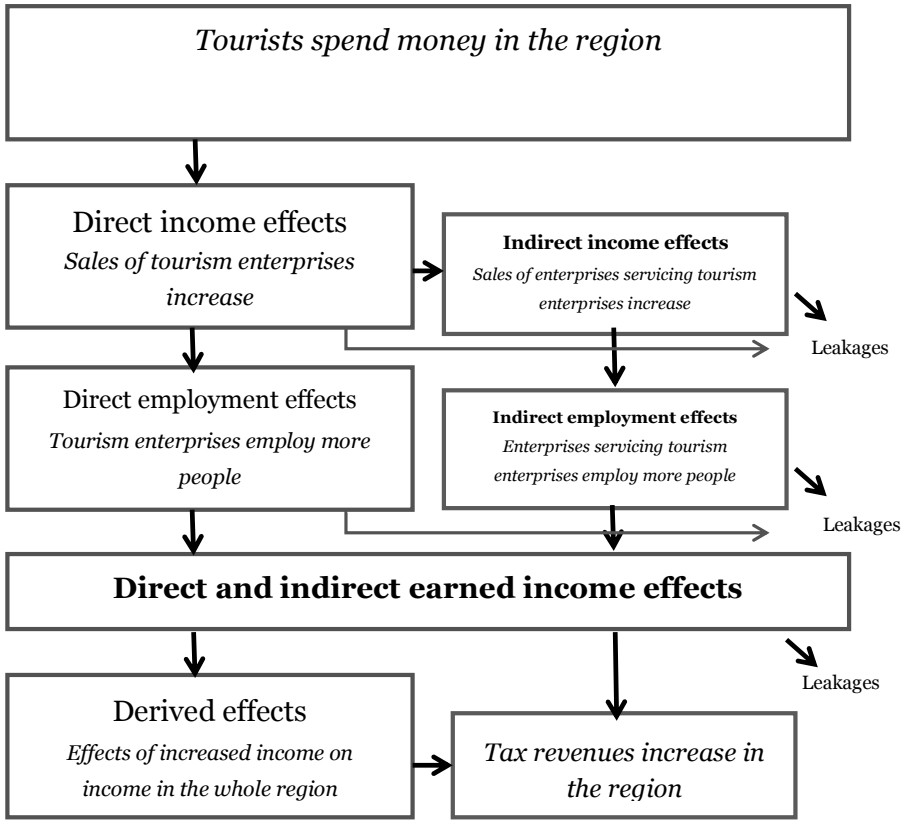

Figure 4. Allocation of regional economic impacts of tourism (Huhtala 2006: 8, Vuoristo & Arajärvi 1990, Armbrecht 2013).

In Finland, the regional impact of tourism remains a lot smaller than described above. The smaller the Finnish economic zone is, the smaller the multiplier effect is. Leakages are large, due to which, the regional multiplier effect was estimated to be in the range of 1.2–1.5 in most previous studies (in some cases, the multiplier was even 1.65). This means that an additional tourism income of €100 makes the regional economy grow by a total of €120–€150. In principle, it is possible to calculate this multiplier for each region separately but, because the multiplier effect and particularly the difference between multipliers in different regions remain quite small, this study employs earlier reports related to the total impact of tourism income. Such regional reports include assessment of the total impacts of tourism income in the Finnish regions of Satakunta, southern Savo, northern Pohjanmaa, Lapland and Kainuu (e.g. Kauppila & Ervasti 2001, Karppinen & Vähäsantanen 2011, Tahvanainen et al. 2011a and 2011b, Hietala et al. 1999).

The multiplier effect varies between different regions. The more the regional economy utilises work and production done in its own area, the larger the multiplier is and thus also the total impact. In practice, the Finnish regions are in so close a connection with each other that grown demand in the region quickly leads to increasing purchases also from outside the region. The term 'leakages' mentioned in Figure 4 also relates to this phenomenon. Thus, money enters the regional economy with tourists which then comes across to the earned income of people living in the region and also increases the demand of local enterprises. Working people use their increased income partially to the products of local enterprises but, for the most part, the money is spent for the products of enterprises operating outside the region. This demand directed outside the region leads to leakages in the regional economy, due to which, the multiplier effect in the regional economy remains quite small. However, the impact in euro is great. When talking of thousands of tourists, the multiplier effect of 20%–50% is significant.

3.3 Factors decreasing multiplier effect

When assessing impacts, it is good to critically examine the creation of income effects in addition to leakages. Most of museum visitors are local inhabitants. Thus, their spending does not increase the total spending in the region as such (Crompton et al. 2001: 79, Drengner et al. 2009: 73–74, Armbrecht 2013), but it can be assumed that they spend most of their income locally in any case. In the long-term, propensity to consume seems to be about 1, that is to say, all income is spent for something in any case (e.g. Hiilamo et al. 2012: 61). It is still possible that money spent by the local inhabitants might be spent in some other location, and thus, the economic impact would be directed elsewhere. Then, it is possible to see that spending in the home locality can

have some kind of an impact in the activity of the regional economy.

Defining locality or local inhabitants is a nuanced issue. The limit of locality can be considered e.g. an employment area, an administrative area or an area where people move on weekdays. The most natural definition could be related to the daily travel habits of people. Such can be e.g. average distances between home and the workplace or average daily travel performances. The latter shows how long a journey is which the inhabitants travel daily using different means of transport. According to the National Travel Survey by the Finnish Transport Agency (2012), this is about 40 km which can be considered corresponding to a round trip of 20 km. According to Statistics Finland, the average journey to work is also about 20 km in one direction (distance as the crow flies 14 km). This distance of about 20 km is thus a good basis for defining the locality of a museum visitor. In many cases, it also corresponds to the distance by road to the nearest centre. Furthermore, the distance of running errands is less than 10 km and 93% of errands are run at the distance of less than 20 km (Finnish Transport Agency 2007).

In addition to local inhabitants, museums have such visitor groups the economic impacts of whose visits must be considered with limitations. Such are tourists who would have visited the region or the locality irrespective of the existence of the museum, but who have extended their stay or changed their plans for the museum visit. Crompton (2001: 81, 2006) referred to them as 'time-switchers' or 'casuals'.

The tourist groups described above are quite common. They typically visit many different destinations. From the viewpoint of the economic impact of museum visits, it can be considered that they would have come to the locality anyway but, on the other hand, the museum has often influenced their travel decision. In addition to these, it should be noted that the journeys have many targets. The museum visit can be combined with e.g. a visit to a theatre, some other destination related to leisure time or even to relatives. Then, none of the destinations can be considered peripheral; they have all affected the travel decision but none of them was determining on its own.

Considering factors decreasing multiplier effect in this study

In this study, we consider the motive of the above groups to arrive in the locality or the region when assessing the impact provided by the museum. Even though part of spending occurring in their region were done in any case, part of spending can be considered to be related to the museum visit. In this study, costs related to the trip are included when examining the regional economic impact in its totality for such museum visitors whose primary destination is the museum in question and who have travelled a distance of at least 20 km and are not thus considered local inhabitants. Furthermore, part of spending is included for such tourists whose travel itinerary the museum has affected but who have also other targets on their trip. A question in the questi-

onnaire of this study examined the importance of the museum when making the travel decision. It asks the tourist to say if the museum is the primary destination of the trip, one of the most important or if it has a lesser importance (Appendix 2).

Spending of tourists other than those who considered the museum their primary destination increases the demand of tourist services and activities related to them, but this spending is considered 'in a streamlined way' for the part of its regional economic impact. Hence, e.g. spending of such a tourist whose travel itinerary contains many destinations is only partially included.

In practice, this occurs such that, when assessing the economic impacts, we included the total spending for tourists who considered the museum their primary destination, 75% of spending for those for whom the museum was a considerable factor, 50% of spending for those who considered the museum one of the affecting factors, and 25% of spending for those who considered the museum a lesser factor. If the museum was not a factor in the travel decision, the visitor is considered to have no economic impact beyond to ticket purchase and any other spending at the museum. This matter will be discussed in more detail in Chapter 5.1.

4. Central observations related to enquiry in this study

4.1 Background information of respondents

In connection with this study, we implemented an enquiry particularly related to the spending of museum visitors (Appendix 2). We delivered a total of 29,200 questionnaires in Finnish, Swedish and English to the member museums of the Finnish Museums Association (196 museums). Somewhat over 6,500 of the questionnaires were returned duly completed. About two thirds of the museums participated in the collection of the questionnaires. Some museums notified of an obstacle in collecting the questionnaires, such as renovations etc.

Some 85% of respondents were Finnish inhabitants. In the share of foreign respondents (15%), the most common countries of origin were the countries of the European Union (Sweden, Great Britain, Germany, France, the Netherlands), then Russia and the United States of America (Appendix 1: Table K). Museum visitors living abroad were slightly younger than the Finnish visitors and used considerably more money for the whole trip than domestic visitors. Under other headings, they corresponded with the average museum visitor of their background.

As for background information, the distribution of the enquiry corresponded to that of an earlier study, the National Visitor Survey 2011. Background information on, inter alia, age, gender and education support the view that the respondents of this enquiry represent typical museum visitors. Tables A–L in the Appendix show the distribution of the replies in relation to background variables and, as a comparison, we included the corresponding distributions of those received from the National Visitor Survey 2011 (Finnish Museums Association 2012).

Observations of previous domestic and foreign studies on the museum visitors' education and income level being higher than the average are repeated. The age and gender distributions also correspond to earlier findings. As figures, this can be simplified by stating that, in this study, 64% of museum visitors were women, the largest single respondent age group was that of 56–65 years, 60% had a higher (40%) or lower (20%) academic degree and 43% of respondents were managerial, expert or clerical employees (Appendix 1, Tables A–L).

According to some previous studies, the high education level provides a good opportunity to benefit from and enjoy the exhibition in the museum. The lower education level, again, was considered to be connected with lesser interest in culture (e.g. Klein 1990, Blau 1989). The high education level also relates to the higher income level than the average, which further leads to spending greater than the average during the trip (Aarsman et al. 2012: 60). Based on this, tourists interested in museum visits are more likely to spend more money during their trip than others.

On the basis of the enquiry implemented in connection with this study, education and professional status have a very large effect on spending during a trip. On their museum trips, persons having a higher academic degree spend a multiple of the amount of money compared with those less educated. Table 1 provides a general view on the effect of education on spending during the museum trip. Similar findings, but partially with more extreme differences, are shown in Table J at the end of this report (cf. Appendix 1). These data on spending are not very surprising as such, but their importance to the museums and service suppliers can be significant. Museum visitors educated better and having professions with better income than the average person provide many possibilities for actors in the tourist industry.

Table 1. Respondents' spending during the trip related to museum visit according to education background.

Education	Spending on average per response	Respondents
Comprehensive school	140,52	481
Vocational training	181,10	581
Secondary school	277,32	594
Upper secondary school graduate	218,32	877
Lower academic degree	365,84	1340
Higher academic degree	436,84	2612
All on average	333,12	6485

Most of the respondents lived in the towns of southern Finland, which also corresponds to the general distribution of population. Of them, 30% lived at a distance of less than 20 km from the museum and 40% at a distance of less than 50 km. Slightly over 40% of respondents lived at a distance of over 150 km. Some 17% of respondents arrived in the museum alone. Some 78% travelled with friends, acquaintances or family members. Only about 5% of respondents were on a group trip, with colleagues or other companions. These distributions also correspond to the ones in previous studies. Overall, 98% of respondents were content with their museum visit. The figure in the National Visitor Survey 2011 was 99%.

4.2 Travel decision related to museum visit

An interesting finding from the basic distributions of the replies is the reason for the museum visit. About 22% of respondents stated that the reason for their trip was the museum visit. Most respondents had many reasons, but 29% of respondents said that the museum visit had no importance when making the travel decision (Table 2). In these cases, the visit to the museum was not prearranged and the museum visit only supplemented the other travel itinerary.

Table 2. Importance of museum in making travel decision.

Importance of museum in making travel decision	Share (N=6,430)
Museum was the most important factor	22 %
Museum was one of the most important factors	17 %
Museum visit was one factor, but not the most important	13 %
Museum visit was part of travel itinerary	19 %
Museum visit did not affect the travel decision	29 %
Total	100 %

The contents of the other travel itinerary are described by the distribution of responses in the question pertaining to combining museum visits and other types of tourism. Almost a third of the respondents said that they had visited relatives during the trip (30%). Just over every fifth respondent was on a city break (21%) or a round trip (18%) which included many destinations or visits to many museums during the trip (17%). A visit to some other cultural destination (9%), a trip to the summer house (7%) and a visit to a fun park or to a spa (4%) was rarer than the above as well as museum visits on a work-related trip (7%).

4.3 Trip duration and transport means

Fewer than every second museum visitor was on a day-trip to the museum (Table 3). A fifth of respondents spent a short break or a weekend at the location and 26% of respondents were on a longer trip. The spending of day-visitors was smaller than that of other respondents. The largest spending per day was that of museum visitors whose trip lasted 1–3 days. It seems that, on weekend trips or otherwise short trips, the daily spending was greater due to accommodation and food and beverages rather than that of day-visitors, but still less than on trips lasting more than four days. On longer trips, the daily accommodation costs seem to be smaller than those of weekend-visitors, most likely because so as to save on costs, people compromise in accommodation when in long-term accommodation. Another option is that, on longer trips, part of accommodation costs are forgotten or they are hard to estimate when completing the questionnaire. Probably, this is the case of both.

Table 3. Distribution of museum-visitor respondents according to total trip duration.

Distribution of museum-visitor respondents according to total trip duration	Share (N=6,343)
Day-trip	54 %
Trip duration 1–3 days	19 %
Trip duration 4–7 days	12 %
Trip duration over a week	14 %
Total	100 %

Most of museum visitors (56%) had used a car on their trip. A third of respondents had used a bus or a train and 17% of respondents had arrived by bicycle or walked. Some 9% of respondents had used a plane or a ship. The frequency of car users was expected when knowing the large part it has in the total amount of passenger transport (Finnish Transport Agency 2012). In fact, bus, train and bicycle visitors were a bit overrepresented compared with the car visitors in the various choices of transport means used by the museum visitors.

5. Assessing economic impact of museum visits

Crompton et al. (2001: 80) stated that if five researchers of regional economy were asked to evaluate the economic impacts of tourism, they would give five different responses (even though of the same order) which would be all equally reasoned. This report supports this view as two different approaches utilising the same data produce different results. Chapter 5.1 deals with a conservative assessment of museum visitors' spending in the locality calculated by using all possible deduction multipliers. In Chapter 5.2, the same data is approached by means of statistical models which give slightly larger estimations than the above on spending related to the museum visitors' trip. On one hand, the difference is based on the different approach; on the other hand, on the different methods. Chapter 5.2 also discusses what kind of factors affect the spending of museum visitors.

Through these approaches, it is possible to assess the economic impact the museum visits have on regional economies. It is not possible to calculate an exact figure because, in addition to defining motives, a problem lies in the conceptual limitation of tourism, a question which was discussed in Chapter 2. Thus, tourism also has an impact on industries other than those deriving their living from tourism.

5.1 Regional economic impact of museum visitors' spending (minimum)

Distributions shown in Tables 1–3 above and Tables A–L (Appendix 1) and the above-mentioned distance from home to the museum were used when assessing the regional economic impacts of museum visitors. First, the museum visits of local inhabitants (distance from home less than 20 km) were totally excluded from this minimum calculation. There are several views that the museum visits by local inhabitants have no impact in increasing the regional demand, because the inhabitants spend most of their income regionally in any case (Armbrecht 2013, Crompton 2006).

For those visitors whose travel decision was not affected by the museum visit, their spending is also not included other than for the part of their spending in the museum. If the museum visit was the most important factor affecting the trip, the spending of the visitor was considered to be totally induced by the museum visit. For other options, we decided to utilise equidistant percentages of 75, 50 and 25.

Proportioning spending to different targets is somewhat arbitrary, because understanding persons' motives and generalising them to apply to the group of millions of museum visitors is impossible – or at

least, giving an exact numerical value is extremely difficult. The above simplification aims at a justified assessment on the total impact of museum-visiting tourists on the regional economy. Furthermore, we try to avoid the possibility of evaluating the impact too great. Figure 5 explains approaches to the assessment of the spending of museum visitors and decisions made in the assessment.

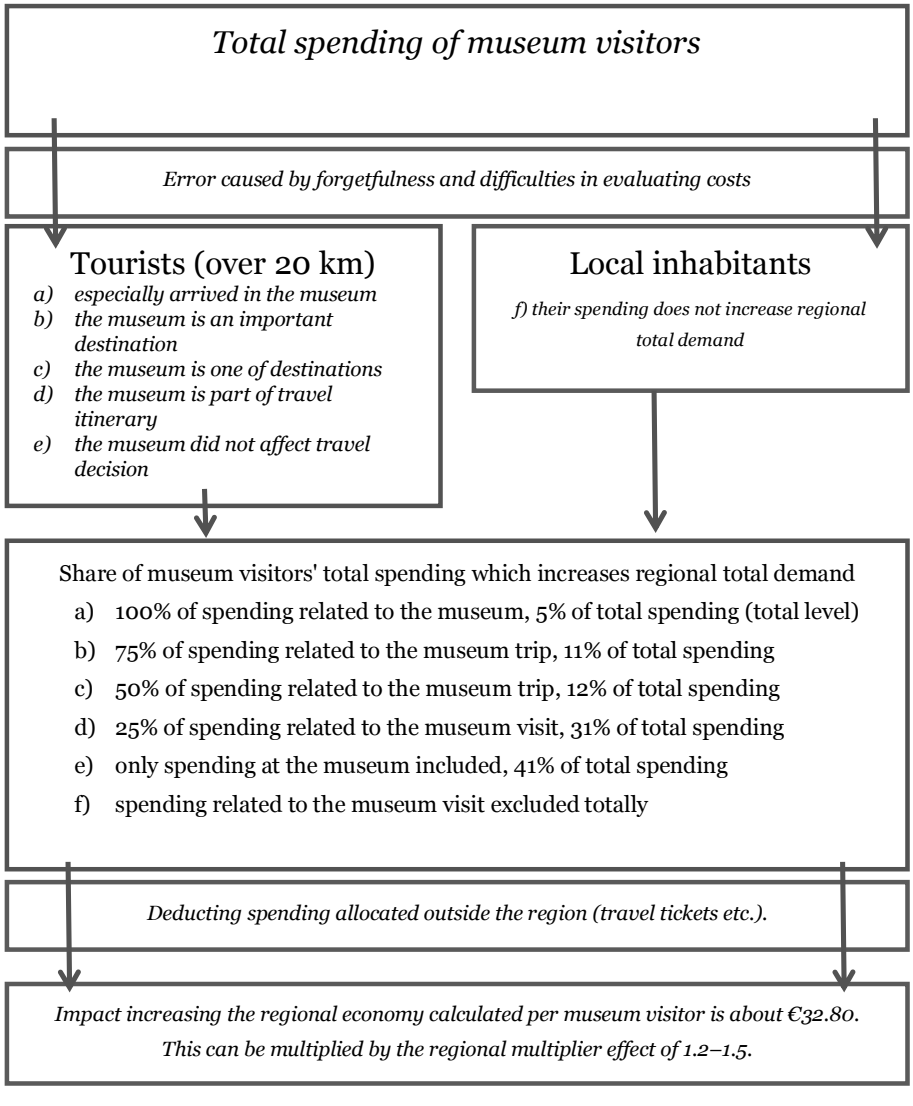

Figure 5. Evaluating regional total impact of the spending of museum visitors based on data acquired in enquiry.

The exactness of assessing spending is weakened by forgetfulness (see Chapter 3.1). The respondents do not remember all costs incurred during the trip. Furthermore, it is possible that, on the same or the following day, some costs incur which are related to the museum trip but are not known during the museum visit itself or cannot be estimated in total. This error can be tens of percentages in the overall respondent group and, in single responses, it can be even greater than this.

Another central problem of the reliability of the data is related to the fact how great an importance the museum visit had in the end to the travel decision and how well the generalisation made by the researchers on the responses coincide with reality. It can be considered possible that the importance of the museum as a background factor in the travel decision has been a bit overestimated when replying to the enquiry, but this problem of overestimation can be assumed smaller than the problem of forgetting costs. Because the respondents completed the questionnaires alone, without a researcher or interviewer present, no 'pleasing of the interviewer' sometimes characteristic of personal interviews occurred in this case (e.g. Muurimäki 2010).

When the data are examined in a way shown above in Figure 5, we have an assessment of what the economic impact of an individual museum visitor is in the locality of the museum. Spending information of respondents in the enquiry are examined here with the result that, based on them, we get a conservative minimum assessment of the impact of museum visits. In the examination, we deducted from the total spending the share which can be considered to take place in any case or which is allocated based on several factors affecting the travel decision.

Museum visitors having responded to the enquiry said they had spent during their trips a total of about €2,164,000, that is, about €333 per respondent. About 3% of the respondents' spending consisted of purchases made by local inhabitants. This share was totally excluded, because the local inhabitants can be assumed to spend their money in the local region of the museum in any case. Also, such costs related to the trip were excluded which were directed at purchases outside the locality of the museum, such as travel tickets and mainly also fuels. The travel tickets were totally considered a cost item related outside the region, even though e.g. the tickets of local traffic are demand directed at the local economy. The local share of fuel costs was estimated to be 10%.

The largest deduction of the spending of museum visitors was done based on the travel motives stated according to Figure 5. If the trip would have been made without the museum visit, the increase of the local demand was only the admission fee and other spending in the museum. If the museum visit was considered important for the travel decision, the multiplier was increased according to Figure 5. If the museum visit was the only or most important target of the trip, the

spending was calculated totally caused by the museum visit (100%) and from that further decreasing the multiplier according to the motive for the trip.

Based on these calculations, the total spending of respondents was €72.20 per questionnaire completed. When this sum was divided by the figure of 2.2 (the number of visitors the response included), we obtained visitor-specific spending related to the museum visit, i.e. €32.80 The impact evaluated per a museum visitor, growing the regional economy was calculated such that it reveals the amount of money for which the museum visit has an impact on the locality. From it, we excluded local visitors, the impact of other resorts and spending outside the region. Furthermore, when we realise that the museum visitors do not remember all costs related to the trip when completing the questionnaire, we can state that the evaluation mentioned here is probably an underestimation. It can still be used as a sort of minimum, based on which, it is possible to assess the impact of museums in the economic development of their locality.

5.2 Regression-based estimation on museum visitors' spending

This chapter assesses the spending of museum visitors by means of a statistical model. The model is an alternative to the calculations above which caters for various background factors in a more versatile way. In Chapter 5.1, the calculations were particularly affected by the perceived importance of the museum visit and the travel distance from the visitor's home to the museum. Furthermore, we adjusted travel and fuel costs to account for those costs related directly to the museum visit. This further refined estimation also takes into account the trip duration, the visitor's satisfaction with the museum visit, the education background of the museum visitor, and other broader reflective effects. The dependent variable is the museum-visit spending of respondents which was analysed separately for day-visitors and overnight-staying visitors. After preliminary estimations, we decided to select the following independent variables to explain the spending:

- museum visitor's education
- distance from visitor's home to the museum
- satisfaction with museum visit
- importance of the museum when making the travel decision
- region where the museum is located
- museum visitor's travelling companion (alone/with someone)

In the regression modelling, we decided to divide the respondents into two groups based on them being day-visitors or being overnight-

staying visitors. Table 4 shows the results of the ordinary least squares (OLS) estimations when the above variables are included in the regression equations. [1]

Table 4 . Regression analyses of factors affecting spending on museum trip

Variables	Day-trip	Longer trip
Secondary education	0.255***	0.148
	(3.45)	(1.24)
Lower academic degree	0.403***	0.0471
	(5.15)	(0.40)
Higher academic degree	0.565***	0.340**
	(8.20)	(3.19)
Trip duration	0.298***	0.474***
	(19.82)	(20.95)
Very satisfied	0.227***	0.0247
	(4.47)	(0.34)
Museum important	0.528*	1.835*
	(2.20)	(2.51)
Museum very important	0.272	1.630*
	(1.15)	(2.23)
Metropolitan area (museum location)	0.0974	0.464***
	(1.44)	(5.22)
Tampere, Turku, Oulu, Lahti (museum location)	0.198*	0.423***
	(2.22)	(4.00)
Medium-size town (museum location)i)	0.125	0.0816
	(1.69)	(0.90)
Several museum visitors	0.288***	0.144
	(4.62)	(1.57)
Constant	1.147***	0.417
	(4.56)	(0.56)
Number of observations	2307	1472
Multiple coefficient of determination R^2	0.205	0.270

* significance 5%, **significance 1%, ***significance 0.1%; absolute t-values in parentheses

[1] The dependent variable of spending and the independent variable of trip length are in the logarithmic form. Other independent variables are indicator variables. Their coefficients reveal the relative change in spending compared with the control group. In education, the control group is comprehensive school and, in the region indicator, rural area. In their order by population density (population/km2), medium-size Finnish town subregions are Kuopio, Lohja, Porvoo, Jyväskylä, Kotka-Hamina, southern Pirkanmaa, Riihimäki, Pori, Rauma, Vaasa, and Hämeenlinna.

The first column of Table 4 includes the independent variables, the second column the coefficients produced by the regression for day-visitors and the third column the coefficients produced by the regression for those being on a longer trip. Based on the coefficient of determination of the model, the independent variables explain 20%–27% of variation in spending. Table 5 includes values given for the variables based on the estimation results which measure their impact on spending. They are values by which the spending of visitors in euro is multiplied in order to approach the total regional impact of spending on the basis of reasoning below.

According to the empirical analysis, the larger the spending is, the higher the respondent's education is. This is mostly affected by the income level of persons having an academic degree being higher than that of the average person. In Table 4 (day-trip), the coefficient 0.565 of the highest academic degree means that, while the other independent variables are held fixed, museum visitors having a higher academic degree use 56.5% more money than those having a comprehensive education (the reference group). For the lower academic degree, the corresponding figure is 40.3% and that of the secondary education is 25.5%. The higher academic degree was given the coefficient of 1 and, from it downwards, the coefficients were decreased according to the regression. The value of the lower academic degree was set to 0.85 and the value of secondary education was set to 0.75. For persons on a longer trip, there is no difference in spending based on the regression if the respondent has a lower academic degree or secondary education, whereby their coefficient is the same, 0.8. As stated above, education can improve the visitor's opportunity to understand the meaning of the museum and to appreciate the museum visit above ‘the cost of the ticket and a cup of coffee’. In addition to their higher education level, the larger spending of the educated can be explained by the museum adding to the attractiveness of the region and attracting more educated people having a solid financial standing to the locality.

Satisfaction with the museum visit increases spending in connection with the museum visit and the probability to visit the museum again. Based on the regression, day-visitors travelling alone who were very satisfied with the museum visit spent clearly more money during their visit (the estimated coefficient is 0.227 i.e. those being very satisfied with their visit spend 22.7% more money during their trip than those not so satisfied). The value correction of the very satisfied respondents was set to 1.23. The same was not observed in the group of those very satisfied overnight-staying museum visitors (estimated coefficient 0.0247). Their satisfaction seems to have no effect on spending during museum visits.

Table 5 . Impact of museum visit on spending and factors affecting it.

	COEFFICIENTS	
	Day-visitors	Overnighters
Education		
Higher academic degree	1	1
Lower academic degree	0,85	0,8
Secondary education	0,75	0,8
Satisfaction with visit		
Very satisfied	1,23	1
Other degrees of satisfaction	1	1
Importance of museum in travel decision		
Museum very important	1	1
Museum important	0,67	0,67
Museum had no importance	0	0
Museum location		
Metropolitan area	0,9	1
Tampere, Turku, Oulu, Lahti	1	1
Medium-size town	0,9	0,6
Others	0,9	0,6
Travelling companion(s)		
Alone	1	1
Several travellers	0,4	0,4
Fuel costs		
Less than 20km	0,5	0,5
20-50km	0,3	0,3
50-200km	0,2	0,2
>200km	0,1	0,1
Travel ticket costs		
Less than 20km	0,5	0,5
20-50km	0,3	0,3
50-200km	0,2	0,2
>200km	0,1	0,1

The importance of the museum when making the travel decision was replaced by three categories in this model. The following coefficients were given: museum very important = 1, museum important = 0.67 and museum had no importance = 0. In this case, the estimation results give a larger spending caused by the museum visit than the five-category division of Chapter 5.1. This smaller downward correction of spending based on the importance of the museum visit can be justified by the fact that those day-visitors who consider the museum

visit important actually spend more money on the trip than those who consider the museum visit very important. For the spending of those who stated that the museum had no importance when making the travel decision, the value was still set to zero in order for them not to increase the total spending of those who arrived in the region because of the museum (Table 5).

The location of the museum affects spending particularly on longer trips. This is dependent on how many other attractive destinations the region has. In the metropolitan area, the spending was 46.5% and, in other large towns (Tampere, Turku, Oulu, Lahti), 42.3% larger than that in smaller towns. A museum visit on longer trips in large sub-regions thus increases spending considerably more than in smaller localities. For this reason, the value of large towns is 1 and that of medium-size town sub-regions lower (0.6). On day-trips, the estimates of Tampere, Turku, Oulu and Lahti are slightly larger (estimation coefficient 0.210) than those of other sub-regions (0.101 and 0.126). This is why their value was set to 1 and that of the others 0.9. On day-trips, it is thus assumed that the museum visit benefits the actual museum location more when the museum is located in Tampere, Turku, Oulu or Lahti.

When considering the number of visitors, it should be noticed that, in fact, there are more visitors whose spending is studied than there are questionnaires completed. The coefficient of persons travelling alone is 1 and, if there are several persons on the trip, the coefficient is deceased so as to be able to include the spending of one respondent. The spending of children is assumed to be half that of the spending of an adult. Thus, two children equal one adult here. The value 0.4 reveals that, in the questionnaires of several visitors, there are on average 2.5 respondents per questionnaire or that this is a family of parents and one child. When the values of all coefficients are combined, the result is 0.45. When the total data are considered, each questionnaire corresponds with the same assumption of 2.2 persons per reply as in the assessment of Chapter 5.1. This value is used for correcting the spending produced by other variables.

Fuel and travel expenses were also separately considered in this calculation. These are variables embedded in the regression which correct the spending by excluding fuel and travel costs which are allocated outside the region. The fuel and travel expenses were included such that 50% was included from those having travelled less than 20 km, 50% from those having travelled 20–50 km, 20% from those having travelled 50–200 km, and 10% from those having travelled more than 200 km (Table 5). When these assumptions are compared with the total spending, the result is that, on a day-trip, 83% and, on a longer trip, 72% of costs are allocated to the regional economy. After setting the coefficients, we calculated for each item separately how the value corrections affect spending and its allocation.

The coefficients of Table 5 can be applied for each reply. After setting

the coefficients, we calculated how the value corrections affect spending and its allocation per one museum visitor. Table 6 shows these calculations for day-visitors and Table 7 for overnight-staying visitors.

Table 6 . Spending of day-visitors per museum visitor after value corrections.

		Day-trip		Value correction	
		Spending	N	Allocation of spending	Per visitor
Travelling	Alone	31 765 €	989	12 %	9,66 €
	Several travellers	188 504 €	2909	88 %	16,44 €
Education	Higher academic degree	97 248 €	1325	51 %	20,97 €
	Lower academic degree	39 817 €	704	16 %	12,53 €
	Secondary education	48 141 €	898	20 %	12,25 €
	Comprehensive school	34 241 €	971	12 %	10,30 €
Satisfaction	Very satisfied	145 003 €	2356	75 %	17,45 €
	Other degree of satisfaction	75 266 €	1542	25 %	10,89 €
Importance	Museum very important	114 579 €	1999	71 %	18,85 €
	Museum important	67 329 €	789	29 %	19,70 €
	Museum had no importance	38 361 €	1110	0 %	0 €
Museum location	Metropolitan area	95 944 €	1632	42 %	14,13 €
	Tre, Turku, Oulu, Lahti	27 346 €	482	14 %	16,66 €
	Medium-size town	56 928 €	909	29 %	17,98 €
	Others	44 051 €	875	16 %	13,00 €
Money spent					15,20 €

Table 6 describes the spending of day-visitors. First, we calculated the respondents' spending. For example, respondents having a higher academic degree on a day-trip spent €97,248. The next column shows the number of these observations. The following column shows how large a part of spending the variable in question comprises, considering the value corrections set above based on the regressions. For example, museum visitors having a higher academic degree are responsible for a half (51%) of all money spent. The last column shows the average spending per visitor within the variable in question. The bottom row shows the spending when all variables were included simultaneously. Based on this, the outcome is that each day-visitor brings on average €15.20 to the region of the museum. Table 7 employs exactly the same principle as Table 6. The only difference is that it concerns respondents on a longer trip.

Table 7. Spending of visitors on a trip longer than 24 hours per museum visitor after value corrections.

		Overnight tourists		Value correction	
		Spending	N	Distribution of spending	Per visitor
Travelling companion(s)	Alone	269 144 €	781	16 %	75,34 €
	Several travellers	1 688 632 €	2566	84 %	73,50 €
Education	Higher academic degree	912 268 €	1336	58 %	99,42 €
	Lower academic degree	453 506 €	666	19 %	63,37 €
	Secondary school	308 486 €	621	15 %	55,55 €
	Comprehensive school	139 368 €	724	7 %	38,30 €
Satisfaction	Very satisfied	1 161 057 €	1957	66 %	75,56 €
	Other degree of satisfaction	796 719 €	1390	34 %	70,63 €
Importance	Museum very important	259 625 €	565	31 %	122,94 €
	Museum important	851 301 €	1270	69 %	119,55 €
	Museum had no importance	846 850 €	1512	0 %	0 €
Region	Metropolitan area	789 544 €	965	46 %	116,10 €
	Tre, Turku, Oulu, Lahti	331 787 €	501	22 %	102,85 €
	Medium-size town	396 380 €	862	16 %	42,66 €
	Others	440 066 €	1019	16 %	42,56 €
Money spent					73,80 €

Values used are coefficients for visitors on a longer trip justified above in this chapter. When all money spent considering the value coefficients has been calculated, the result is that each visitor on a longer trip brings on average € 73.80 to the region.

In Chapter 5.1, we did not separate day-visitors from those on a longer trip. We have done it in this chapter in order to obtain a more accurate idea on how the duration of the trip affects spending. Without dividing the respondents into day-visitors and overnight-staying visitors, the average amount of money brought by each visitor to the region was € 49.40.

6. Activity of museums and impact of museum visitors on regional economies

6.1 Activity of museums themselves

In 2012, the total funding of Finnish museums was €219 million. Of this, the share of government funding was about €93 million which is about 43% of the total funding of museums. Other central financiers were municipalities whose share in funding was €75 million (34%). With their own independent funding, museums were responsible for about 15% of overall funding, and the share of other financiers was about 8% (National Board of Antiquities 2013).

Some 48% of the spending by museums was allocated to salaries and 31% to property costs. Other costs claimed about 20% of the total expenditure. The share of collections purchases was about 1% of the total expenditure. The salaries and property costs therefore came to about 80% of the expenditure of museums. This is a significant piece of information as particularly labour and property costs are mostly allocated to the regional economy and, due to this, they have considerable regional economic impacts as such.

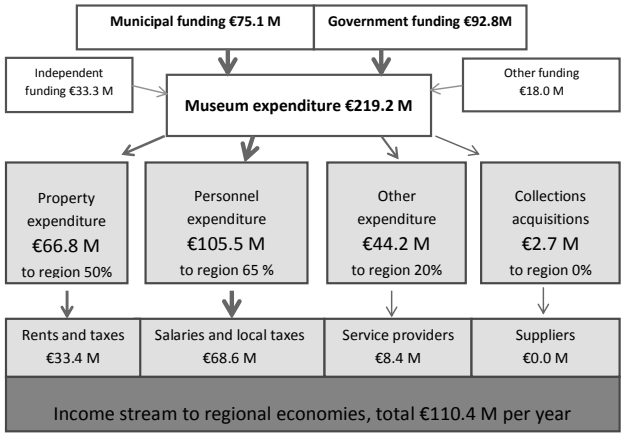

Figure 6. Channelling of activity of museums themselves in regional economy. An example of the transfer of museum expenditure into the activity of a regional economy. Percentages of cost allocation are based on a previous study dealing with a public-sector agent (Vainio 2012). The study assessed the allocation of taxes, rents, service purchases and other acquisitions within the region and outside it. The income and expenditure data of museums were collected from the Museum Statistics 2012 (National Board of Antiquities 2013).

As units which are mostly funded by the government, museums have a moderately large impact on their local regions, because most part of museum income is used regionally. If museums are studied as one entity, it can be stated that their activity brings an additional income of over €100 million as direct economic impacts to the regions of the museums. The multiplier effect of the regional economy increases this impact to between €22 and €55 million at a national level.

6.2 Regional economic impact of museum visitors

We have three different approaches to the regional economic impact of museums. Impacts related to the activity of the museums themselves are formed in the way described in Chapter 6.1. From the total expenditure of museums, we separated a share allocated to the regional economy which is studied as such and through its multiplier effects on the regional economy. Here, museum visitors' spending outside the museum was totally excluded.

We added to the evaluation thus acquired the increase in demand brought by museum visitors in the location of the museum. We did this by using the results of two different methods and obtained a conservative assessment of minimum spending and a slightly larger estimation based on statistical analyses on the total economic impact of museums.

Table 8. Impact of activity of museums themselves on total demand of regional economies. Demand outside the region is excluded from the expenditure of museums. This is explained in more detail in Chapter 6. Increase in total demand in the region is multiplied by the minimum value 1.2 and the maximum value 1.5 of regional multiplier effect.

Expenditure of museums	€
Total expenditure	219 000 000
Expenditure allocated to region	110 400 000
Increase in total demand multiplied by regional economy multiplier 1.2	132 480 000
Increase in total demand multiplied by regional economy multiplier 1.5	165 600 000

According to Table 8, the activity of the museums themselves increases the spending allocated to the location of the museums by a total of €110 million annually. According to Chapter 6.1, the spending is allocated mainly as salaries, taxes and payments received by other service providers to the location of the museum. This increase in demand has multiplier effects the magnitude of which increases the total impact by 20%–50%. Hence, the activity of museums increases economic activity in the locations of museums by about €132–€166 million annually.

Table 9 shows the evaluation according to the minimum calculation (see Chapter 5.1) on the total impact of museums in the regional economy of their locations. In 2012, the total visitor number of museums was 5.3 million. A conservative evaluation on the average total spending of museum visitors was €32.80 per visitor. Based on these figures, we obtain the total economic impact provided by museum visitors which is about €174 million. When we add the multiplier effect of regional economy to this sum, the total impact of museum visitors is between €209 and €261 million. This total assessment is probably below the actual increase in demand, because the museum visitors' spending was evaluated here conservatively to show the minimum impacts of museum visits.

Table 9. Increase in total demand created by museum visitors in the location of museums. This evaluation is based on a conservative assessment in which all such spending which can be allocated to some other region or could be allocated to the regional economy without the activity of the museum was excluded from the spending data. This is described in more detail in Chapter 5.1. Total demand allocated to the region is multiplied by the minimum value 1.2 and the maximum value 1.5 of regional multiplier effect.

Regional economic impacts (minimum calculation)	€
Museum visitors' spending / visitor	32,80
Visitor number	5 300 000
Increase in total demand on localities of museums	173 840 000
Increase in total demand multiplied by regional economy multiplier 1.2	208 608 000
Increase in total demand multiplied by regional economy multiplier 1.5	260 760 000

In Table 10, we view the increase in the regional total demand created by the activity of museums by means of regressions. We estimated spending in the way described in Chapter 5.2 and obtained evaluations a bit larger than those of the minimum calculation above. In this model, we separated day-visitors and overnight-staying tourists into their own groups and, furthermore, we evaluated the allocation of spending to different targets based on various background factors. The spending was mostly affected by education and professional status (and income level related to them). This classification is described in more detail in Chapter 5.2

The spending of museum visitors on a day-trip was about €15 and that of overnight-staying visitors was about €74. Based on figures shown in Table 10, it is possible to state that the total economic impact of museums solely due to the museum visitors' spending is in total between €266 million and €333 million. Evaluations done in this way are somewhat higher than in the minimum model above. Based on this evaluation, the average museum visitor's total spending in the region of the museum is in total about €49 (see Chapter 5.2), while the figure in the minimum model is about €33 (see Chapter 5.1). The actual

spending, and thus the regional economic impact, is probably closer to the figures of Table 10. In this evaluation, we included, inter alia, local inhabitants' spending which, in the absence of local museum supply, could be allocated to some other region.

Table 10. Increase in total demand created by museum visitors in the location of museums. The evaluation is based on a regression model which included factors affecting the amount of spending according to Chapter 5.2. Total demand allocated to the region is multiplied by the minimum value 1.2 and the maximum value 1.5 of regional multiplier effect.

Regional economic impact (regression calculation)	€
Museum visitors' spending / day-visitor	15,20
Day-visitor number	2 880 000
Day-visitors' spending in total	43 776 000
Museum visitors' spending / overnight-staying visitor	73,80
Overnight-staying visitor number	2 420 000
Overnight-staying visitors' spending in total	178 596 000
Increase in total demand in total	222 372 000
Increase in total demand in total multiplied by regional economy multiplier 1.2	266 846 400
Increase in total demand in total multiplied by regional economy multiplier 1.5	333 558 000

When the figures of Tables 8–10 above are transferred to the evaluation of the total regional economic impact of museums, it is possible to study the economic impact of museums in the locations of the museums. In the evaluation according to the minimum calculation, the museums provide their locations at least the additional demand of €341 million in total. Depending on the multiplier of regional economy used, the impact in this calculation model can be at its most €426 million (Table 11).

Table 11. Increase in total demand created by museum visitors in the location of museums. The figures are based on a conservative evaluation. This is explained in more detail in Chapter 5.1 and in Chapter 6.1. Total demand allocated to the region is multiplied by the minimum value 1.2 and the maximum value 1.5 of regional multiplier effect. (M€ = millions of euro)

	Impact of museum activity to region		Impact of visitors to region		In total M€	
Direct spending M€	110,4		173,8		284,2	
Multiplier effect	1,2	1,5	1,2	1,5	1,2	1,5
Total impact M€	132,5	165,6	208,6	260,8	**341,1**	**426,4**

Like Table 11, Table 12 shows the total impact of museums but the evaluation employed statistical analyses in the way described above. Based on this approach, the estimated total economic impact with its

multiplier effects is between €400 and €500 million annually. Depending on the approach, the total impact is thus between €341 and €500 million (Tables 11 and 12).

Table 12. Increase in total demand created by museum visitors in the location of museums. The evaluation is based on statistical analyses. This is explained in more detail in Chapter 5.2 and in Chapter 6.1. Total demand allocated to the region is multiplied by the minimum value 1.2 and the maximum value 1.5 of regional multiplier effect. (M€ = millions of euro)

	Impact of museum activity to region		Impact of visitors to region		In total M€	
Direct spending M€	110,4		222,4		332,8	
Multiplier effect	1,2	1,5	1,2	1,5	1,2	1,5
Total impact M€	132,5	165,5	266,8	333,6	**399,3**	**499,2**

6.3 Impact of foreign museum visitors on Finnish economy

From the viewpoint of the Finnish national economy, economic impact of museums being comparable with export revenues are created by the spending of foreign visitors. About 15% of museum visitors are foreign and, for many of them, museum visits are a central part of the travel itinerary. For foreign visitors, the importance of the museum as a destination (moving spirit) is smaller than for domestic visitors. When e.g. over 20% of domestic museum visitors considered the museum as their primary destination, there was only about 6% of the foreign respondents who had travelled to Finland primarily to visit the museum. About 11% of them considered the museum having had a considerable effect on the travel decision. These results were expected, because a trip abroad probably contains many different targets and destinations. Hence, the importance of museums as single destinations of trips to Finland is smaller than as destinations for domestic travel.

Despite the above, the economic impact of foreign visitors is quite significant. The spending of foreign tourists per respondent is considerably larger than that of domestic museum visitors. Part of their spending is allocated to travel expenses, which have only a partial impact on the Finnish economy, but their hotel and restaurant expenses seem to be slightly higher than those of domestic overnight-staying tourists.

Due to the above reasons, it is difficult to assess the impact of foreign museum visitors exactly. A starting point of a conservative evaluation can be that their spending is at least at the same level as the spending of an overnight-staying domestic visitor. With these assumptions, the increase in total demand brought by foreign tourists visiting museums, related to the activity of the museums would be with its

multiplier effects between €70 and €90 million. This evaluation is included in the above evaluation related to regional economies. Therefore, about 15%–25% of the economic impact of museums seem to be provided by foreign visitors

7. Summary and conclusions

Museums are significant cultural destinations. Their economic impact relates both to museums themselves and to regions surrounding them. It was already known previously that most part of museum visitors' spending relates outside the museums themselves. A central object of this study was to find out how the museum visitors' spending affects regional economies and the whole national economy in Finland.

Based on earlier studies, the visitor base of museums contains about 40% of the whole population. Museum visitors have better education that the average and they work more often that the average in managerial, expert or clerical professions. Their income level is higher than the average. These observations were repeated in a questionnaire implemented in connection with this study. When examined by background variables, the respondent group is similar as in previous questionnaires for museum visitors realised in Finland. For this reason, we can assume that the questionnaire gives a realistic picture of the activity of a typical museum visitor in connection with the trip related to the museum visit.

The regional economic impact of museums is based on the economic activity of the museums themselves and the spending of the visitors when on a museum trip. In this study, we observed that about 3%–4% of spending occurring in the museum visit is allocated to the museum itself. The main part of money on a museum trip is spent for travelling, eating, accommodation, shopping etc. From this, we cannot draw such a conclusion that 96% of spending allocated elsewhere was additional spending created by museums in the regions of the museum locality. Most spending relates to arriving in the destination, due to which, additional spending is partially allocated outside the region. Furthermore, museum trips have, as it is the case in life generally, many parallel targets. Such targets include desire to spend freetime in the vicinity of the museum, meeting relatives or friends or a visit to some other destination. Hence, it would be erroneous to claim that the whole spending related to the museum visit was created by the museum.

To measure the regional economic impact, we excluded the share of museum visitors' spending which is allocated outside the region and proportioned the spending having occurred on the museum trip according to the primary motive of the trip. Travel tickets and fuel expenses were included in the assessment only in a limited way. We examined the motives of the trip so that, if the museum had no effect on the travel decision, the spending was not considered to have been created by the museum. Again, if the museum was the primary destination and travelling motive of the trip, the whole spending related

to the region was included in the assessment. In other cases, the visitors' spending was considered partially due to the museum visit.

The regional economic impact of museum visitors was examined by means of two approaches. In a simple minimum model, we totally excluded local inhabitants who would spend most of their money in the region even though the region had no museum. In this model, we decreased the regional economic impact of sums stated by the museum visitors considerably (see Chapter 5.1) using reduction coefficients based on, inter alia, factors related to the trip motive. According to this assessment, the museum visitor creates additional demand affecting the regional economy the quantity of which is on average €32.80. This figure is the average of the spending of day-visitors and overnight-staying tourists and it describes the increase in demand in the regional economy created by one museum visitor.

In a alternative model to the previous one, data were studied by means of statistical analyses. Also in this evaluation, we excluded such spending which was allocated outside the location of the museum or in which the museum visit did not affect the travel decision. By means of the model, we determined tourists' decision-making related to spending and examined day-visitors and overnight tourists separately (see Chapter 5.2). Factors increasing spending were, inter alia, the visitor's education, trip duration, satisfaction with the museum visit, the location of the museum, and travel companions; the spending of those travelling alone was smaller than those travelling with others.

According to the assessment utilising statistical modelling, the day-visitors' average spending in the region was estimated to be €15.20 and that of overnight-staying tourists to be €73.80. The average spending of all museum visitors was estimated to be €49.40. This figure is higher than that of the above minimum assessment. The difference is a result of differences in the starting points of the assessments. The statistical model also assessed anticipated long-term utilities of the museum visit, such as how satisfaction with the visit affects the probability to visit the museum again or how the impact of the museum visit of a visitor having a higher level of education can be estimated to be greater than that of a visitor having a lower level of education. Furthermore, the assessment also considered the fact that the spending related to visits in museums in larger towns will more probably benefit the regional economy than the spending in small towns where the visit does not as probably include accommodation or other spending. All these calculation were based on the evaluation on how education, satisfaction with the museum, the importance of the museum as a destination or the location of the museum affect the spending.

When assessing the regional economic impact of a single museum, it is equally justifiable to use (1) a minimum model which produces an evaluation based on minimum level of the impact of

the museum visitors' spending in the regional economy or (2) an estimation based on regressions in which the impact is assessed more broadly. Based on the evaluation according to the regression model, it would be possible to predict spending if the background of the visitor base of the museum were well-known. It should be still noticed that the model explains only a bit more than a quarter of the variation in spending, which is partially due to the fact that the contents or quality of the museum offerings were not considered in the assessment.

In addition to single museum visitors or museums, it is possible to assess the economic impact at a national level and examine, based on it, the utilities related to museum activity received by regional economies. When we know that the share of municipalities of the total funding of museums is about €75 million and the total impact of museum visitors in the regional economies with multiplier effects is between €340 and €500 million, it can be generalised that the museums produce to their locations almost solely as tax revenues the sum the municipalities have invested in them. Furthermore, they improve the employment and income level in the region and create wellbeing through this in many different ways. This utility is both intellectual and economic and it is linked with impacts related to the image and reputation of the region. From the viewpoint of regional economy, a museum is a good investment solely financially.

The economic utility provided by museums consists of the added value created by them, the allocation of added value and intermediate consumption regionally and spending brought by foreign visitors with their multiplier effects. The spending of foreign visitors can be considered here a sort of export revenues. For foreign museum visitors, the same reservations related to the trip motive must be used as for domestic visitors. Only in a few cases, the museum is the sole destination of a trip abroad and, on most trips, it is not the most important destination of the trip. However, the impact of museums on travel decisions should not be underestimated, because 40% of tourists visit museums on their travels. Based on this, museums have some sort of a role in the travel decisions of foreign tourists, even though only 5%–8% of all those travelling abroad consider cultural destinations the most central factor affecting the travel decision. According to a rough estimate, the economic impact of foreign tourists solely related to museums and created by them is between €70 and €90 million annually. This sum is included in the above increase in total demand of between €340 and €500 million.

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APPENDICES

APPENDIX 1: Response distribution tables A–L

Table A. Gender distribution of respondents in this study and in National Visitor Survey 2011

Gender	Respondents (N=6,478)	National Visitor Survey 2011 (N=12,626)
Male	36 %	38 %
Female	64 %	62 %
Total	100 %	100 %

Table B. Age distribution of respondents in this study and in National Visitor Survey 2011

Age	Respondents (N=6,431)	National Visitor Survey 2011 (N=12,735)
15 or below	3 %	5 %
16-25	10 %	13 %
26-35	17 %	15 %
36-45	16 %	17 %
46-55	18 %	19 %
56-65	20 %	19 %
66-75	13 %	10 %
76 or over	2 %	3 %
Total	100 %	100 %

Table C. Education distribution of respondents in this study and in National Visitor Survey 2011 *Nota bene: Lower academic degree was not an option in the National Visitor Survey 2011. In the previous study, part stated to have a college degree and part an academic degree. .

Education	Respondents (N=6,485)	National Visitor Survey 2011 (N=12,260)
Comprehensive school	7 %	12 %
Vocational training	9 %	11 %
College degree	9 %	20 % *
Secondary school graduate	14 %	12 %
Lower academic degree	21 %	- % *
Higher academic degree	40 %	44 % *
Total	100 %	100 %

Table D. Professional distribution of respondents in this study. The professional division in the National Visitor Survey 2011 was different so we cannot make an exact comparison.

Profession	Share of respondents (if applicable, comparison data of 2011 in parentheses) N=6,459
Managerial tasks or entrepreneur	11 %
Clerical employee or expert	32 %
Employed in services	10 %
Industrial worker	2 %
Employed in farming or forestry	1 %
Pensioner	19 % (19 %)
Student	14 % (12 %)
Unemployed or outside labour market	4 %
Other	7 % (5%)
Total	100 %

Table E. Distance from respondents' home to the museum where they completed the questionnaire.

Distance	Respondents (N=5,913)	National Visitor Survey 2011 (N=12,387)
50 km or less	45 %	44 %
51 – 150 km	16 %	16 %
More than 150 km	39 %	40 %
Total	100 %	100 %

Table F. Distribution of respondents in this study and in National Visitor Survey 2011 according to their companion(s) on this museum visit

Companion(s)	Respondents (N=6,512)	National Visitor Survey 2011 (N=13,137)
Alone	18 %	15 %
Friends, acquaintances	27 %	25 %
Family or spouse	50 %	53 %
Colleagues	2 %	-
Group trip	2 %	7 %
Other	2 %	-
Total	100 %	100 %

Table G. Distribution of respondents in art museums and other museums and average spending of respondents during the whole trip.

Museum type	Distributions of replies (N=6,500)	Spending per reply
Art museum	2313 (35 %)	328 €
Other museum	4204 (65 %)	343 €
Total	6517 (100 %)	333 €

Table H. Distribution of respondents in this study and in National Visitor Survey 2011 according to their satisfaction with this museum visit *Nota bene: In the survey of 2011, the phrasing of the question was somewhat different (a statement). This causes deviation in the distribution of replies.

Satisfaction with museum visit	Respondents (N=6,460)	National Visitor Survey 2011 (N=12,423)
Very satisfied	65 %	79 %
Quite satisfied	33 %	19 %
Quite unsatisfied	1 %	1 %
Very unsatisfied	1 %	0 %
Total	100 %	100 %

Table J. Average spending of respondents by profession (N=6,079)

Profession	Average spending per respondent (whole trip)
Managerial tasks or entrepreneur	573,15 €
Clerical employee or expert	303,96 €
Employed in services	350,25 €
Industrial worker	366,64 €
Employed in farming or forestry	299,16 €
Pensioner	271,72 €
Student	210,70 €
Unemployed or outside labour market	147,07 €
Other	611,68 €
Total	333,57 €

Table K. Distribution of foreign respondents according to home country.

Respondent's home country	Number of foreign respondents / share of foreigners
Sweden	122 / 12 %
United States of America	110 / 11 %
Great Britain	107 / 11 %
Germany	97 / 10 %
France	67 / 7 %
Russia	65 / 7 %
Australia	47 / 5 %
Netherlands	43 /4%
Other	346 / 35 %
Total (20 countries)	1004 / 100 %

Table L. Distribution of spending of all respondents (N=6,079).

Respondents' spending	Share of total spending, %
Spending in museum	3,6 %
Travel tickets etc.	20,3 %
Fuel etc.	9,6 %
Accommodation (hotels, cottages, camping etc.)	20,7 %
Restaurants, other food and beverage	19,9 %
Entertainment (spas, fun parks etc.)	2,3 %
Culture (theatre, other museums etc.)	2,6 %
Shopping	11,0 %
Other spending	10,1 %
Total	100 %

APPENDIX 2: Questionnaire

SUOMEN MUSEOLIITTO
FINLANDS MUSEIFÖRBUND
FINNISH MUSEUMS ASSOCIATION

University of Vaasa
LEVÓN INSTITUTE

The economic effects of museums

Dear museum visitor

The Finnish Museum Association is examining the economic effects of museums together with The University of Vaasa. The survey will provide information about the museums visitors' financial spending in the museums themselves and during the trips related to the museum visits.

We ask You to answer the questions below.

You can also fill out the form on the internet at the address **uva.fi/levon/museo**

Code: _____

Basic information

Your place of residence in Finland _____

In which country do you live, if not in Finland? _____

Gender ☐ man ☐ woman

Year of birth _____

The total length of your trip from your place of residence in Finland to this museum _____ km

Education

☐ Comprehensive school

☐ Vocational training

☐ Secondary school

☐ Upper secondary school/ matriculation examination

☐ Bachelor's degree

☐ Master's degree or above

Profession

☐ Entrepreneur or in a leading position

☐ Official or expert

☐ Employee in the service sector

☐ Employee in the industrial sector

☐ Agricultural entrepreneur or working in the agricultural sector

☐ Retired

☐ Student

☐ Unemployed or outside the job market (e.g. on maternity leave)

☐ Other, what _____

Questions about the museum visit

I am visiting the museum

- ☐ Alone
- ☐ Together with friends or acquaintances
- ☐ Together with my family or spouse
- ☐ Together with my colleagues
- ☐ On a group tour
- ☐ In other company

How pleased were you with this museum visit?

☐ Very pleased ☐ Quite pleased ☐ Quite displeased ☐ Very displeased

How significantly did the museum visit affect your decision to travel?

- ☐ The museum was the most important reason for the trip.
- ☐ The museum one of the most important reasons for the trip.
- ☐ The museum visit was a factor which affected the decision but not the most important one.
- ☐ The museum visit was part of a larger travel program.
- ☐ The museum visit did not affect the decision to travel but the visit was made during the trip without any planning in advance.

Which of the following alternatives applies to your visit to this museum?
You can choose several alternatives.

- ☐ I traveled from my place of residence to this museum.

I combined the museum visit with one or some of the following things (choose one or several):

- ☐ Meeting relatives or friends
- ☐ A visit the summer house
- ☐ Going to a concert or the theatre or another cultural event/sight
- ☐ A visit to an amusement park, a spa or an equivalent place
- ☐ Taking a city vacation
- ☐ A tour to many different places
- ☐ A visit to other museums
- ☐ Work matters

Questions about financial spending

The total duration of your trip (from your place of residence and back)

☐ A day trip (less than 24 hours) ☐ 1–3 days ☐ 4–7 days ☐ Over a week

Mode(s) of transportation during the trip (choose one or several)

☐ My own car or motorbike

☐ Train, bus, taxi or other form of public transport as well as combinations of these

☐ Ship or airplane

☐ On foot or by bike

☐ Other, what? _____

Financial spending during the trip

How much money did you spend on this museum related trip? If you cannot remember exact sums, we ask you to estimate your spending.

If your trip has lasted or will last for several days, we ask you to estimate **your consumption for the entire trip**. Respondents with families are requested to estimate their whole family's financial spending.

The entrance ticket to this museum and other consumption in the museum	_____ €
Travel tickets (train/bus/ship/other _____)	_____ €
The use of my car (fuel)	_____ €
Lodging (hotel or other lodging) or tour package	_____ €
Restaurants, cafés, grocery shops	_____ €
Entertainment (amusement parks, spas etc.)	_____ €
Cultural services (concerts, theatres, etc.)	_____ €
Shopping (e.g. clothes and consumer goods)	_____ €
Other financial spending, what? _____	_____ €

Thank you for your visit and your reply!

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