

# **ASSESSING THE IMPACTS OF SPORTS EVENTS: THE BIRKEBEINER-CASE**

Kristin Stevik  
Hedmark University College, Norway  
[Kristin.stevik@hihm.no](mailto:Kristin.stevik@hihm.no)

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## **ABSTRACT**

Consumption of leisure activities is a fast growing economic sector. A substantial part of the production is organised as events, involving both non-profit organisations and profit-seeking firms. The motivation for the events commonly springs from the wish to promote the idealistic objective of the organisers. At the same time, the event is perceived to offer business opportunities and contribute to local development in a broader sense. The impact of the events is of interest to public policymakers. Studies of the impacts of events are often motivated by the need to persuade public institutions to offer financial support. There are however other interesting aspects to public policy in this context which will enter the scene when an event no longer requires financial support, but rather makes a profit.

The purpose of this paper is to develop tools for a retrospective analysis of the local impacts of outdoor sports-events in rural areas. The framework will be developed by using a Norwegian case, the Birkebeiner-events.

The Birkebeiner-case is interesting, as the number of participants has increased dramatically over the years, as well as the number of volunteers. An increasing number of national firms are using the event as part of their personnel policy. The participants, also called Birkebeiners, seem to develop a strong sense of common identity. New business opportunities are emerging and national sponsors show an increasing interest in sponsoring the events, contributing to an considerable financial surplus.

The Birkebeiner-events comprises three different annual long-distance races; cross-country skiing, terrain cycling and trail, as well as complementary races of shorter distances. The cross-country skiing race has a capacity of maximum 14.000 participants. With regard to terrain cycling, the rapidly growing interest among the public has triggered an expansion of the event from one to two days this year, increasing the capacity from 16.500 to 24.500 participants. The trail normally attracts around 4.500. The three main races form the «Birkebeiner-tipple», constituting a competition of its own. The events take place in the geographical area between Rena and Lillehammer.

Both tangible and intangible impacts of the events will be considered. Tangible impacts are defined as economic impacts that can be directly measured in the market. The term intangible impacts will cover benefits and costs that are less measurable, for example impacts on civic pride, the propensity to settle in the area and health effects.

Methods for assessing tangible impacts will be discussed with an emphasis on input-output models. With regard to intangible impacts, both quantitative and qualitative methods will be discussed.

Finally a model for assessing the impacts will be presented.

# ASSESSING THE IMPACTS OF SPORTS-EVENTS: THE BIRKEBEINER-CASE

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## ***Introduction***

Consumption of leisure activities is a fast growing economic sector. A substantial part of the production is organised as events, involving both non-profit organisations and profit-seeking firms. The motivation for the events commonly springs from the wish to promote the idealistic objective of the organisers. At the same time, the event is perceived to offer business opportunities and contribute to local development in a broader sense.

Studies of the impacts of events are often motivated by the need to persuade public institutions to offer financial support. Many of these studies have been criticized for giving a too optimistic picture of the impacts of the event. The Birkebeiner events are successful annual events that generate profit in financial terms. It is not a question of whether the event should be repeated, nor a question of direct governmental financial support. A more interesting question for an impact assessment will therefore be how these events already contribute to local and regional development and how this contribution may be sustained and even enhanced. The aim of this paper is to develop a framework for assessing the local impacts of recurrent sports events that is useful for local and/or regional development work.

It should be clear already from the beginning be that although the author of this paper is an economist, the aim is a holistic approach to impact assessment. Throughout this paper it will be recognised that there is more to local development than financial flows and that social and environmental aspects of events are important. On the other hand, it is also recognised that environmental impacts and social impacts carry economic aspects.

## **About the Birkebeiner events**

The Birkebeiner-events comprises three different annual long-distance races; cross-country skiing (54 km), terrain cycling (91 km) and trail (22,9), as well as complementary races of shorter distances. The cross-country skiing races have a capacity of maximum 14.000 participants. With regard to terrain cycling, the rapidly growing interest among the public has triggered an expansion of the event from one to two days this year, increasing the capacity from 16.500 to 21.500 participants. The trail attracts around 4.500. The three main races form the «Birkebeiner-trippel», constituting a competition of its own. The event takes place in the geographical area between Rena and Lillehammer in the inland of Norway.

The events are owned by sports clubs (NGOs) in Rena and Lillehammer and there is one event-office with permanent staff in both locations. Around 1350 volunteers contribute to the running of the ski-race. For the terrain cycling the number of volunteers is around 1500. Again the number is substantially lower for the trail.

The history of the skiing race runs back to 1933. The idea is built around a true story from year 1204 when two skiers escaped with the two year old king Haakon Haakonson from Lillehammer to Rena during a civil war. The skiers belonged to a group called the “Birkebeiners”, hence the name of the race. This story is also the reason why the participants of the race have to carry a back-pack weighing at least 3,5 kg throughout the race. The terrain cycling race was established in 1993 and the trail in 1998.

Participation in the Birkebeiner events seem to create a sense of common identity among the participants all over the country and the Birkebeiner events have become a strong brand.

The main stakeholders of the events are presented in the figure below in no particular order.



Figur 1 The stakeholders of the Birkebeiner events

### Events - instruments for local development?

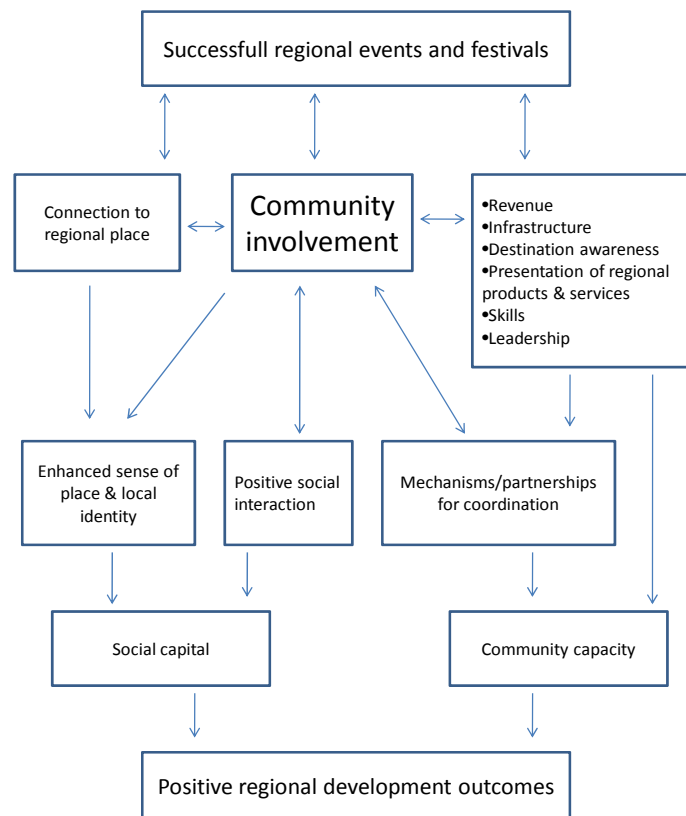
It is reasonable to raise the question whether sports events exist for their economic impacts, for the promotion of a destination, for their health-bringing effects or just for the participants' and spectators' enjoyment. Madden (1998) discusses the economics of arts. He stresses that "... the capture of artistic benefit for well-being remains the heart of the process. An understanding of these benefits is required to fully describe what the true economic benefits of arts are." His main argument is that "... money exists for art, art does not exist for money." On the other hand, as elegantly express by Putnam: "Members of the Florentine choral societies participate because they like to sing, not because their participation strengthens the

Tuscan social fabric. But it does.” (Putnam 1993:4 ) The reason for this is that cooperation may contribute to the building of social capital. “... “social capital” refers to features of social organization, such as networks, norms, and trust, that facilitate coordination and cooperation for mutual benefit [...] Unlike conventional capital, social capital is a “public good”, that is, it is not the private property of those who benefit from it. Like other public goods, from clean air to safe streets, social capital tends to be under-provided by private agents. This means that social capital must often be a by-product of other social activities. Social capital typically consists of ties, norms, and trust transferable from one social setting to another.” (Putnam 1993:4)

Art and sports events differ in a lot of ways; a similar statement could still be made about sports events. The objective of the Birkebeiner terrain-cycling race, is for example “to promote public interest for terrain cycling“. Although sports events have their own mission, it must still be legitimate to recognise that sports events may contribute to regional development; in terms of both economic impacts and social impacts.

### **A framework: events and regional development**

Moscardo (2007) develops a conceptual model framework for understanding the role of festivals and events in regional development. The framework is adapted from a model for regional tourism development previously developed by the same author, after analyzing a sample of 36 case studies of festivals and events in regional destinations. (Several of the studies referred to later in this paper, were included in these 36 cases.) The model describes a connection between a successful regional event/festival and positive regional development outcomes. A successful regional event or festival may contribute to building social capital and community capacity, which are considered necessary for positive regional outcomes. An event’s/festival’s contribution to community capacity building will depend on the mechanisms and partnerships for coordination of the activities of the event/festival. These will again be influenced by factors such as revenue, infrastructure, destination awareness, presentation of regional products and services, skills and leadership. Social capital depends on the event or festival contributing to enhanced sense of place and local identity and positive social interaction, which again rests on how the event/festival connects to the regional place, as well as community involvement. There will also be a connection between community involvement and other factors such as revenue, infrastructure etc. (Moscardo 2007)



Conceptual framework to understand the role of festivals and events in regional development. Moscardo (2007)

“The framework proposes that an event may attract substantial numbers of visitors and generate revenue, but if it does not create community involvement it is unlikely to contribute much to regional development. [...] One key aspect of this framework is that it gives a much smaller role to the economic benefits and tourism marketing benefits than has traditionally been the case in the events management literature.” (Moscardo 2007:29 and 30)

From the context it is evident that Moscardo (2007) refers to input-output analysis (discussed later in this paper), which gives a “snap-shot” of the economy and leaves out the long term effects on the economy. Input-output analysis may shed light on issues relating to short-term revenue, infrastructure and certain aspects of community involvement. Amongst economists social capital is however recognized as one of the factors that contribute to *long term* economic growth, although it may seem to be less clear exactly what mechanisms transforms social capital into economic growth. From this perspective, the economic benefits may play a more important role in the model than suggested by Moscardo.

Moscardo (2007) does not advocate any particular method for measuring the positive regional development outcomes, but suggests that existing general measures of social capital could be used and that this could be combined with measures of social and cultural impacts used in tourism adapted to this context. Structured recording and reporting of various aspects of community involvement is suggested as a third possibility.

Although Moscardo's framework is useful because it explicitly brings social capital and community capital into the assessment of the impacts of an event, there seem to be some limitations. Moscardo's model emphasises the positive regional development outcomes, whereas the cost do not seem to be explicit in this model. An unsuccessful event could for example lead to collective learning and innovations with positive regional development outcomes. It is not obvious that an unsuccessful event will have altogether negative effects on social capital or community capacity. It also seems evident that event the most successful event will imply some costs. Moscardo (2007) raises the question of what happens when an event is unsuccessful (but does not provide an answer) and acknowledges that the fact that the model is developed based on studies of successful events represents a limitation.

In order to provide an analysis that is useful in sustaining and enhancing the local impacts of an event, the costs cannot be ignored. The model could possibly be reinterpreted to talk about "net regional development outcomes". This means that we for example also will have to consider "impaired sense of place and local identity", as well as "negative social interaction". In a qualitative analysis, it will of course be difficult to weigh the positive effects against the negative effects to arrive on an unambiguous expression of "net regional development outcome".

Despite the possible shortcomings of this framework, it will be used as a point of reference in this paper as it includes important aspects of regional development.

## ***Economic impact analysis***

### **Input-output analysis**

Input-output analysis is perhaps the most commonly used method for measuring the local economic impacts of an event. An input-output analysis describes the interdependence between the various sectors of the economy and is used to analyse how changes in one sector changes the overall economic activity. The same method may be applied at a national level as well as local level. In our case the input-output analysis may be used to analyse how changes in economic activity caused by the Birkebeiner-events will affect the economic activity in other local sectors. Various types of multipliers may be derived from the input-output analysis. The multiplier represents the secondary effects of an initial increase in net direct expenditure triggered by the events. The multiplier is in turn used to calculate the overall effects of the event on output/sales, employment or household income.

In relation to Moscardo's (2007) framework, an input-output analysis will shed some light on the relationship between financial revenue (and financial costs), infrastructure and for example sales of local products and services, and community involvement. An input-output analysis requires information about the structures of the financial flows and may thus give some insight into the mechanisms for partnerships and coordination and community capacity in terms of supplying goods and services, but will not offer much in terms of qualitative analysis of these relationships.

### **Multipliers**

Multipliers are often misapplied and misinterpreted. The most common sources of misapplication are discussed by Crompton (Crompton 1995). He points out that sales multipliers and income multipliers often are confused and that sales multipliers will be higher than household income multipliers. The difference is explained by the fact that only parts of

the sale ends up as local income as some of the input is “imported” from outside the local area. He argues that from the host communities point of view, the sales multiplier will be of less interest as the residents would be interested in how much extra income the events generates for the community. The income multiplier will therefore be more relevant. Others argue in favour of the value added multiplier (Dwyer, Mellor et al. 2001). The value added multiplier includes gross operating surplus, as well as household income. The value added multiplier will therefore be higher than the income multiplier.

Employment multipliers will in principal be of interest to the local community, but are very often unreliable. The unreliability is due to the assumption that all existing employees are fully utilised. Under this assumption, increased spending will cause increased employment. However, in many cases existing staff is utilised and extra staff is only hired for a few days, rendering increases in “full-time-equivalent” jobs measured by the employment multiplier less interesting.

The size of the multiplier will in general be influenced by how the geographical area of the study is defined. The greater geographical area, the higher degree of sectorial interdependency will normally be found, leading to higher indirect effects of the initial expenditure.

A multiplier is a simple ratio that measures total changes in the economy related to some initial change. It will thus be affected both by what effects you choose to include and what the effects are related to. The multiplier may be categorised according to what effects are included. Generally three effects are considered: direct, indirect and induced effects. The more effects are included, the higher multiplier. These effects may either be related to direct income created, which gives an “incremental” coefficient - or visitor injection of expenditure, which gives a “normal” coefficient. (Crompton 1995) Visitor injected expenditure refers to the initial expenditure made by visitors, whereas direct income expresses the part of visitors initial expenditure that is retained in the area. Hence the “incremental” approach puts more emphasis on the indirect and induced effects than the “normal” approach. Crompton argues that the “normal” approach is more useful as it gives more guidance to policy makers.

### Net direct expenditure

Dwyer et al. suggests a comprehensive framework for estimating the net direct expenditure of an event. (Dwyer, Mellor et al. 2001). The first step is to estimate gross direct expenditure, which is the total purchase of goods and services related to the event, regardless of source. The gross expenditure may be decomposed by spending group, industry allocation, geographical source of expenditure and timing. The net direct expenditure is the part of gross direct expenditure that is sourced from outside the relevant geographical area, implying adjustments for switched, transferred and retained expenditure, as well as the import component of final goods and services. Although the general framework may be applicable to a wide range of events, adjustments will most likely be required for some applications. There are also several methodological challenges related to estimation of net direct expenditure which must be taken into account when designing a model.

The two main spending groups are visitors and organisers. The visitors should be decomposed in subgroups like participants, accompanying persons, spectators, media representatives, sponsors and exhibitors. The difference in the economic impact of business travellers and leisure travellers may be of importance. This aspect is for example discussed by Solberg et al. in their study of world championships (Solberg, Andersson et al. 2002). In the Birkebeiner case, it is a growing tendency that private businesses use the Birkebeiner events as part of their personnel policy, which is something that has to be taken into account when designing a study.

Comparisons of various studies show that different categories of industry allocation are used. It is important that the categories chosen support multiplier analysis.

The definition of the geographical area will be of great importance for the estimated economic impacts. Expansion of the geographical area will normally lead to higher expenditure per visitor measured within the area. The number of people registered as visitors to the area will however decline, reducing the initial expenditure. A priori the net effect on the economic impact is thus uncertain. The geographical area relevant for the Birkebeiner case is discussed later.

The time frame of the analysis is not obviously limited to the duration of the event itself as expenditure can be incurred before, during and after the event. Pre and post event expenditure is often incurred outside the relevant geographical area, but may as well be incurred in the area studied. In the Birkebeiner case, it is expected that most of the expenditure is incurred during the actual day of the event and the day before. The participants' fees are paid to the organization in advance. Some of the participants may however visit the area in advance to view the start area and explore the tracks.

## Sampling

Frechtling reviews different estimation methods. He concludes that "Among the methods and models found and examined for this occasion, only visitor surveys pass the relevance, coverage, and accuracy tests. These surveys should focus on interviewing visitors as they leave the venue, distinguish those who attend the event on a trip for that purpose (avoiding casuals), ask about spending during the previous 24 hours, and follow best practice in survey design and conduct. These should be supplemented with surveys of these others visiting the study area because of the event". (Frechtling 2006) In the Birkebeiner case, it may not be realistic to interview the participants just after their incredible physical efforts. A substantial part of the spending might also happen after the participants leave the income area. There is no practical way to get in touch with the participants after they leave this area. The organizers invite a random sample of the participants to answer evaluation questionnaires distributed on e-mail one week after the event. The respondent rate is very high. A separate questionnaire on economic impacts would probably not get such a high respondent rate.

Even though the visitor survey method may seem fairly straight forward, there are various methodological problems depending on the nature of the event. Open-gate events will for example represent a challenge with regard to accurate estimation of attendance. (Tyrell and Ismail 2005) present a method for assessing attendance for an event with fairly well defined entrances. They also give literature review, amongst others referring to techniques used by ecologists for estimating the size of crowds. This will be relevant Birkebeiner as the spectators are not charged entrance fee. Many people gather around the tracks to watch. It is however likely that most of these spectators are locals and holiday home owners, and it may therefore not be worthwhile to apply these techniques.

## How useful is an input-output analysis?

A great deal of the studies conducted within the field of events has been analysis of economic impacts. Much of the discussion has been on the quality of these studies and for example which methods will give an adequate input-output analysis. It seems to be commonly accepted that the main purpose of such an analysis is to convince governments and local authorities of an event's worthiness of financial support. The discipline seems to have emerged because of an increased focus on general requirements to document effects of public spending.

The most convincing argument for the governmental financial support to an event would be that the market underestimates the benefits of the event due to characteristics associated with public goods or positive external effects. It is characteristic for public goods that no one can be excluded from consuming the good and that the good may be shared without reducing the value of the good for the individuals. External effects are 'bi-products' of consumption and/or production. If there is a positive externality, then the social benefits are greater than private benefits of those directly involved in the transaction. A negative externality will cause a situation where the social costs are higher than the private costs of those directly involved in the transaction. In the case of the Birkebeiner events, building of social capital will for example be an external effect. Social capital will at the same time be a public good.

Madden (1998) gives a very accessible discussion of this. His focus is on the impacts of arts and culture, but the arguments bear relevance to events. He approaches the issue by stating that the benefit of exchange is well-being. Based on literature surveys he suggests that the functions of art can be affective, psychological, cognitive or integrative. "For example, if one of the *functions* of art is to create sensual pleasure, then one of the benefits of art is the creation of sensual pleasure." (Madden 1998:11) "Note that the capture of artistic benefit for well-being remains the heart of the process. An understanding of these benefits is required to fully describe what the true economic benefits of art are." (p. 13) He argues that it is this well-being that should be recorded as the impact of arts. Thus economic impact studies that only take account of financial flows fail to capture the well-being created by arts itself. They are therefore not relevant for decisions regarding allocation of public money. According to (Madden 2001) (p 170) "... it is worth pointing out that governments are prone to put intangible consideration *before* financial considerations." In a study of the local impacts of Birkebeiner events, it is the well-being of local residents that is of interest.

On the other hand much of the criticism of input-output analysis has been that it leaves policymakers with at too positive view of the economic impacts of an event as it also leaves out costs incurred in the society that is not accounted for by the financial flows. This will be discussed later in this paper under the treatment of cost-benefit analysis.

An input-output analysis therefore seems to be a rather futile exercise when it comes to advocating public support for an event. Considering the substantial amount of resources that have been put into this kind of exercise among academics over the years, this is a rather disturbing insight. Does this leave economic impact analysis applied on events a complete waste of time or is it useful in other respects? Madden notes that "By measuring financial ebbs and flows and financial interrelationships within some bounded system, economic impact studies have a range of crucial policy applications: they provide insight into the structure (or the 'financial topography') of sectors; they help identify trends within sectors; they indicate the likely financial effect of demand and supply shocks and other structural changes, such as policy changes, on the activities and institutions measured; and they provide a way of comparing the financial effects of vastly different projects." (Madden 2001:164) (Daniels, Backman et al. 2004) points out that "Input-output analysis is a useful tool for creating a snapshot of an economy to illustrate the effects of non-resident spending. ... Input-output analysis, however, cannot shed light in impacts outside the economic realm." (p. 118)

No doubt would the local financial impacts of an event be of interest to both local businesses in particular and the inhabitants in general. Suppose that the analysis tells us that most of the visitors' money is spent on restaurants, hotels and groceries and that expenditure within the two first categories have a greater economic impact than the latter (this would also be a likely

result). This kind of analysis may be useful to local businesses, volunteers and local government if the community actively search for opportunities to boost the local economy. It may for example tell us that the local economy would benefit more from using local manpower to temporarily expand the capacity of the local restaurants rather than using the same people to expand the capacity of the local grocery store. An analysis of the expenses of the organizers may reveal new local business opportunities. It will for example also help the local business community foreseeing financial consequences of changes in the design of the events. These aspects would be of interest to the communities around the Birkebeiner events, regardless of the question of public financial support. It is however important to recognise the limitations of input-output analysis and thus only consider this a partial analysis of the impacts of an event.

### **Other methods for economic impacts analysis**

Computable general equilibrium (CEG) models represent an alternative approach to estimating economic impacts of a change in final demand. CEG models are more complex and require more data than input-output analysis, but are also considered more ideal from a theoretical point of view as CEG models take into account that economic impacts of changes in final demand in one sector may be reduced by constraints in the supply sector resulting in changes in prices and subsequent changes in demand. Generally it is expected that CEG models will give a more conservative estimate of the economic impacts of an event. For the largest event with substantial effects on the economy (like the Olympic Games) CEG will be an appropriate method. For smaller events, the supply side of the economy will not represent a constraint in the same sense and the less complex input-output analysis may be a sufficiently accurate method. For a more thorough description of CEG, see for example (Jago and Dwyer 2006).

### ***Social impact scales***

The use of social impact scales seems to be an emerging trend within the field of event studies. The social impact scale is a Likert-type scale that measures both positive and negative social impacts of an event, also including some environmental aspects such as for example noise and litter. A social impact scale will thus be able to capture impacts that will not be captured by an input-output analysis. Referring to the Moscardo's (2007) framework, issues of community involvement and connection to the place could be included, as well as enhanced sense of place and local identity and social interaction. The impact scale analysis may not immediately offer insight into the relationship in between these factors, nor between these factors and social capital. As suggested by Moscardo (2007), it could be possible to adapt social impact analysis to facilitated analysis of social capital and regional development outcomes.

Factor analysis is often used in combination with impact scales. Factor analysis is a common term for various multivariate statistical methods suitable for analysing dependency between many variables. Through factor analysis the data is reduced to a few underlying dimensions which are easier to interpret.

### **A recent example**

A recent example of social impact scale analysis, is a study by Small where a social impact scale was applied to an analysis of the social impacts of two community-based festivals in Australia (Small 2007). This study extends a study by Small and Edwards (2003) where they

developed a Social Impact Perception (SIP) scale, measuring residents' perceptions of the social impacts resulting from small community festivals. Small (2007) refines this scale by using factor analysis. Starting off with 41 social impact statements included in the questionnaire, she finds that there are six underlying dimensions for the social impact variables in her study;

- inconvenience
- community identity and cohesion
- personal frustration
- entertainment and socialization opportunities
- community growth and development
- behavioural consequences

Small (2007) also compares her results with a similar study conducted by Delamere (2001) and Fredline et al. (2003). (Delamere 2001) (Fredline, Jago et al. 2003). The factors identified in these studies are not immediately comparable, although it may be possible to draw certain parallels between them. "The different range of social impacts measured in each of these studies may be one reason why the resulting factors are different. That is, the factors can only be derived from, and be representative of, the initial set of items from which they were extracted. So where different studies use a different range of impact items, the resulting factors are likely to differ for this reason." (Small 2007:53)

### **Item generation**

As every event and every community has its own characteristics, the range of impact items will vary from case to case. There is a wide range of methods used for generating the initial set of items. Some of the methods used are Nominal Group Technique (Delamere, Wankel et al. 2001), the Delphi technique (Delamere, Wankel et al. 2001) (Small and Edwards, cited in Small 2007) as well as supplementing with items generated in other studies.

Before applying any impact scale to a new study, it is important to consider to what extent the scale is sensitive to local variations. Delamere (2001) developed a Festival Social Attitude Scale (FISAS). FISAS was later tested and their conclusion was that: "The FISAS is a robust scale that can be modified depending upon community, client and research needs; it will withstand substantial modifications and still produce valid and reliable results. This is of importance to researchers where costs of implementation and time required are considerations in choosing the method, scope, and scale of the research to be undertaken." (Rollins and Delamere 2007:807)

In the Birkebeiner case, it would be of particular interest to examine whether there are differences in the social impacts between Rena, which is a small rural community, and Lillehammer which is a town. It is therefore important that the items relevant for both areas are included and the scale must be tested to make sure that it is relevant for both locations, as well as locations between these places.

### **Factor analysis**

The above mentioned studies differ in terms of techniques used for factor analysis. Delamere (2001) and Fredline et al. (2001) uses principal components analysis, whereas Small (2007) uses common factor analysis. A principal component analysis the principal components are

linear functions of the original variables, whereas in common factor analysis the original variables are linear functions of hypothetical variables called factors. The two techniques are based on two different types of variance. "Selection of the extraction of method depends upon the researcher's objective. Component analysis is used when the objective is to summarize most of the original information (variance) in a minimum number of factors for prediction purposes. In contrast, common factor analysis is used primarily to identify underlying factors or dimensions that reflect what the variables share in common. ... Although there remains considerable debate over which factor model is more appropriate [...], empirical research has demonstrated similar results in many instances..." (Hair, Anderson et al. 1998:100,103). Common factor entails certain complications which have resulted in a more widespread use of principal components analysis. (Hair, Anderson et al. 1998)

### **Cluster analysis: refinement of impact scales**

(Fredline and Faulkner 2002) emphasises that the lack of support for a recurring event from the majority of the local resident may threaten the existence in the future. It is therefore important to understand the factors underlying the residents' reaction to an event, so that negative impacts may be minimized. "While some event impacts affect the whole community, others tend to differentially affect various subgroups of the population. For this reason, any concerns about the relative costs and benefits of an event are complicated by concerns of distributional justice." (p. 104).

Their study of a formula one grand prix race in Australia is done within a framework of social representation theory. Based on the results from a social impact scale, they use cluster analysis to examine the magnitude of the perceptions of the community members of the event. Based on the data from questionnaires, they grouped the residents into five clusters: most negative, moderately negative, ambivalent, moderately positive and most positive.

The ambivalent were the biggest cluster. "On average they live furthest from the track [...] and this cluster has the lowest proportion of people living within the event zone..." (Fredline and Faulkner 2002:111) Referring to the most negative group: "The issues that appeared to be of great concern to this group include noise, the rights of the powerful winning out over rights of the ordinary people, decrease in civil liberties, traffic, disruption, environmental damage, and reduced quality of life. [...] The majority of this group has close links with the area in which the event is staged ..." (Fredline and Faulkner 2002:109). Much of the same issues were the concern of the moderately negative, although experienced with less intensity. With regard to the group that rated the most positively, "The most important impact related to the event making life more interesting, "showing what we can do", giving the city an international identity, and providing an opportunity to attend the event. ... On average, the members of the two positive clusters live at a distance from the event, which puts them somewhere between the negative and ambivalent groups." Their study shows that the community members' reaction to the event is affected by to what degree they have personal experience with the event, as well as societal values.

### **Other methods**

Although the use of impact scales with various refinements gives a broader and deeper insight into the social impacts of an event than an input-output analysis, it is still possible to argue that the use of predefined scales limits its contribution to our understanding of social impacts. A few examples of other methods are therefore included in this paper. With regard to Moscardo's framework, these methods could be useful in terms of gaining a deeper

understanding of the relationship between local events and local development. At the same time their qualitative nature makes measurement and comparison of impacts difficult.

### **Indepth interviews: social consequences**

Reid (2007) suggests that social impact scales are too narrow in their approach. “Researchers apply value-laden judgements in defining impacts as positive and negative. This fails to recognize that “shades of grey” exist and diversity of opinion among residents’ perceptions of these impacts occurs. [...] The utilization of a predefined social impact scale, however, limits the ability of residents to identify additional, or deviate from these predefined themes.” (Reid 2007:91) She argues that social consequences may be a more appropriate term than social impacts. She uses a constructivist approach to identify social consequences of events. “This approach acknowledges that perceptions of reality are constructed by individuals [...]. Thus, it is the individual who is experiencing planning, operationalizing, and hosting of rural events who is best able to report the social consequences of this event.” (Reid 2007:92)

Reid (2007) used an event stakeholder topology, as well as a snowball sampling technique to identify respondents. Data was collected through semi-structured interviews with event stakeholders in three rural communities. Through her approach, she “... identified a range of social consequence themes that have had limited application within the tourism and events literature, which this article will report on. These social consequences included themes such as trust and respect, breaking down social barriers, releasing stress and tension, forgetting hard times, being affiliated with success, a resistance to change, cost associated with attending, expectations of government assistance, and greed.” (Reid 2007:94)

This approach certainly brings up dimensions that are relevant to the residents’ well-being and will give information that may be important in relation to regional development. Although Reid (2007) sees indepth interviews as an alternative to impact scale analysis, it may also be seen as method for item generation for social impact scales. The results from the interviews could also be used to deepen the understanding of the results of the impact scale analysis.

### **Indepth interviews: trade and business development**

Daniels, Backman et al. (2004) suggest interviews with community businesses and opinion leaders as a cost-effective supplement to input-output analysis. In a study of impacts of a professional golf tournament in the United States, they found that in-depths interviews, using focus groups, proved useful with regard to clarifying, tempering and extending economic impact estimates. They did however note some limitations to the method: “Resolving conflicting schedules of business and political leaders was perhaps the most complicated aspect of this study. While each group had acceptable representation, the views expressed were subject to the participants’ personal agendas and were not necessarily representative for all area leaders.” (Daniels, Backman et al. 2004:123) They suggest that it might have been useful to follow up by individual interviews as some of the participants in the focus groups were particularly powerful community members who may have influenced the opinions of others. They also suggest that other stakeholders should be included in a further study.

With a holistic approach to regional development, it seems necessary to make similar interviews with all the main groups of stakeholders of an event in order to provide a richer analysis. It is still a question whether a study that springs out from input-output gives a sufficiently broad approach, even in though it is supplemented by qualitative studies.

## Workshop method: promotion of a destination

Although it is common belief that an event will contribute to the promotion of a destination, the success of this will depend on a number of factors. (Jago, Chalip et al. 2003) sought to learn more about how to build events into destination branding. They organised workshops with some of Australia's leading event practitioners and destination marketers in order to get expert views elements that make effects effective in building a destination's brand, as well as particular strategies that seem to enhance the effective use of events in building a destination's brand. They also looked into areas of further research. They found that the experts regarded community support for the event and the event's cultural and strategic fit with the destination as the two most important elements for successful promotion of a destination through an event. Other factors that were noted were the need for an event to be differentiated from others, that the longevity or tradition of the event could be of importance, as well as cooperative planning among key players and media support of the event.

Social impact scales only measure the respondents' perception of the how the event contributes to promotion of the destination. If the respondents for example are local residents, the analysis will give limited information about the actual marketing effect of the event. The workshop method described could therefore be complementary to a social impact scale.

Another advantage of this method compared to written questionnaires or various types of interviews, is that it brings people together in a setting which may promote future cooperation, as well as learning. In this sense the research process itself may lead to enhanced positive impacts of the events discussed. Jago, Chaplip et al. (2003) focuses on certain aspects relevant for regional development. The method could however be adapted to include other impacts as well.

## **Cost-benefit analysis**

As discussed earlier, input-output analysis will only reflect the financial flows triggered by the event. The result of the analysis will be condensed into one figure. This figure does however leave out important impacts. Social impact analysis will include various impacts from which we may extract a few underlying dimensions by means of for example factor analysis. On the other hand: "Although a Likert scale can provide a more precise picture, such an approach does not allow for a comparison of the evaluation of an event to the evaluation of other services and goods." (Andersson, Rustad et al. 2004:145) Cost-benefit analysis adds another element to the analysis that is important for comparison: the concept of opportunity cost.

The purpose of an cost-benefit analysis will normally be to compare different alternatives á priori, for example the net benefit of organising an event contra not organising the event – or the net benefit of organizing an event in one location contra another location. In the Birkebeiner case it is neither a question of whether the activity should be continued, nor is it a question of location. The cost-benefit approach would still be of interest for the organizers as they are dependent on continued support from the local communities. In order to sustain this support it would be useful to document the costs and benefits of the event to the communities. The community would be interested exploring possibilities of enhancing the positive effects of the events, either in terms of new business opportunities or in terms of social aspects. Another aspect is that the organizers and their owner organisations are facing a new challenge. Until now the events have been exempted from corporate tax. The Inland Revenue recently claimed that the events over the years have been commercialised transformed into

profit seeking activities which are subject to taxation. This situation may lead to an increased interest in documenting the various impacts of the events.

A fully fledged cost-benefit analysis measures all social benefits and all social costs of an event. Benefits are measured in terms of the consumers' willingness to pay for the impacts. Costs are measured in terms of the consumers' willingness to avoid the impacts of the event and the opportunity cost of the inputs.

Conventionally, a cost-benefit analysis is applied at a national level. The same method may however be applied to an analysis of local impacts of an event. Both costs and benefits will in such case be limited to impacts occurring within the geographical area studied and wide range of impacts that may occur at a national (or even international level) will be omitted. One community' gain will however often be someone else's loss. "Attracting exogenous revenues is a form of protectionism: it aims to divert *their* wealth to *us*. Ignoring the usual theoretical concerns about protectionism, protectionist policies inevitably invite strategic purposes. Protectionism is an invitation to war – economic war. Similarly, event funding *for the purpose of net financial gain* is an invitation to war – event war." (Madden 2001:172) No doubt, it will be possible to show that games of this kind will lead to an excess of events at a macro level. This would however seem to be overshooting when it comes to a discussion related to local development. The contribution of events to national and international growth is a complex matter that will not be considered further in the current context.

In practice cost-benefit analysis is rarely applied to events other than mega events. Even these studies are often limited in scope due to the considerable resources needed for data collection and analysis, as well as the uncertainty attached to data actually collected. One of the advantages of operating at a local level is however that detailed knowledge of the local area and the stakeholders etc. could make it easier to generate data specifically for the purpose of the study.

## **Benefits**

The market price does not measure the consumer surplus, which is the difference between the consumers' willingness to pay for a good and price actually paid in the market. In the Birkebeiner case, it is only the participants that pay a price observable in the market. The fee they pay to participate is however not necessarily the price that they would have been willing to pay. Many of the participants would be willing to pay more than this. In fact they do actually pay a lot more in terms of time spent training, travelling etc., as well as expenditure on equipment. The residents do not pay anything to watch the event, but the event will still be worth something to them. The event produces public goods. In this context this could for example be the marketing effect for region or community pride. In principal, the value of public goods may be revealed through people expressing their maximum willingness to pay for the goods and adding the values assigned by all consumers. There is however measurement problems as people may be tempted to answer strategically. The social benefits may also be different from the aggregated private benefits of the event. If the social benefits exceeds the private benefits, there is a positive externality to the event.

"Some of the impacts [...] are, however of a nature that is difficult to transfer into monetary terms. It does not mean that people are unwilling to pay in order to achieve (or avoid) such impacts, but the problem is rather that they are unaccustomed to assessing these impacts in monetary terms. One way around this problem is to concentrate on the residents' assessment of the entire event. Even though no one will have the complete overview over all the impacts,

people may still have an opinion about whether it is worth the money or not, and to some degree also how much they would be willing to pay in order to enjoy it.”(Andersson, Rustad et al. 2004:147) Andersson and Rustad et al. (2004) used two different methods to estimate the net benefits of the World Championship in Skiing hosted in Trondheim (Norway) in 1997. Both methods showed a positive net benefit, but the methods gave very different values.

The approach suggested by Andersson and Rustad et al. (2004) tells us whether an event has increased the community well-being or not. It will also allow comparison with similar studies of other events. On the other hand, it will not give any information about why the event contributed to increased community well-being and how the net positive impacts may be enhanced.

## **Costs**

In absence of market failure, market prices are available and they will reflect the opportunity cost. In other cases market prices are available, but do not reflect the opportunity cost, due to market failure. Externalities are an example of market failure. The market prices may then be adjusted to reflect the opportunity cost. Yet in other cases no market prices are available at all and the opportunity cost will have to be expressed in terms of shadow prices. The shadow prices emerge from the fact that in a world of scarce resources, you always have to give something up to gain something else. The shadow price measures what a good is worth in terms of another good, based on a marginal change in the volume of the goods.

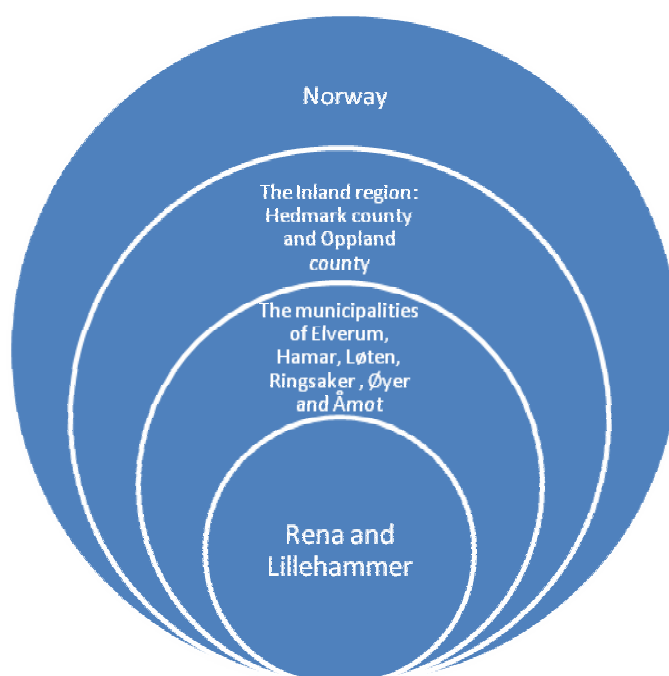
An example of this may be the valuation of time. In theory, leisure time in general may be measured in terms of consumer goods forsaken. The thought is that we choose an hour of leisure instead of an hour of work, assuming that the hour would otherwise have been spent working. Thus it can be argued that the wage, less taxes, may serve as a measure of the opportunity cost of leisure time. The value of the volunteers’ contribution to the event could therefore be measured in terms of the lost income. What would then be the opportunity cost of an unemployed volunteer whose entire time may be characterised as leisure time? An hour of leisure time spent volunteering for an event could for example otherwise have been spent with his children. Given that this is his best alternative use of the time, the value of the time with his children will be his opportunity cost. It is however more difficult to put a monetary value on the time spent with children and in many cost-benefit analyses the value of the time of an unemployed is set equal to zero. The opportunity cost of a volunteers work could also be the value of volunteering for a different event.

Solberg (2003) gives a thorough discussion of value of volunteers’ work in major sports events in relation to his study of the 1999 World Ice Hockey Championship. He uses two different methods for assessing the value of volunteers’ work; one which assesses the value of goods and services elsewhere in society (opportunity cost), as well as the volunteers’ own benefit of volunteering and another that evaluates what it would cost to purchase the equivalent services at market price. He concludes: “The results from this event indicated a low displacement of other goods and services, both in formal and informal sector. In addition, a large number of people enjoyed volunteering and hence received so-called psychological rewards. It would have been expensive to purchase the parallel services of what the volunteers provided in the market.” (Solberg 2003:17) In the context of cost-benefit analysis, the assessment of the value of goods and services elsewhere in society plus the volunteers’ personal benefit from volunteering would be the appropriate method. Providing that the results of Solberg (2003) are transferrable to the Birkebeiner events (which seems likely), the opportunity cost of the volunteers will be low.

## ***A framework for assessing the local impacts of the Birkebeiner events***

### **Definition of geographical area**

As pointed out in the treatment of the input-output analysis above, the definition of the geographical area will be of importance for the estimated economic impacts. The Birkebeiner events attract participants from all over Norway, as well as other countries. If the geographical area is restricted to Rena (Åmot municipality) and Lillehammer, a higher proportion of the participants and visitors will be regarded as visitors. This will increase visitor expenditure. On the other hand, such a narrow definition of the area would reduce the expenditure per visitor and increase the organizers' "import rate". If the area is expanded to national level, the analysis will be quite different from an analysis at a local level as only a few percentages of the participants will be international visitors and the "import rate" will be very small.



**Figur 2** The geographical spheres of the Birkebeiner events

Only ca. 17% of the participants live in the host counties Hedmark and Oppland. Rena village is the centre of Åmot municipality. Its character is quite different from the former olympic town Lillehammer. The municipalities of Hamar, Lillehammer, Løten, Ringsaker, Øyer and Åmot constitute the area of most interest with regard to a study of the local financial impacts of the events, as these areas provide accommodation for the participants and form a continuous inhabited area along the main roads from the starting point to slightly past the end point of the races. (The races actually go through mainly uninhabited forest/mountain terrain, apart from some holiday resort areas.) The largest alpine skiing-resort in Norway, Trysil, is ca. 75 km from Rena, but has so far not offered commercial accommodation specifically to participants of the Birkebeiner events. Some of these areas have a significant number of private holiday houses. A priori the proportion of the participants that stay in their holiday houses in connection with the events is unknown.

It is evident that a study of Rena and Lillehammer would be too restrictive. The municipalities that are most important with regard to accommodation and transport between start and end point must be included in the study. It may however be difficult to define suitable multipliers for this area. With regard to the Inland region, a great part of the area will not be experience any significant financial effects of the events. Multipliers based on regional national accounts will however be available for the Inland region.

Social impacts may also be regarded at different geographical levels. One of the results of the cluster analysis conducted by Fredline and Faulkner (2002), is that geographic distance to the event may explain some of the variations in the residents reactions to the event.

For the Birkebeiner events, we would a priori expect to find most of the social impacts in the municipalities of Åmot (Rena) and Lillehammer. It would on the other hand be interesting to know whether there might be more widespread effects than believed a priori. If a cost-benefit analysis is chosen, both tangible and intangible impacts should be studied within the same geographical area, in order to be consistent. The 7 municipalities listed should therefore be included in a cost-benefit analysis, with the possible addition of Trysil:

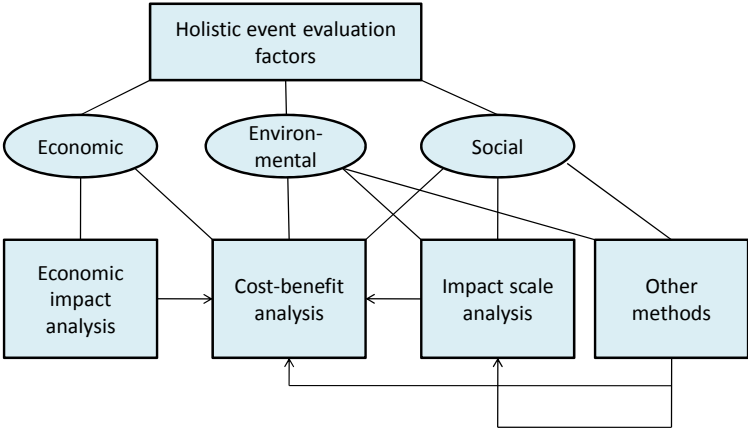
Municipality	Population per 01.01.2008 (Figures from Statistiscs Norway)
Åmot	4.329
Lillehammer	25.776
Elverum	19.464
Løten	7.251
Hamar	27.976
Ringsaker	32.114
Øyer	4.929

## **Towards a theoretical framework and method**

Moscardos (2007) framework has been a point of reference through this paper. The framework puts little emphasis on economic impacts. “The analysis of the cases in the present study found few links between the revenue generated by the event and regional development as in most cases the event was essentially non-profit activity.” (Moscardo 2007:30) The Birkebeiner event invites to look at this from a different perspective as they are profit-generating activities with ten regular employees. The profit is either retained in the organization as a buffer or returned to the owner NGOs who use their dividend to support local sports activities. The organizers also pay a wide range of local NGOs for providing volunteers. A study of the impact of the Birkebeiner events should therefore give a thorough treatment of the economic impacts.

At the same time, there are obviously other important aspects of the Birkebeiner events that cannot be captured in an economic impact study. As noted earlier, an impact study will not tell us anything about the opportunity costs of using local resources on the event, nor will it tell us anything about the intangible benefits and intangible costs. A cost-benefit analysis will therefore be a more appropriate method as it includes these impacts. Social impact scale analysis will be a useful tool as it can cover a rather large number of impacts that illuminate both intangible benefits and costs. Some of the intangible impacts may be given a monetary

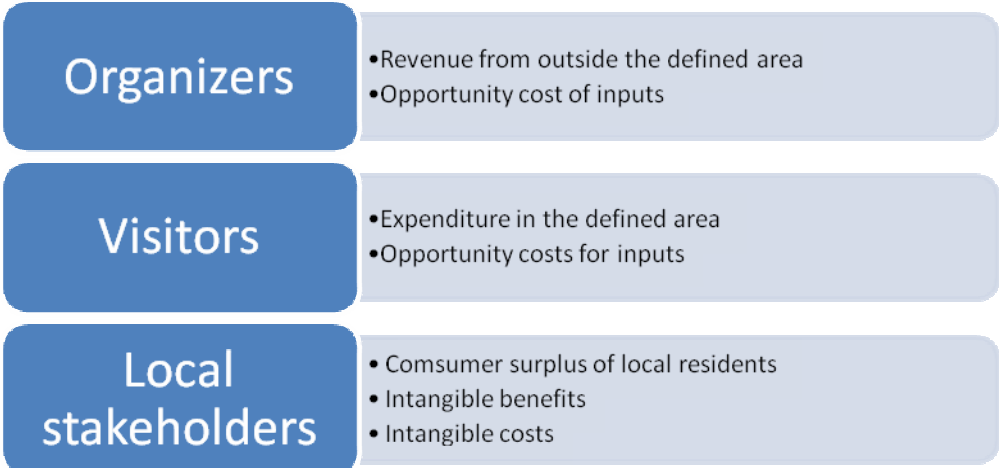
value through shadow prices, but it is unlikely that all the intangible impacts can be measured in monetary terms.



Inspired by Jago and Dwyer (2006)

Figur 3 - A framework for analysing the impacts of the Birkebeiner events

A cost-benefit analysis of the Birkebeiner events will give a systematic evaluation of both tangible and intangible impacts that will represent a holistic approach. The cost-benefit will make it possible to combine economic impact methods, social impact scale methods, but will also add the concept of opportunity cost. A cost-benefit analysis based on the framework above will not result in an unambiguous monetary result. Some of the effects will be expressed in terms of qualitative data. It will however give a systematic analysis that will give the stakeholders balanced information about the various impacts of the event.



Figur 4 Cost-benefit model

For each step in the analysis, there will be distinct methodological challenges that must be given thorough consideration. In order to make the input-output analysis a useful tool for local

and regional development, it is important that the financial flows are described not only in monetary terms, but also in qualitative terms. Local social impact studies may however not reveal all intangible impacts of importance to local and regional development. The events' contribution to destination branding may for example better be captured by other methods. The social impact scale analysis must be designed so that it can give information about how the event contributes to social capital and community capacity. The analysis should be sensitive to the differences in impacts experiences by different groups of stakeholders.

Finally, the locale stakeholders must be involved in the study in a way that the process and the results of the analysis lead to enhanced social capital and community capacity. These aspects would be interesting areas of study in themselves and should be considered thoroughly before using resources on a cost-benefit analysis.

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