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Sports Events in Denmark: What´s Next? The Prospects of EURO2024 in Denmark

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Preface

This thesis represents the final chapter of my five years of study at the University of Southern Denmark, Esbjerg. I wish to thank everyone I have met along the way who have helped me achieve this accomplishment that being friends, family, colleagues, and the SDU staff. Special credit is given to my supervisor, Oliver Budzinski, for his always helpful, inspiring, and knowledgeable guidance and assistance both in terms of the thesis, but also along previous encounters. Furthermore, I wish to acknowledge Jørgen Hansen of TSE Consulting for his excellent and inspiring help in the creative process of forming the outline for the thesis, and for setting me off by providing some great literature suggestions. An inevitable thank you must also be given to all of the respondents of the survey, and not least to my good friends Allan Baunsgaard and Kristian Sørensen for both their moral and practical support during the project. Without any of you, none of this would have been possible.

Esbjerg, Denmark, August 2012.

Mads Sørensen

Sworn Statement

"I hereby solemnly declare that I have personally and independently prepared this paper. All quotations in the text have been marked as such, and the paper or considerable parts of it have not previously been subject to any examination or assessment."

Mads Sørensen

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Abstract

Despite having hosted a considerable share of Europe´s many different sports events, the Kingdom of Denmark has still yet to host one of the biggest of the world such as the Olympic Games, the FIFA World Cup, or the UEFA European Championship. Meanwhile, these so-called mega sports events (MSEs) have grown to become really big businesses requiring heavy investments borne by the organizing country, while a major portion of the revenue flows to the governing bodies of the events. This study aims at predicting whether they, in economic terms, have grown to become too big for a Danish candidature, or if such a mega-event, exemplified by the UEFA 2024 European Football Championship Finals (EURO2024), could be a realistic opportunity to pursue. A Cost-Benefit Analysis (CBA) is applied for two project alternatives; 1) EURO2024 in Denmark and 2) EURO2024 in Denmark/Sweden. Besides estimations on the financial costs and benefits, the Contingent Valuation Method (CVM) is applied among 309 respondents in order to assign a value to the increase in social well-being caused by intangible impacts of the EURO2024 (e.g. uniting of the nation/feel-good factor, motivation to participate in sports etc.). The results show that the preferred alternative is to host the EURO2024 in co-operation with Sweden. The costs for the project reach DKK 1.3 billion, while benefits account for DKK 2.2 billion, resulting in a net social benefit of approx. DKK 915 million.

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List of Abbreviations

BCR - Benefit-Cost Ratio

BWF - Badminton World Federation

CBA - Cost-Benefit Analysis

CS - Consumer Surplus

CVM - Contingent Valuation Method

EHF - European Handball Federation

FIFA - The Fédération Internationale de Football Association

FTE - Full-Time Equivalent

EIA - Economic Impact Analysis

IBC - International Broadcasting Centre

IOC - International Olympic Committee

IRR - Internal Rate of Return

LOC - Local Organizing Committee

MSE - Mega Sports Event

MSEs - Mega Sports Events

NPV - Net Present Value

PV - Present Value

UCI - Union Cycliste Internationale

UEFA - The Union of European Football Associations (English translation)

UEFA Championship - UEFA European Football Championship Finals

EURO20xx - UEFA European Football Championship Finals in Year X.

VAT - Value Added Tax

WTP - Willingness-To-Pay

1. Introduction

The Union of European Football Associations (UEFA), the governing body for football in the European continent, has recently in co-operation with Poland and Ukraine hosted the most expensive UEFA European Football Championship Finals (UEFA Championship) ever. The costs reached almost US $40 billion in total for the two host countries, making it 40 times more expensive than the EURO2008 in Austria/Switzerland, and 10 times more expensive than the EURO2004 in Portugal which was the previous record holder (Discover Ukraine Ltd., 2011). This illustrates very well precisely how massive an event the UEFA Championship has become, and exactly how much such an event requires in investments into areas of for instance security/safety, infrastructure, and stadiums to host. Especially the new tournament structure of 2016 allowing for 24 teams, instead of the current 16, will impose even greater requirements on the host countries (UEFA, 2008b; UEFA, 2009). Due to the requirements, the largest part of such an event has to be publicly financed, especially in small economies with a large public sector like the Danish one. This makes it highly relevant to be able to document potential benefits of such investments before deciding to run for a candidature (Lyck, 2006, p. 2).

Despite the expensive nature, the competition for the right to host the mega sports events (MSEs) are still fierce due to the potential positive impacts for the hosts regions (Oldenboom, 2006, p. 1). The massive and still growing popularity of the events draw large numbers of spectators and television audiences. For instance, the EURO2004 and EURO2008 was watched live by approx. 150 million viewers pr. game, or around 4.6 billion viewers in total. In addition, the EURO2004 in Portugal was visited by around 600,000 people, while the number reached around 2 million at the EURO2008 in Austria/Switzerland (Humphreys & Prokopowicz, 2007, p. 497; UEFA, 2009, p. 3 in sector 11). As attention turns towards the potential benefits that can be obtained from such massive attention, initiatives are becoming ever more common among the governments, municipalities, and private companies to help attract major sporting events. This also shows within a Danish setting, where both recent and upcoming large sporting events are on the agenda like the UCI Road World Championships (2011), the European Table Tennis Championships (2012), the EHF European Men´s Handball Championships (2014), and the BWF World Championships (2014) (Sporteventdenmark.com).

Although being large sports events, none of these qualifies as "mega"-events based on the number of TV-viewers, duration, visitors, participants etc. (e.g. The Olympic Games, the FIFA World Cup, and the UEFA Championship do). The UEFA Championship is the smallest of the MSEs hosted on the European continent, so it must be considered to be the most realistic to aim for to begin with, as Denmark has never hosted one of the MSEs despite having submitted a bid together with Sweden,

Norway, and Finland for the EURO2008. The question is whether the UEFA Championship can be a serious event to aim for, or if it has simply grown to become too large and expensive to host within a Danish setting. The core purpose of the thesis lies in this question, and thus seeks to explore whether it could be realistic in economic terms to host the EURO2024. This is done by estimating the total costs and benefits of hosting the event, including both the ones related to the tangible impacts (i.e. tourism revenue, stadium costs etc.), but also by quantifying the intangible impacts (i.e. values of increase/decrease in social well-being due to the UEFA Championship). Therefore, the analysis first of all seeks to answer the question:

- What are the main social costs and benefits for the EURO2024 in Denmark (and DK/Sweden), and how much do they account for?

Estimating the magnitude of the impacts provides for a total assessment of the economic feasibility of the EURO2024, thus providing for the second main question to be addressed:

- Would it be realistic in economic terms for Denmark to host the EURO2024?

The analysis measures and compares the economic impacts for two different scenarios. This includes a purely Danish bid, and a bid in combination with Sweden[1]. So, the third main research question the analysis cover is:

- Which alternative, between Denmark alone and Denmark/Sweden, would provide the biggest welfare gain (if any) for the Danish society?

The CBA of the two scenarios helps foster a discussion of the prospects of hosting the UEFA Championship in 2024. Providing an answer to the research purpose contributes from an economic perspective to a political discussion, whether the EURO2024 could be on the Danish agenda.

Despite dealing with two scenarios, only the effects within the Danish boarders are accounted for, as it is only this possible welfare gain that is of interest. Due to the somewhat limited nature of the resources available for the analysis, only one set of estimates are produced for each scenario[2]. It is important to remember that CBA´s normally are very expensive and resource requiring to produce, thus this thesis

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[1] Both the scenarios, and the arguments for the choice of scenarios, are presented in section 4.1.
[2] Nooij & Koopmans (2010) for instance use three estimates for each scenario including: unfavorable, probable and favorable. However, the sensitivity analysis covers this type of worst/best-case scenarios.

should not be expected to obtain the same level of details and accuracy as governmentally produced CBA´s. Instead, it is more scientifically grounded with a constant focus on not overestimating benefits, as it is produced completely free of political interests.

In the first part of the thesis, the background and objectives for the project have been described. In the second part, the theoretical framework that the analysis builds upon is presented. Focus is on the potential effects that may develop from hosting MSEs. In the third part, the methodological basis for the analysis including the instrument for collection of empirical data is presented. Part four contains the estimations and discussions upon costs and benefits of the EURO2024, and part five summarizes these findings by presenting the final CBA account as well as providing recommendations towards project alternative. Part six finalizes the thesis with a general discussion of the results, empirical contribution, implications for future research, and briefly the general prospects of a EURO2024 in Denmark. The thesis ends with some concluding remarks in part seven. To begin with, it is important for the content of the analysis to understand the nature of an MSE, and how/why it potentially affects the hosting region.

2. Theoretical Framework

The core elements that distinguish MSEs from "regular" sports events can be found primarily in the size and popularity, as well as in the commercial-, visitor-, and television appeal that they create. A commonly used definition by Maurice Roche defines MSEs as: "*large-scale cultural (including commercial and sporting) events, which have a dramatic character, mass popular appeal, and international significance*" (Roche, 2000, p. 1). As the definition does not set any minimum requirements towards what a MSE is, it must be subject to an individual assessment. In this case MSEs are perceived to be similar to events such as the Olympics, the Super Bowl, the FIFA World Cup, and the UEFA Championships. These are very popular and tickets are almost always sold out while global television audiences run into billions, promising for huge excitement and media exposure for hosting such an event (Maennig & Plessis, 2007, p. 578). This makes the competition for staging the events fierce, as the organizing countries/regions hope to generate income from the massive exposure it provides (Kasimati, 2003, p . 433). However, in the last couple of decades a very extensive piece of literature has attempted to evaluate whether MSEs, as well as professional sports teams and facilities, actually yield a positive economic impact for their hosts. Most of them agree that economic benefits in fact often lack, or are overestimated (Matheson, 2006, p. 19; Nooij & Koopmans, 2010, p. 3; Siegfried & Zimbalist, 2006, p.

421). The reason for this is to be found in the fact that it is extremely expensive to stage MSEs. Especially investments in infrastructure, security, and facilities are known to be substantial (Atkinson et al., 2008, p. 421). In order to justify public spending of the residents´ scarce tax money, which are almost often required, such investments must show some sort of beneficial (economic) effects for the local economy, otherwise scrutiny will easily occur over the allocation of them (Crompton J. L., 1995, p. 14). The main argument for subsidization of sporting facilities and events lies in the ability for such to attract out-of-town visitors (Siegfried & Zimbalist, 2006, p. 424). It is very important to state that local residents´ spending on sporting events is not to be considered as beneficial in the same way as out-of-towners spending, as the spending by local residents may had occurred other places in the community, had the event not taken place (Burgan & Mules, 1992, pp. 705-06). In comparison to for instance matches of local sports teams, MSEs tend to attract many out-of-town visitors who come specifically for the event, which in turn means that much of the spending that is actually new spending in the economy comes from outside. For instance, it is estimated that only around 5-20 % of fans at a typical Major League game in USA comes from outside the local community, while the number is much higher for special events like All Star Games or the Super Bowl (Matheson, 2006, p. 9; Siegfried & Zimbalist, 2006, p. 424). The attention and subsequent academic contributions to the effects of the increased number of out-of-towners is of high importance for precise estimations of economic effects of sports events. The effects that the out-of-towner´s expenditure have on the market of the hosting region shows in different times and ways, as a result of the nature and involved parties of MSEs.

2.1 Effects of mega sports events on primary and secondary markets

The effects can be categorized as occurring either on the primary market as direct effects, or on secondary markets as wider effects (Nooij & Koopmans, 2010, p. 7). The direct effects happen on the market for attending top level football (i.e. the primary market), from which the location has been changed from other countries to Denmark (Denmark/Sweden)[3]. The wider effects emerge in markets that the original product was not really intended for, as a response to the increased demand from the "new" primary market. In more detail, the effects on the primary and secondary markets can be said to develop as three types of impacts; 1) direct impacts, 2) indirect impacts, and 3) induced impacts, by which the two latter happens as wider effects (in the secondary markets) (Kasimati, 2003, p. 434; Mules

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[3] There are also markets for broadcasting rights and sponsoring, which is not taken into consideration here, as it is only affected slightly by the location of the EURO (Nooij & Koopmans, 2010, p. 7).

& Dwyer, 2006, p. 343). Figure 2.1 below illustrates the effects of an MSE (the UEFA Championship) for the different markets, and were in the markets the different impacts develop.

Figure 2.1: Effects of the UEFA Championship on primary and secondary markets
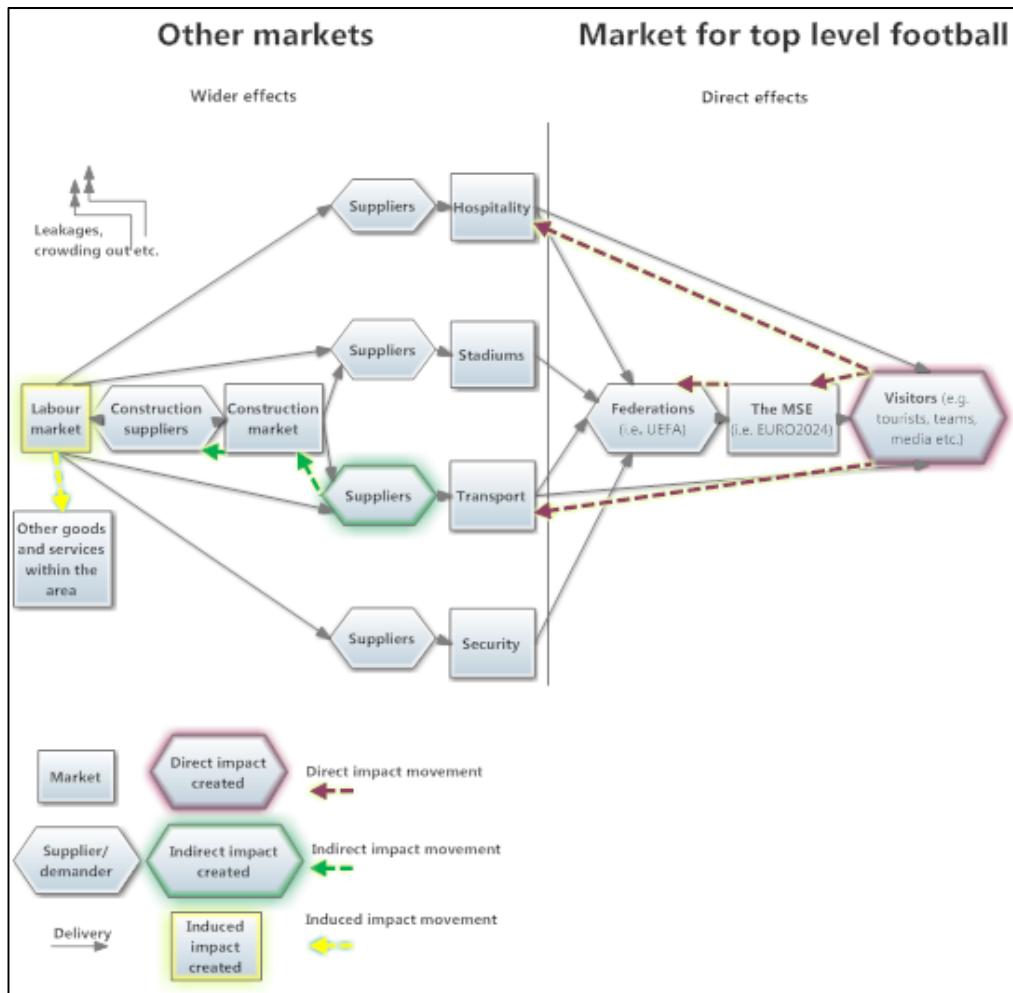
*Source***:** Adapted from (Nooij & Koopmans, 2010, p. 8)

The direct impacts (represented by the purple glow in figure 2.1) are for instance the allocation of the visitors expenditure for the UEFA Championship itself (from which a large part flows to UEFA), but also to the different industry sectors, like transportation and accommodation. This happens as the market for top-level football is a distorted market, where the additional production and consumption/expenditures of/at the UEFA Championship adds additional demand on various other secondary markets including for instance hospitality, transportation, construction, and security thereby creating wider economic effects (Nooij & Koopmans, 2010, p. 7). When these secondary markets experience increase in demand created by the event, they will purchase input from other business

operators who in turn buys from other firms etc. This is known as the indirect impacts (represented by the green glow in figure 2.1). In the end, the increased demand also affects the residents by creating induced impacts (the yellow glow in figure 2.1). These happen when the employees residing within the impacted area decides to spend their increased income on goods and services within the local business area, thereby creating a ripple effect from the original expenditure. The indirect and induced impacts therefore both relate to the re-circulating of the initial expenditure injection by the visitors (i.e. ripple effects/multiplier) (Kasimati, 2003, p. 434; Mules & Dwyer, 2006, p. 343). The sequence of deliveries, and expenditures in return, can be tracked all the way from the labor force, to suppliers, to markets, to the UEFA Championship and its visitors in the primary market. The effects are, however, weakened by other effects such as leakages and crowding-out, which is addressed later. The direct and wider effects/impacts develop both tangible and intangible costs and benefits for the society.

2.2 Costs and benefits of mega sports events

Assessing the relevant costs and benefits of MSEs usually involve a distinguishing between tangible and intangible. The tangible costs and benefits[4] relate to the monetary/financial impacts that the MSE creates, and are therefore of a directly quantifiable character, while the intangible costs and benefits do not share this directly quantifiable nature, but may still reflect values to the society.

2.2.1 Tangible costs and benefits

The largest financial cost items for the host nation of an MSE are usually on the secondary markets in terms of investment in for instance facilities, security, and infrastructure (e.g. Barclay, 2009, p. 62; Lyck, 2006, p. 4; Maennig & Plessis, 2007, pp. 580-81). Other costs mentioned are investments in hotel capacity, costs of preparation, operational expenditures for the government, bidding costs, promotional costs, and foregone taxes etc. (e.g. Humphreys & Prokopowicz, 2007, p. 498; Nooij & Koopmans, 2010; Rambøll Management, 2006b, p. 26). Most of the benefits are seen from ticket sales, visitor spending (incl. teams and media), the national organizing committee´s spending, sponsors, and broadcasting rights (Nooij & Koopmans, 2010; UEFA, 2008a). Further, benefits are said potentially to occur from new/upgraded sports facilities, and improved infrastructure (Preuss, 2007, p. 97). As already illustrated, these benefits for instance come from event-related investments and consumption that spreads and potentially accumulates in other markets (Atkinson et al., 2008, p. 421). However, UEFA can be said to offer the right to "buy" the hosting of the UEFA Championship, and therefore due to the fierce

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[4] The relevant tangible impacts for this analysis are treated in more details in section 4.

competition for hosting serves as a monopolist extracting as much of the financial benefit from the tournament as possible from the host nation (Maennig & Plessis, 2007, pp. 578-79). As a result, agreements are made between UEFA and the host nation towards the economic relations of hosting, and most of the revenue from the direct sources such as broadcasting, ticket-sales, marketing-rights etc. flows directly to UEFA. As a consequence, the financial benefits of the MSEs seldom cover the costs, thereby requiring public subsidization. Some of the main arguments for subsidizing such events from a government perspective are therefore often grounded in benefits of a "softer" character named as intangible impacts that are created by the MSE.

2.2.2 Intangible costs and benefits

Intangible impacts relate to the idea that MSE´s (or sports teams/facilities) can increase the quality of life in a community. The reason for this is that a MSE in its nature is very similar to a public good. Public goods possess at least one of two characteristics (pure public goods possess both). First, it is non-rival meaning that it can be consumed by one person without diminishing another person´s consumption of it. In a MSE sense, this means that the enjoyment of the MSE by one person does not prevent others from enjoying it. In fact, in terms of the UEFA Championship more people "consuming" the good may even enhance the experience of it. Second, it is non-excludable meaning that no-one can be excluded from it, or charged a fee for enjoying it (Sassone & Schaffer, 1978, pp. 89-90; Siegfried & Zimbalist, 2006, p. 421). In the case of sports teams and events, the public good characteristics does not directly show as for instance stadium tickets are rivalrous and excludability is possible as everyone will be charged for consuming it at the stadium, and some people like hooligans will be excluded from entering. The public good characteristic instead shows in form of the enjoyment of for instance the commonality, spirit, and unity the MSE creates[5]. This part is non-rivalrous and non-excludable. In the case of a MSE, the public good benefits/costs overlap with externality effects (Siegfried & Zimbalist, 2006, p. 421). The externalities are a by-product of production or consumption, for which there are no market. This means that it is created because of the actions of one agent which affects the welfare of another agent, while the former is neither compensated nor charged a fee by the latter (Sassone, & Schaffer, 1978, p. 85). The market price does therefore not reflect the true costs of production, or the benefits of

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[5] These public good characteristics are hard so assess beforehand. This is one of the reasons why some researchers claim MSEs to show the same characteristics as "experience goods", by which consumers can only assess values for upon consumption or from past experience (Heyne et al., 2007, p. 203).

consumption, due to the market failures. They are consequently harder to quantify and include in an economic assessment (i.e. the label of intangible), but should nevertheless be so, as they might represent a significant argument for hosting, as for instance Atkinson (2008) finds. The externalities can both affect the quality of life for individuals in positive and in negative ways, and they are therefore named either as intangible costs or benefits. Examples include for instance disturbances due to crowding, enhanced national pride/feel-good factor, motivation for people to participate in sports, increased safety concerns, traffic disturbances etc. Individual assessments of these changes in social well-being are important for the overall assessment of how the EURO2024 will affect the Danish society, as they might display a change in social welfare; which must be included in a CBA from society point-of-view.

A long list of other impacts, not mentioned already, can be identified within the literature including both short-, and long-term benefits such as enhanced international reputation, urban re-generation, knowledge and learning, increased retail sales, improvements for handicapped, volunteer movements, better living conditions, local business opportunities, and corporate relocation (Kasimati, 2003, pp. 433-34; Preuss H., 2004, p. 26). Other costs may also be identified such as high construction costs of infrastructure and facilities, increases in property rental, and only temporary increases in employment and business activities (Kasimati, 2003, p. 433-34). Many of these impacts can be interpreted as part of what is usually described as the "event legacy".

2.2.3 Event legacy

The term "event legacy" largely covers the final effects, positive and negative, that remain after hosting the MSE. Preuss H. (2007a, p. 86) defines the concept as: "*Irrespective of the time of production, legacy is all planned and unplanned, positive and negative, intangible and tangible structures created for and by a sports event that remains for a longer time than the event itself*". Such items may be sporting-, urban-, infrastructural-, economic-, and social legacies. This includes both beneficial legacies such as modern football stadiums, increased unity of the population, more future tourism, or sufficient transportation systems, and negative (costly) legacy effects such as blocking of other investments in the city, less future tourism, or unnecessary expensive event facilities after the event.

According to Preuss H. (2007a, pp. 87-99), governments should invest in leveraging legacy effects as they are not created automatically, and therefore differ significantly from event to event and city to city. A future legacy should only be included in ex-ante analysis if good arguments can be made towards why it is created – this also goes for this analysis. One of the most debated legacy effects

derives from the power of a mega-event to improve the perception/image of a city, thereby increasing tourism after the event, or even before. The creation of new infrastructure (or acceleration of planned projects) and facilities are the preconditions for this effect to occur, and has the potential to help develop the destination as a tourist destination through "new products". Tourism in general are perceived as one of the most important benefits of a MSE due to the usually very high numbers of "new money" they contribute to the society with. Therefore, they deserve some special attention.

2.3 Tourism effects

The extra tourism that the MSEs attract to the host country/region is vital for the event to have a positive economic impact. The basic conceptual thinking behind is that residents of a particular region pay taxes which the city council/government spends on a facility or event that aims to attract out-of-town visitors. These come to the city and contribute with new inflows of money both at and outside the facility/event, which then creates income and jobs in the community in favor of the local residents and taxes for the city government (Crompton J. L., 1995, p. 15). In relation to major sporting events these may be spectators, journalists, athletes, sponsors, and members of the national delegations etc. (Lotti, 2008, p. 29).

This inflow of visitors is, however, not the only mechanism that develops from hosting a mega-event. They do not only attract out-of-town visitors, but in fact also displace and discourage a lot of the regular recreational and business visitors mainly because of the "congestion" that they cause (Matheson, 2006, pp. 9-10). This mechanism is known in the literature as "crowding-out". Crowding-out occurs when regular tourists stay away from the destination before, during, or after the MSE, as they expect there to be busy and chaotic conditions, higher prices, and lack of accommodation. For instance, 66 % of Danish tourists avoided the Lillehammer region during the Olympic Winter Games in 1994 (Preuss, 2006, p. 289). As the MSEs are usually hosted in large cities these are already matter to much tourism, meaning that restaurants, hotels etc. may already be running near maximum capacity. If, on top, extra event related visitors are also coming it has a tendency to displace regular tourism. In fact, this crowding-out may sometimes even mean that hosting a MSE will provide large benefits to the neighboring community in terms of visitors. Leeds (2008) for instance found that the displacement of ski tourist during the 2002 Salt Lake City Winter Olympics resulted in statistical significant increases in the economic activity in eight of the neighboring counties of Colorado. Even though empirical contributions on the subject are still limited, accounting for the crowding-out effect is of high importance as tourism revenues cover a considerable part of the income from sports events (Nooij & Koopmans, 2010, p. 14).

2. Theoretical framework

According to Preuss (2006, pp. 287-91), nine groups of tourists can be identified in terms of their travel movements, and on how their spending affects the region due to the MSE.

Figure 2.2: Tourism effects
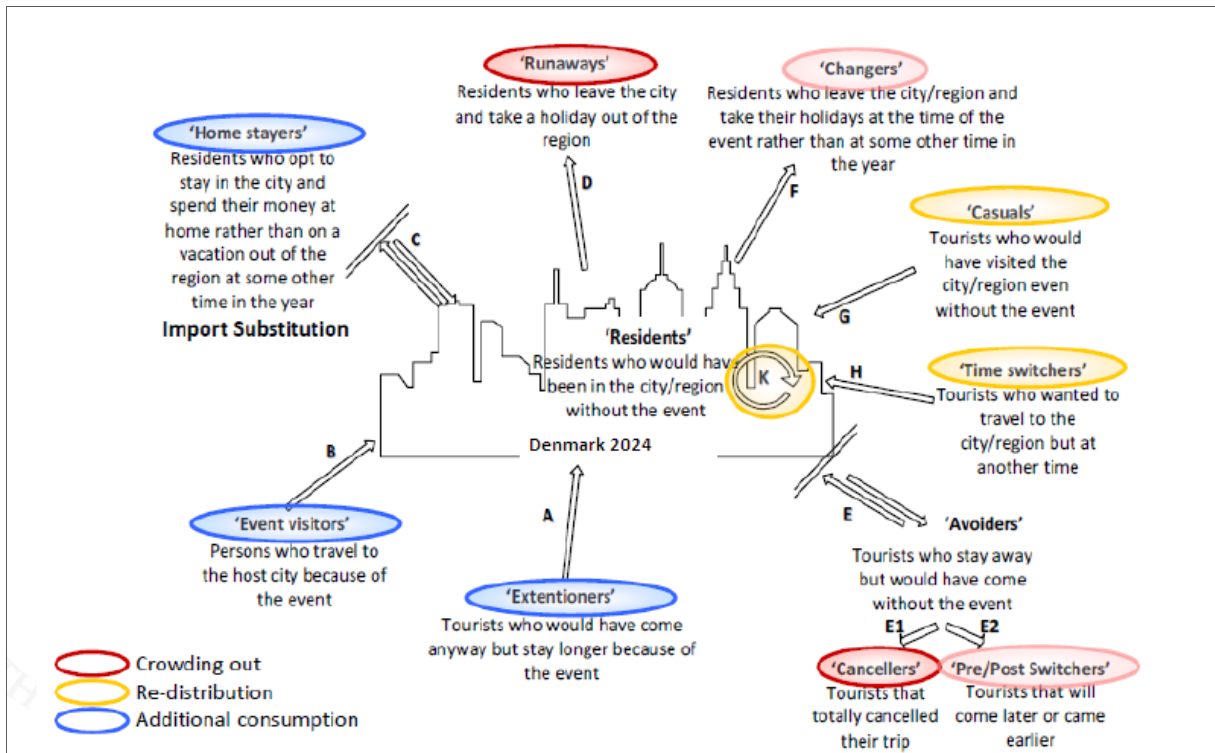
Source: Adapted from Preuss (2006, p. 288).

A) "Extenders" are tourists who would have come anyway, but stay longer due to the UEFA Championship.

B) "Event visitors" are persons who will travel to Denmark because of the UEFA Championship.

C) "Home stayers" are Danish residents who decide to stay in the country, and spend their money on the UEFA Championship instead of going on a vacation out of the country.

D) "Runaways" are among the income that leaves the country, as residents decide to go on a holiday outside of the country because of the UEFA Championship.

E) "Avoiders" consist of tourists who decide to cancel their trips, or tourists who will come earlier or later because of the UEFA Championship.

F) "Changers" are like avoiders, but Danish residents, who decide to change their plans of going on holiday from some other time to the time of the UEFA Championship.

G) "Casuals" are not really affected by the event, as they are tourists who would have visited Denmark regardless of the UEFA Championship.

H) "Time-switchers" are tourists who would have simply come and spend money at another time.

K) The last group "Residents" are obviously Danes who live in the region, and would be there spending money regardless of the UEFA Championship.

"Extenders" (A), "Event visitors" (B), and "Home stayers"(C) are the visitors at the UEFA Championship who is expected to spend money, and create a positive economic impact in Denmark[6]. "Runaways" (D), "Avoiders" (E), and "Changers" (F) represents the crowding-out effect. Of those, "Runaways" (D) and "Changers" (F) concerns Danes who are discouraged by the noise and congestion among public transportation, construction sites, and in public spaces due to the championship. "Changers" (F) switch their holiday period from one point in time to the time of the UEFA Championship, meaning that the amount of money that they carry out of Denmark remains the same, but just happens at another point in time. "Runaways" (D) are more problematic, as they create an opportunity cost by directly carrying money out of Denmark due to the event. A risk for both "Runaways" (D) and "Changers" (F) is that they may potentially discover new places in that period, which they will return to in the future, and therefore once again create an opportunity cost. "Avoiders" (E) also create opportunity costs[7], as they are tourists who decide not to come to Denmark because of the UEFA Championship, or switch their trip to other periods in time. "Casuals" (G) and "Time-Switchers" (H) should be subtracted from the analysis, as their contribution to Denmark would have come without the UEFA Championship as well (Preuss, 2006, p. 288-90, on the whole paragraph). All of these potential tourism effects are accounted for in the analysis.

In theory, there are two important concepts that hinder the potential benefits (incl. the multiplier effects) of a MSE to be fully captured by the host region; the substitution effect and leakages.

2.4 Substitution-, multiplier effect and leakages

The substitution effect is a very important effect to consider, as it reflects how additional spending at the event may simply be a re-distribution of money in the local economy. The effect occurs when consumers decide to spend their money at the MSE instead of some other good or service within the local economy

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[6] "Home-stayers" (C) are not out-of-towners, but can still be interpreted as contributing with "new-money" as they would not originally have spent the given amount of money in Denmark.

[7] The subgroup (E2) "Pre-Post Switchers" might contribute in a positive way by keeping hotel capacity available in time of the events, where it might have been otherwise over-booked, and thereby allowing better utilization by filling up the capacity in other periods.

(i.e. one form of spending substituting another similar one) (Siegfried & Zimbalist, 2006, p. 422). As a result, local consumer´s spending on sports events should not be included in economic analysis, as it cannot be considered new economic activity (Preuss, 2006, pp. 288-90). Strictly speaking, this would mean that the "Home stayers" (C), "Changers" (F), and "Residents" (K) from before should be subtracted in the analysis, as they all concern Danish residents. However, "Home stayers" (C) are not subject to the substitution effect during the event, as they per definition clearly state that they would have been somewhere else spending their money if the event had not been there, and thereby not just re-distributing their money in the local economy. "Changers" (F) are neutral, as earlier described, but "Residents" (K) must be subtracted in the analysis, as they are considered to be likely subjects to the substitution effect. "Time-switchers" (H) are also subtracted because of the substitution effect, as they consist of visitors that decide to substitute spending at one point in time in the region on something else than the event, with the event (Matheson, 2006, p. 9). The same applies for "Casuals" (G), as they can also be interpreted to be subject to the substitution effect. They would have come and spend money in the society even without the event, thus simply shifting their spending to another place in the society.

Leakages are the other important mechanism that is very hard to estimate, and therefore often neglected in ex-ante analysis of MSEs. The concept refers to, that much of the injected local spending from outsiders caused by the event flows out of the region, and thereby do not end up in the pockets of the local residents in the end, even though they are initially the ones who pay the taxes that subsidize the event (Matheson, 2006, pp. 10-11). There are many types of leakages that reduce the economic impact of a MSE (Mules & Dwyer, 2006, p. 343). For instance, much of the income from sports events end up in the hands of the international sports federations (e.g. UEFA), or in the hands of owners or players who do not live in the region, thereby leaking out of the area and heavily reducing the multiplier effect (Siegfried & Zimbalist, 2006, pp. 422-23). Leakages also occur when building the new infrastructure for the event. The building of stadiums and transportation is usually financially supported by the local authorities, as infrastructure and facility projects are said to stimulate the local economy and employment. However, because of leakages it is unlikely that the bottom-line will show positive results from such projects in comparison to the opportunity costs. First of all, the public will most likely have to raise taxes, or to cut costs elsewhere because of the expensive nature of the projects, meaning that the local economy will be negatively affected elsewhere producing loss of jobs, and thereby matching new employment with loss in employment. Even more, such construction may be very specialized industries meaning that materials and workers must be obtained from outside the region resulting in an outflow of money (leakage) (Matheson, 2006, p. 12).

2. Theoretical framework

Leakages are very important to consider, as they determine how large the final *multiplier effect* (i.e. indirect and induced impacts) of the event becomes. The higher the multiplier used, and the less leakage, the more money accumulated in the society. This also goes the other way round. A smaller area under investigation entitles greater leakages, and hence a lower multiplier. The most well-known multiplier effect is the Keynesian, which can be interpreted to equal induced impacts. It is expressed as the creation of direct net income as a result of injection of money into the local economy which induces more rounds of spending by the residents, so that more income and value indirectly will be added (Késenne, 2005, p. 135). A multiplier effect is not included in this analysis based on a couple of considerations. First, in a small open economy like the Danish that has a tax rate around 40 %, a VAT of 25 %, a relatively high regional import rate of for instance materials, consumption goods and labor, and assuming a high household saving rate; there will be very little left for income generation following the first round of spending (Késenne, 2005, p. 135; Rambøll Management, 2006b, p. 68). Second, many ex-ante studies use input/output approaches to compute multiplier values of up to 2 which heavily bias the estimates, and the effect are as a consequence way too often included as unrealistically high (Nooij & Koopmans, 2010, p. 8; Siegfried & Zimbalist, 2006, p. 423). Such studies typically forget to account for equivalent multipliers that should be applied for the (opportunity) costs, neglect leakages, or do not consider any tendency towards a general equilibrium, but simply assumes that the existing economic relationship will remain constant leading to overestimation of the welfare effects (Nooij & Koopmans, 2010, p. 4). Watson (1998, p. 32), even directly recommends that multipliers are not included in CBA´s analyzing from a social (nation-wide) point-of-view, unless there is a clear justification for it, which is not found to be the case in this regard. Based upon these considerations a multiplier effect is not included.

Having presented the theoretical framework that lays the foundation for the analysis, the methodology adopted for the assessment of these theoretical effects, and the applied tools for data collection is described.

3. Research Design

Social sciences are, according to Robson (2002, pp. 200-19), often utilized to provide science-based recommendations for the sake of political or managerial decision-making by incorporating theories and empirics into real-world evaluation research. This is also the case for this study as CBA is a method developed for evaluation purposes of real-world issues (Robson, 2002, p. 202). The outcome of the evaluation is therefore produced through a deductive process which seeks to apply general principles in order to come to conclusions regarding a singular occasion (i.e. EURO2024 in Denmark or DK/Sweden) (Andersen, 2006, p. 32). As a result, the overall goal of the thesis is of a normative character seeking to describe the best possible alternative for Denmark for hosting the EURO2024. The perspective for the evaluation is consequently from a society-point of view with a static timeframe, as the analysis seeks to provide a current picture of the costs and benefits of hosting the championship[8]. The data for the purpose is accordingly gathered to reflect only one specific point in time (i.e. the benefits now from hosting in the year 2024). A description of the elements of a CBA, which serves as the basis for the empirical research and analysis, follows along with an assessment of the pros, cons, and delimitations of such. Furthermore, a comparison towards the Economic Impact Analysis (EIA) is also provided.

3.1 Cost-Benefit Analysis

In order to estimate economic impacts of MSEs, two methods are normally preferred. The first method is the EIA, which is a method used to display the purely economic effects that a project may have on a defined area of interest. The second method is the CBA[9] which accounts for and quantifies all costs and benefits in a given area (often nation-wide) of a specific and commonly public project/policy. A formal definition of CBA can be expressed as: "*an estimation and evaluation of net benefits associated with alternatives for achieving defined public goals*" (Sassone, & Schaffer, 1978, p. 3). This definition can be extended to sports events by the phrasing of Stefan Késenne: "(…) *compare the benefits of a sports event for a region or a country, which is the increase of the value of consumption of the local population[10], with the costs of the factors of production that are necessary to organize the event.*"

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[8] Had the project been assessed for instance ex-ante, in medias res, and ex-post a dynamic timeframe would have been applied. This is not possible for the sake of this thesis though.

[9] Sometimes also referred to as a "Social Cost-Benefit Analysis" when estimating costs and benefit at the national level, which is the case here (Boardman et al., 2001, p. 2). This basically means that the CBA incorporates *all* costs and benefits for society, whoever incurs them, by the staging of the UEFA Championship.

[10] The *consumption of the local population* is in this analysis replaced with only the additional foreign visitor's consumption.

(Késenne, 2005, p.137)*.* This basically means that the purpose of a CBA can be expressed as a means of showing the increase/decrease in social benefit due to the sports event:

$$\text{Net Social Benefit} = B - C \qquad\qquad (1)$$

An important thing to stress is that there are differences between "theoretically correct" CBA analysis, and the CBA analysis practiced in the "real world" (Boardman et al., 2001, pp. 69-79; Késenne, 2005, p. 138). A "theoretically correct" CBA is based upon welfare economics[11], which is concerned with finding out whether economic theory can help decide what sound economic policy for the society is (Oldenboom, 2006, pp. 67-68). In terms of a CBA it means that: "*The benefits of a project outweigh the costs if the consumer´s willingness to pay outweighs the value (opportunity costs) of the resources used in the process*" (Mules & Dwyer, 2006, p. 349). The change in the consumer´s willingness-to-pay (WTP) because of a policy/project is reflected in the consumer surplus (CS). CS emerges as the difference between the price, and what the individual consumers are willing to pay for the good. For instance, if a new policy lowers the price of a good, the positive change in CS can be interpreted as the value for society of the new policy[12]. Calculating such, however, requires that demand schedules are known (Boardman et al., 2001, pp. 49-52). CS can be assumed to be rather high for the EURO2024, as tickets for the UEFA Championships are almost always completely sold out (Oldenboom et al., 2002, p. 16). Further, football is a very popular sport in Denmark and Sweden, and an MSE has never taken place in Denmark. However, because it is so demanding to estimate demand schedules ex-ante, CS are rarely estimated in "real world" CBA´s (Késenne, 2005, p. 137). CS is therefore not further considered for tangible impacts, but instead only the actual financial benefits, which is the case in most CBA´s. It could be argued that the Contingent Valuation Method (CVM) can be a way of capturing the CS of the event, but it is in this case only applied for part of the value of the event in terms of the intangible impacts by measuring the non-use/non-market values these effects have for the individual residents (Bille, 2011, slide 19).

"Real world" CBA´s are also different in terms of the costs side. The financial costs of the UEFA Championship should in theory not be included, but instead the opportunity costs. The opportunity costs are the benefit of the best alternative. The reason for this is that resources could have been spent better on another project than the UEFA Championship, resulting in a higher benefit. This benefit is

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[11] It is important to stress that traditional neo-classical welfare economics does not attempt to adopt a decision procedure as the CBA does, but only displays the optimal choice of economic states under the assumption of perfect competition (Oldenboom, 2006, p. 67).
[12] The CS equivalent "Producer Surplus" should in theory also be calculated, which together forms the *social surplus*. In addition to that, government revenues should also be included (Boardman et al., 2001, pp. 56-58).

foregone because of the decision to go with the other project. It can therefore be considered as the true cost (Késenne, 2005, p. 138). Not all costs should be included as opportunity costs though. Only what must be given up today and in the future for the project to succeed, and hence not what already has been given up (Boardman et al., 2001, p. 87). What already has been given up is termed as sunk costs, and their opportunity cost is zero, as they have already occurred. In the case of hosting the UEFA Championship for Denmark in 2024, the sunk costs are minimal as no official bidding processes or preparations have begun. Opportunity costs in its original form are rarely included in "real world" CBA´s because it is nearly impossible to account for all of the possible alternative ways to spend resources (Késenne, 2005, p. 138). In practice it is instead the inclusion of the main financial costs for Denmark for hosting the UEFA Championship e.g. cost of infrastructural adaptions, bidding/promotional costs etc. Both the costs and the benefits of hosting the EURO2024 in Denmark are of course subject to heavy uncertainty as a market for MSEs in Denmark can hardly be said to exist, and therefore neither direct observable market prices, thus requiring the use of shadow-prices. Shadow-prices are reflections of the social value of a good if market prices are not sufficient or existing. Sometimes a market price may serve as a boundary value, but has to be corrected using shadow-prices if a divergence between price and social value exists (Sassone, & Schaffer, 1978, pp. 50-53). Shadow-prices are therefore often computed based on previous data from other editions, other markets, and future predictions which together may be interpreted as a form of "benefit transfer" (Atkinson et al., 2006, pp. 254-55). This approach is also used in this analysis for the tangible impacts.

Heavy uncertainty is in general a feature of CBA´s especially when conducted ex-ante. The most precise type is said to be ex-post, then in medias res, and finally the ex-ante (Boardman et al., 2001, p. 3). The rationale for doing the least precise CBA, ex-ante, is to find out whether often large sums of money should be spend in the public interest, or perhaps on some other project that may provide larger net social benefit. Due to the somewhat inaccurate nature of the ex-ante, ex-post data from previous CBA´s from similar projects is used in order to make the estimations as precise as possible. Most CBA´s are conducted ex-ante to sporting events, and has a tendency to overestimate benefits (Matheson, 2006, p. 13; Nooij & Koopmans, 2010, p. 28). Despite being known for that, an ex-ante analysis still has to be applied given the topic under consideration. The method is, nonetheless, also well-suited for evaluating whether to host MSEs, as later shows, and a conservative approach is applied in order not to overestimate social gains.

In short, the "real world" CBA identifies and accounts for all costs and benefits of a number of proposed alternative projects, and systematically quantifies and compares them in discounted values before recommending an alternative. This can be broken down into a sequence of steps.

3.1.1 Fundamental steps in a CBA

According to Boardman et al. (2001)[13], this involves carrying out a logical sequence of nine steps, which can be seen in table 3.1.

Table 3.1: The nine fundamental steps in CBA

	Fundamental steps in Cost-Benefit Analysis
1	Specify alternative projects
2	Determine whose benefits and costs count
3	Name and catalogue impacts and select measurement indicators
4	Predict impacts of the life-time of the projects
5	Monetize all impacts
6	Discount benefits and costs into present values
7	Add up the benefits and costs to gain the net present value of each alternative
8	Perform sensivity analysis
9	Recommend an alternative

*Source***:** Adapted from Boardman et al. (2001, p. 7)

In the first step a selection of alternative projects are specified. No more than maximum six should be selected. As explained, CBA is by its nature aimed at allocating resources efficiently, and therefore a set of alternatives for the same project is needed in order to select the best one. Each of the alternatives is handled individually, and then a comparison is made in order to select the most viable one. There could of course be an infinite number of alternatives, and therefore the analyst has to select among the most probable ones. In this case, the UEFA Championship in DK alone and the UEFA Championship in DK/Sweden are the alternatives (scenarios), and they are compared to the counterfactual case of the project not being carried out. The two scenarios are further described later.

In the second step a determination of whose benefit and costs count are made, or in other words, what the perspective of the CBA is. The benefit and costs are not the same if attention shifts from a local to a national perspective, and therefore the boundaries of the analysis must be very clear. Normally the efforts at a MSE as the UEFA Championship is made at a regional or national level, and

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[13] This section 3.1.1 builds upon Boardman et al. (2010, pp. 7-17) unless stated otherwise. Except the paragraph describing CVM in step five.

subsidization from national governments are very common[14]. This analysis is nationally anchored, and therefore all the benefits and costs possible to identify and estimate with an effect on the national Danish welfare is accounted for.

In the third step the potential impacts are categorized and named, and appropriate measurement indicators are selected. This means identifying all resources required in order to carry out the project, and all of the output that the project may generate. In order for an impact to be considered in the analysis though, a "cause-and-effect" relationship between the project and the value for human life must be present. All impacts that do not represent value for human life, or utility, are therefore left out. Defining what qualifies and what does not is subject to discussion, and an extensive review of scientific research is necessary. Each impact requires a correct measurement indicator in order to provide it with a monetary value. This can be problematic as, for instance, it can be difficult to attach things like human lives and health benefits with a monetary value.

In the fourth step the impacts are predicted quantitatively over the lifespan of the project. This refers mostly to projects that have impacts lasting over several years for instance like new road building, environmental improvements, or in this case MSEs. Several factors need to be addressed like the duration of stadium constructions, or needs for government services leading up to the event. Such effects must be quantified over each year of the life of the project. In an ideal world, market demand and supply curves would be able to help make precise estimates of such impacts. This is, however, not available before the project, and therefore the estimations are subject to uncertainty, unknown cause-and-effect relationships, and cognitive biases.

The fifth step is one of the crucial steps for the outcome of the analysis, as all of the identified costs and benefits are attached with a monetary value. This means a value is attached to as many of the positive and negative impacts of the event as possible. Assigning impacts with values can be a difficult and very time consuming task, and therefore CBA analysis normally draws on as much previous research as possible. This analysis draws on previous research for the tangible impacts. The intangible impacts also have to be considered, and preferably in monetary values as well. Whenever this is not possible, the decision makers must value these impacts implicitly (Sassone, & Schaffer, 1978, p. 51). However, in this CBA the intangible impacts are quantified using the CVM.

The CVM enables an assessment of the non-use/non-market values of the UEFA Championship, as it is not enough only to include the costs and benefits of the exchange of goods, but also the extra-

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[14] The amount financed by the public differs from country to country depending on the incentives present for private investment. For instance, for the FIFA World Cup 2006 only around 40 % were governmentally funded, while for FIFA World Cup 2010 almost all funding came from the public (Maennig & Plessis, 2007, p. 580).

market values that are created due to public good nature of the event, and subsequently the increase/decrease in social well-being due to that (Venkatachalam, 2004). Like the UEFA Championship, public goods does not possess a direct market price as they are typically not provided by private firms exclusively, because of some degree of the "free-rider problem"[15], but instead largely the government who finances them through taxes. The general question, which the CVM can help answer, is if the project generate a sufficient valuable public good to justify the public spending on it. It does so by providing a monetary evaluation of otherwise non-monetary costs and benefits by assessing the preferences of in this case the Danish population. This may also be interpreted as computing a shadow price on the intangible impacts. Shadow prices are matter to heavy subjective judgment especially regarding intangible impacts, but in CBA values have to be estimated if at all possible, and they are therefore necessary (Sassone, & Schaffer, 1978, p. 51). This can be done in several ways, but the method used here is to create a hypothetical market, and directly seeking the preferences through questionnaires, hence eliciting the willingness towards paying/avoiding the potential non-marketed good, and the costs and benefits associated with it. This is known as the CVM, and is as mentioned, applied in this analysis. The strength of the method lies in the ability to obtain the non-market values of intangible impacts of the EURO2024, as there are only very poor means of inferring preferences from observations in regard to this type of public good (e.g. travel costs could be another alternative). Well aware of the criticism on CVM in terms of for instance hypothetically, neutrality, judgmental biases, and strategic behavior in responding, the CVM is carried out with attention towards minimizing these issues (Venkatachalam, 2004, pp. 117-18). The general approach towards the CVM is first to identify a sample of people with standing towards the project, then to acquire the respondents' valuation of the good, and third to obtain the WTP estimates of the respondents for the good. Last, it is common to compute an aggregate WTP for the entire population for the good. A credible output of a CVM thus requires a well-prepared survey that can incorporate those elements (Atkinson et al., 2006, pp. 107-18).

Having monetized all both tangible and intangible impacts, a discounting procedure is introduced in order to convert values into present values (PV) <u>in step six</u>. The need for discounting arises from two arguments. First, the general preference of having present rather than future consumption, and second because a given amount of resources available for use in the future is worth less than the same amount of resources available today because of the possibility to invest current money into a greater amount of resources in the future. Hosting the UEFA Championship is a project lasting for as

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[15]"Free-rider problem": Once a public good is provided everyone can consume it as they like potentially without any costs, hence no incentives exists for private firms to provide them unless the government pays for some of it (Venkatachalam, 2004, p. 112).

long as 8 years prior to the competition, so costs and benefits occur in different years. Some costs are already borne before the actual competition like the bidding and promotional costs, while most of the benefits is realized in 2024 (accounting year for each item displayed in appendix A; from 2016-2025). Because of this spread it becomes necessary to reduce the streams of money over the extended number of years into values corresponding to the same year (i.e. 2012). This means finding the PV of the future streams of money, and is done by solving the equation below (this is for benefits, the same principle goes for costs):

$$PV(Benefits) = \sum_{t=0}^{n} \frac{B_t}{(1+s)^t} \qquad (2)$$

Where *n* equals the projects life-time, B_t the benefits occurring in period *t,* and *s* the social discount factor. The difference between the PV of the benefits and the PV of the costs equals the net present value (NPV). The NPV is the determinant of the projects value in a CBA sense, and is calculated using formula (3) below:

$$NPV = \sum_{t=0}^{n} \frac{B_t}{(1+s)^t} - \sum_{t=0}^{n} \frac{C_t}{(1+s)^t} \qquad (3)$$

The discount factor, also known as the interest rate, is the most important topic in CBA´s, as it may singlehandedly decide the choice of project alternative. The choice of discount factor often depends on the specifics of a project in terms of for instance how it is financed, or if it has long-term environmental or health impacts. In oppose to using only one single social discount factor, it is sometimes seen that also a private discount factor is applied. This is due to the argument that some of the investments in terms of a MSE is more similar to private investments than social investments. However, it is chosen to approach the project from society´s point-of-view assuming that the investments will be mostly borne by the government, and for the good of the society, not only for some individuals/companies, thus only a social discount factor is applied. Nooij & Koopmans (2010) use a 5.5 % discount factor in their analysis of a Dutch FIFA World Cup, Access Economics PTY Limited (2010) use a 4.5 % discount factor for the 2022 Australian FIFA World Cup, and Rambøll Management (2006b) use a 5 % for their miniature CBA of EURO2016. In addition, Boardman et al. (2001, p. 250) advocates for a 4 % discount factor, while Evans & Sezer (2005, pp. 55-56) only argues for a 2.4 % discount factor for Denmark in particular, and Hansen (2009) for a 3 % discount factor. The Danish government has for many years insisted on a discount factor of 6 % for all governmental supported projects, but many has advocated for a change to 3-4 %, and proposals have actually been made within the Danish government to change it (retsinformation.dk). The independent character of this thesis provides for an opportunity to follow the most suitable practices, and not just follow guidelines from official institutions. As a result, a social discount factor of 4

% is selected based on the recommendations within the scientific literature with fluctuations to 2 % and 6 % in the sensitivity analysis.

In step seven an aggregation of the costs and benefits is made in order to display the NPV of the project. If only a single alternative is available compared to the status-quo, the project must be adopted if the NPV is positive. The rationale for the NPV-rule derives from welfare economics based on the Kaldor-Hicks Criterion. The criterion says that state 2 is socially preferable to state 1 if those winning from state 2 can compensate those who lose, so that if compensation is paid, no-one would be worse off than they would be in state 1 (Boardman et al., 2001, p. 29). If there are more projects, the decision-rule is to choose the one with the highest NPV, or if none is positive, the status quo. Other decision-rules are sometimes also applied such as the internal rate of return (IRR) and the benefit-cost ratio (BCR), but these tend to produce biased decisions (Atkinson et al., 2006, p. 18). A caveat of the NPV decision-rule is that it may provide for *more* efficient allocation of resources, but not necessarily the *most* efficient allocation of resources as all possible alternatives cannot be considered, as previously discussed (Boardman et al., 2001). In this specific case the NPV-rule is adopted.

Before recommending an alternative in the final step nine it is important to perform sensitivity analysis (step eight), as there will always be considerable uncertainty involved with the estimates in especially ex-ante CBA´s. Of course a CBA analysis can be varied infinitely, and therefore only the most important and uncertain factors are included in the sensitivity analysis such as stadium construction costs, tourism revenue, and the social discount factor etc.

Despite having a clear foundation for application, the method of CBA is by no means without flaws, and the EIA is often applied instead. The argument for not choosing to apply the EIA requires elaboration.

3.1.2 Cost-Benefit Analysis vs. Economic Impact Analysis

Scientific literature on effects of MSEs are vast, and most of them apply either the CBA or the EIA. These are primarily conducted by consulting firms, national organization committees, and independent researchers. Such analyses are often carried out on request from government decision makers, who wish to justify public spending on large sports events. Actually, both methods have their pros and cons, and can be tailored to show the desired effects. As a consequence, this section provides a brief presentation of the theoretical differences, limitations, and shortcomings of the two methods in order for the reader to consider these potential caveats when interpreting this CBA, and also to justify why the CBA has been chosen instead of other methods.

Main differences between the methods

The main difference between the methods is that public spending cannot necessarily be fully justified by an EIA, as only the economic benefits for society accruing from the event is displayed, while the costs is left out. This is the fundamental difference between the CBA and the EIA, as the CBA also incorporates the costs to the equation. Stefan Késenne expresses this issue as: "(…) *an economic impact study, on the one hand, only measures the flow of foreign money into the country, or the additional income created, and a cost-benefit analysis, on the other hand, sorting out what the benefits for the local population are and which of these money flows are to be considered as a cost*" (Késenne, 2005, p. 133). Published effects of sports events therefore largely vary with the choice of analysis instrument; hence it becomes very important to consider who makes the estimations, what method is used, and who the potential benefits of the event are for (e.g. government, organizing committee, taxpayers etc.)

In comparison to the CBA, an EIA aims at estimating the purely economic effects for different sectors in a region by calculating the additional regional income (i.e. value added), and the associated changes in employment and wages by the increase in demand; usually through econometric models such as computable general equilibrium models (CGE), or via standard input-output modeling (IO) (Maennig & Plessis, 2007, p. 582). In general the EIA seeks to show the change in economic growth in relation to the counterfactual situation (i.e. no project). The EIA is typically produced on local or regional level (Rambøll Management, 2006b, p. 61). A general comparison of the two methods can be seen in table 3.2 below:

Table 3.2: Comparison of CBA and EIA

	CBA	EIA
Purpose	- Facilitates public decision-making by accounting for and quantifying all costs/benefits of a specific project/policy	- Measures the economic impact caused by a project/policy (i.e. value added, employment, wages etc.)
Means	- A systematic process that identifies, calculates and compares all relevant benefits and costs of a project or policy (ex-ante, in medias res or ex-post)	- Applying models to estimate the level of economic activity (ex-ante or ex-post) occuring at a given time with the project and calculating the difference from the counterfactual situation
Advantages	- Includes both costs and benefits; provides "comprehensive picture" - Has a "bottom-line" - Includes intangible impacts - Allows for decision-making between alternatives based on decision-rules - Uses discounting, which allows for a NPV of the project	- Provides more detailed picture of the purely economic effects of a project/policy, while also accounting for "who wins and who loses" - Always shows a positive result
Disadvantages	- Not always transparent who wins and who loses from the project - Double-counting - Inaccuracies of stated preference methods - Possibility of over-estimating benefits and/or selecting mostly beneficial items for the analysis - The subjective choice of discount factor	- Costs not included - Intangible impacts not included - Lack of defintion for the term "economic impact"

Source: Own development

Another of the main differences are that the CBA ends up with a "bottom-line" displaying net social costs and benefits for the population of interest. This provides for a more comprehensive picture than the EIA; which in this case would merely show the positive economic change in the Danish community resulting from additional spending due to the UEFA Championship. Furthermore, the EIA does not account for the intangible costs and benefits which may have a significant importance especially for sports events. The CBA therefore allows for decision-making between several alternatives by the use of decision-rules (i.e. NPV, BCR etc.), which the EIA do not. Such decision-making is based on a strict assessment of whether the project is socially feasible or not (i.e. for all interests; private and public under the same account) (Atkinson et al., 2006, p. 68). However, this may also be a problem in the CBA, as it is then not directly transparent who wins and who loses from the project, and for instance Oldenboom (2006) uses multiple accounts to solve this problem, while also allowing for somewhat of an inclusion of EIA into the CBA. This thesis incorporates the conventional approach of a single account though, as the mixed type seems to create a lack of transparency, and as a consequence less credible results (Lyck, 2006, p. 7).

As CBA deals with net social benefits, tax is not included as directly as in the EIA. In the EIA, you count the value added by the sports event/or money flow created, and therefore tax is relevant (Késenne, 2005, pp. 135-36). A tax in a CBA sense is merely a transfer of money from one sector of society to another, as the impact imposes a cost for the consumers (loss in CS) that are offset by an identical benefit received by the government; thus taxes are irrelevant. The only tax that is relevant in terms of the UEFA Championship for the CBA is foregone tax.

Limitations to the two methods

The main problem concerning EIA is that "economic impact" is so loosely defined that it becomes hard to say what should be included, and how it should be included, when carrying out the analysis. This lack makes it possible to tailor the EIA in either direction to fit specific purposes, meaning that interested parties can manipulate EIA in ways beneficial to themselves simply by including advantageous elements as "economic impacts". An infamous example of this is the case of the San Francisco Giants who were to leave their home town for a new stadium in San Jose. The budget director of their current home city announced that the team contributed with US $3.1 million a year in net gain, while the mayor of San Jose announced a study showing a yearly net gain of US $50-150 million even though the two cities were very similar in location and size. This was undoubtedly a question of justifying public spending for the new stadium, and illustrates very well how such EIA analysis can be mistreated (Crompton et al., 2001, p. 80).

CBA´s also has its shortcomings and besides likely measurement errors, double-counting might be one of them. That happens when the same effect are measured in two or more ways. Furthermore, especially in ex-ante estimations, it is hard to predict costs and benefits with several factors unknown or insecure (i.e. omission and forecasting errors) (Boardman et al., 2001, pp. 73-77). Last, but not least, CBA´s sometimes rely on stated preference approaches – namely CVM. Caution should always be taken with such methods, as they rely fully on the respondent's capability to determine their own WTP (Atkinson et al., 2006, p. 119).

Considering the fact that both methods have their distinctive advantages and shortcomings, no method is by any means perfect. However, as explained, the CBA shows a more comprehensive picture including both tangible/intangible costs and benefits of the project. It furthermore allows for decision-making. It is therefore considered preferable by independent agents, like myself, who have no hidden political agenda in terms of justifying a public spending. Furthermore, the purpose of this thesis is to assess the economic prospects of the EURO2024 in terms of whether it is a profitable investment for society; hence an approach only showing the economic benefits for some parts of the society would by no means be sufficient for the purpose, and the CBA is thus selected as the appropriate method for the analysis. Empirical data are needed in order to carry out this analysis. A description of the strategy applied for that is described next.

3.2 Empirical data collection

The analysis requires data for two purposes based on the theoretical considerations. First of all, data are needed to calculate the financial costs and benefits of hosting the EURO2024 (i.e. tangible impacts). Such costs and benefits fluctuate heavily among countries, editions, and type of event in general. To provide the most reliable picture data are primarily gathered, whenever possible, from ex-post studies. This includes among other, the EURO2000 in Nederland/Belgium, the EURO2004 in Portugal, the FIFA World Cup 2006 in Germany, and the EURO2008 in Switzerland/Austria. Furthermore, ex-ante studies of a combined Nordic bid for the EURO2008, the EURO2012 in Poland/Ukraine, a CBA of a 2016 Danish/Swedish UEFA Championship bid, a 2018 CBA of the FIFA World Cup in Nederland/Belgium, as well as a 2022 Australian FIFA World Cup CBA are also used. Second, data is collected for the CBA in order to include a monetary value of enhancement/decline in social well-being in Denmark due to external effects of the event (i.e. intangible impacts). This data is collected using a CVM-based survey, which is explained and elaborated further in the following section.

Contingent Valuation approach

The questionnaire created for the purpose can be seen in appendix B. It consisted of four parts. In the first part, a sequence of introductory questions regarding the respondent´s attitudes, and interest in football in general, as well as in the EURO2024 coming to DK (DK/Sweden) were asked in order to categorize the respondents. The second part presented the two scenarios[16] that the analysis deals with. The scenarios were almost similar, and the description of scenario 1 read:

"*Suppose that Denmark has been selected as the host nation of the EURO2024, and that a total of 51 games have been scheduled in respectively Copenhagen, Brøndby, Odense, Esbjerg, Aarhus and Aalborg. Now suddenly, problems arise due to the fact that the cost of staging the tournament overcomes the initial budgeting, and no one is able or willing to cover the missing funding. Therefore, the UEFA is tending toward relocating the tournament to the EURO2008 co-hosts Switzerland who because of having hosted previously already has the setup in place to host the UEFA Championship. There is still a chance that the tournament will take place in Denmark, but only if a series of costly safety measures and stadium improvements are adopted. However, these previously unplanned measures can only be financed with immediate contribution from the population through a national tax that everybody has to pay. The national tax would be a fixed rate for everyone, and would last for one year only. Would you personally be willing to contribute some of your own money to ensure the tournament would be hosted in Denmark?* "*

A question revealing the WTP for each of the scenarios, using the payment-card method, were subsequently asked[17]. The dichotomous-choice was due to technical limitations not possible to implement, but the payment card method is also said to have its advantages. It is claimed to be more informative of the respondents WTP, cheaper to implement, and to be superior to both direct open-ended questions and bidding games (Atkinson et al., 2006, p. 116). A payment vehicle represented by a one-year immediate tax payment equal for all were used in order to strengthen the realism and credibility of the good under investigation, as well as removing the possibility of free riding from voluntary contributions (Atkinson et al., 2006, p. 111). An extra question concerning the WTP to avoid the championship was asked if the respondent´s answer was 0. The third part concerned non-use values, and therefore began with a careful presentation of the intangible costs and benefits of a UEFA Championship in order for the respondents to rank the importance of them, as well as eliciting the WTP for these effects specifically. The way in which the WTP were sought elicited for the intangibles was by

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[16] The scenarios were loosely based on the one used by Heyne et al. (2010).
[17] The answer categories were randomized to avoid some of the payment-card bias

asking the respondents how big a percentage share the intangibles represented of the total WTP they earlier submitted, as well as asking a direct follow up question of their WTP for verification. The fourth, and last part, was the demographical part.

In order to obtain the most representative approximation of the Danish population, the sample was drawn from a mixture of online surveys and face-to-face street interviews allowing for a high number of respondents, while at the same time capturing non-internet users like for instance elderly people. The face-to-face interviews were performed at the beaches in respectively Esbjerg and Næstved to a) allow for a fairly random selection of people, and b) provide a safe and convenient place for people to respond. A total of 309 individuals participated in the survey in June and July 2012 (during the EURO2012). The online survey (n=211)[18] were distributed on the online platform "Facebook" through friends, friends of friends, family and in various "groups", while the remaining 98 interviews were carried out in Esbjerg (n=71) and Næstved (n=27). Special attention were shown towards capturing elderly people in the face-to-face interviews, as the online surveys were expected to capture mostly people from younger segments of the population. The secondary and primary data enables the subsequent estimations in the CBA.

4. Cost-Benefit Analysis of the EURO2024

The CBA follows the nine fundamental steps presented in table 3.1 in section 3.1.1, and the items included are based upon the costs and benefits described in the theoretical framework. The steps are not dealt with one-by-one, but instead follow as implicitly aggregated steps. Based upon the results, the economically most feasible and robust alternative is recommended. Following that, the general prospects of EURO2024 in Denmark are briefly discussed. First, the applied scenarios are presented.

4.1 Presentation of scenarios

As there are currently no official plans for a EURO2024[19], the most realistic hypothetical scenarios have to be selected. As Denmark has earlier been in a combined bid with the other Nordic countries for the EURO2008, it may indicate that a new joint Nordic bid would be relevant to include. However, the fact

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[18] Online surveys were also made available by QR-Codes planted on posters randomly around the cities of Esbjerg, Næstved and Ringsted. They can be seen on the attached CD-ROM.
[19] The EURO2020 bidding process has already begun by the time of this writing, thus focus is on the next one.

that the UEFA Championship has never been hosted by more than two countries at once indicates that it is not currently a politically realistic opportunity. Therefore, it is chosen to evaluate the effects of a purely Danish bid in order to asses if Denmark is ready for a MSE on its own. In addition, the infrastructure in the Copenhagen/Malmø area provides for great opportunities for a combined bid with Sweden[20], and must be considered much more realistic than for instance a joint Denmark/Norway bid[21]. Due to these circumstances a EURO2024 in Denmark alone constitutes the first scenario, and a EURO2024 in Denmark and Sweden in co-operation constitute the second scenario. The counterfactual situation is that the EURO2024 will not be hosted in Denmark (or Denmark/Sweden), but instead in another European country.

The structure of the tournament is of high importance for the expected effects. It is from the year 2016 expanded to include 24 teams in order to give middle-ranked countries a better chance of reaching the final tournament, thereby directly expanding the fan base and consequently also providing more revenue from more matches played. These 24 teams will be divided into six groups with four teams in each (see tournament structure in appendix C). This means that each group has six games in the qualifying round making it a total of 36 games to be played in the group stages. UEFA will employ the same system as used in the World Cup from 1986-1994, where the top two from each group as well as the four best third-ranked goes through to the knockout stage. The knockout stage will consist of a round of 16, then quarter finals, semifinals, and a final (no third place playoff) making it an additional 15 games resulting in a total of 51 games during an expected period of 29 days (UEFA, 2008b).

In the first project alternative (scenario 1), Denmark will host the UEFA Championship on its own in 2024. 51 games will consequently be played during 29 days in June in respectively Copenhagen, Brøndby, Odense, Esbjerg, Aarhus, and Aalborg. In the second alternative, Denmark will make a joint bid, and host the championship together with Sweden in 2024 (scenario 2). 25 games will be played during 29 days in June in respectively Copenhagen, Brøndby, Århus, and Odense. For each scenario effects are calculated on the premise of displaying the most likely estimates, while applying a conservative approach in order not to overestimate benefits. These expected benefits, as well as costs, are identified next.

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[20] Contributing to the legitimacy of the Danish/Swedish bid is the fact that a joint event strategy has recently been agreed upon for the Øresund region (Christensen, 2012).
[21] Germany is not considered as they have already hosted several MSEs on their own, and would therefore most likely not be interested in a joint bid.

4.2 Costs and benefits related to the EURO2024

Having set up the scenarios, the first step is to detect the primary effects related to hosting the championship, and to catalog these into costs and benefits. The potential costs and benefits identified are displayed below, and computed based on the theoretical effects of MSEs, combined with experience from former similar studies.

Table 4.1: Potential costs and benefits of the EURO2024

Costs	Benefits
Tangible impacts	
Stadium investments	Tourism revenue
General infrastructure	Expenditure by LOC and UEFA officials
Event related infrastructure	Proceeds from national team lodging
Media facilities	Proceeds from media lodging
Security and safety	Proceeds from lodging and additional spending by sponsors
Investment in hotel capacity	Increased retail spending
Costs of preparation and operational costs for the government	Economic growth and employment effects
Bidding and promotional costs	Promotional value and event legacy
Tax exemption for UEFA	
Intangible impacts	
Crowding	Public health benefits
Increased risks of petty theft	Sports related benefits
Increased safety and security risks	Motivating/inspiring people to participate in sports
Local disruption during construction	Uniting people/feel-good factor/national pride
Transport delays	Future usage of sports facilities
Excessive media coverage	Possible environmental improvements
	Cultural and social events
	Increased focus on racism/discrimination and humanitarian causes

The amount (and existence) of these costs and benefits in the two project scenarios are calculated and discussed separately next, followed by a total costs and benefit account for the EURO2024 scenarios.

4.3 Costs

Some of the main costs of staging a MSE are investments in stadiums and infrastructure, given that the country does not already poses sufficient facilities. The investment costs vary a lot from country to country. For instance, Germany spend approx. €1.4 billion for twelve stadiums for the 2006 FIFA World Cup (Maennig & Plessis, 2007, p. 580), while Austria spent €136 million for four venues for the EURO2008 (Nooij & Koopmans, 2010, p. 9; Swiss Confederation, 2008, p. 25)[22].

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[22] Some of the monetary amounts that serve directly as a basis for the estimations in the CBA is adjusted for inflation and exchanged to DKK, making data from previous editions of similar events comparable to each other, and to 2012 current prices in a Danish setting. It follows from the text if inflation adjustments have been made. Values in Euro, Dollars, or Swiss Francs are converted based on a suitable exchange rate. See Appendix D for further details.

4.3.1 Stadium investments

The expected tournament structure of EURO2024 means that the UEFA Championship candidature requires the bidding country to provide at least nine state-of-the art stadiums, by which four must have a capacity of min. 30,000, three of 40,000, and two of 50,000[23]. Included in the expectations for the stadiums are also skyboxes, luxury suites for UEFA, 8,000 parking spaces in proximity of the stadiums, 400-800 bus parking spaces, and training facilities for all of the participating teams (Humphreys & Prokopowicz, 2007, p. 498).

Additional seating required scenario 1

Due to the expectations set forth by UEFA, vast investments are needed in scenario 1 as Denmark´s largest stadium at the moment is Parken with a capacity of 38,065. A table of the current stadium situation[24], as well as the required new building/adaptions is provided in table 4.2 below.

Table 4.2: Additional seating required scenario 1

City	Stadium	Population (municipality)	Current spectator average	Necessary Capacity (gross) specified by UEFA	Current Seated Capacity	Autonomous development in the counterfactual	Additional seats for the EURO Cup
Copenhagen	Parken	549,000	11,788	50,000	38,065	0	11,935
Copenhagen	New national stadium	549,000	-	50,000	0	0	50,000
Brøndby	Brøndby Stadion	34,084	10,733	40,000	23,400	0	16,600
Århus	NRGi Park	314,545	9,375	40,000	19,433	0	20,567
Odense	Tre-For Park	191,610	7,662	40,000	13,963	0	26,037
Esbjerg	Blue Water Arena	115,112	6,641	30,000	11,451	0	18,549
Aalborg	Nordjyske Arena	201,142	6,976	30,000	7,700	0	22,300
-	New provincial stadiun	-	-	30,000	0	0	30,000
-	New provincial stadiun	-	-	30,000	0	0	30,000

Source: Aabsport.dk, Agf.dk, Brondby.com, Efb.dk, Fck.dk, Ob.dk, Statistikbanken.dk, Superstats.dk and Wikipedia.org

Two stadiums of a capacity of 50,000 seats are required. Parken is the closest one already existent with 38,065, so it would have to be expanded to the required 50,000. In Rambøll Management (2006b)[25], they argue for a new stadium of 50,000 seats in the Copenhagen area as well. This would have to be built from scratch. Furthermore, they argue that two new provincial stadiums would have to be built. They also argue for the expansion of Brøndby Stadium, however, only to 30,000 and not to the 40,000, as in this CBA, as their 2016 CBA only had to incorporate eight stadiums divided between DK and Sweden, in oppose to the nine in Denmark alone in this scenario 1. According to their assumptions, it

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[23] Based on the newest available bidding information from UEFA (2009).

[24] UEFA requires all capacity to be seated, thus only the seated capacity are included for all stadiums.

[25] The citation refers to a consultancy report covering the opportunities for Denmark to host the Olympics. A report that also include a CBA of a EURO2016 between Denmark and Sweden.

will not be possible to expand stadiums in Århus, Odense, Esbjerg, and Aalborg to the required capacities (even under the lighter conditions than in this scenario 1). This means that in addition to the already mentioned two new provincial stadiums, an extra four completely new stadiums would have to be built. However, in their analysis they do not explicitly account for why it is not possible. So in these estimations it is assumed that it, at least in time, will become possible to expand the stadiums due to changes in for instance construction technologies and city planning. The risk that it will not is accounted for in the sensitivity analysis by including a 50 % extra expenditure for stadium investments. In total a number of 225,988 seats are missing to meet the UEFA requirements.

Additional seating required scenario 2

In scenario 2, Sweden have to provide at least four stadiums for the event, and host around 25 of the games providing that a somewhat even split between the nations are the objective. Sweden is already on their way with a couple of newly constructed stadiums of a grant size, plus some that already have been constructed. This means that it would be rational to recommend Sweden to host 26 games[26] on five stadiums, and Denmark 25 on four stadiums for the UEFA Championship. The investments for Swedish stadiums are not important for the context of this CBA, as it goes beyond the welfare of the Danish society. However, a brief description of what is available from the Swedish[27] is required in order to evaluate the necessary investments in Danish stadiums in scenario 2. A display of the necessary stadium construction in scenario 2 is presented below in table 4.3.

Table 4.3: Additional seating required scenario 2

City	Stadium	Population (municipality)	Current spectator average	Necessary Capacity (gross) specified by UEFA	Current Seated Capacity	Autonomous development in the counterfactual	Additional seats for the EURO Cup
Stockholm	Friends Arena	-	-	50,000	0	50,000	0
Gothenburg	Ullevi	-	-	50,000	43,000	0	7,000
Copenhagen	Parken	549,000	11,788	40,000	38,065		1,935
Brøndby	Brøndby Stadion	34,084	10,733	40,000	23,400	0	16,600
Århus	NRGi Park	314,545	9,375	40,000	19,433	0	20,567
Stockholm	Stockholm Arena	-	.	30,000	0	30,000	0
Odense	Tre-For Park	191,610	7,662	30,000	13,963	0	16,037
Malmö	Malmö Stadion	-	-	30,000	27,500	0	2,500
Malmö	Swedbank Stadion	-	-	30,000	21,000	0	9,000

Sources: Agf.dk, Brondby.com, Fck.dk, Ob.dk, Fogis.se and Wikipedia.org

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[26] In order to apply a conservative estimation, and because only Sweden will hold a 50,000 spectator stadium in scenario 2, Sweden gets the final (i.e. one additional match for Sweden).

[27] Data on the Swedish stadium situation is collected primarily from the Swedish Football Association´s website named Fogis.se supplemented by Wikipedia.org

According to the Swedish Football Association (Fogis.se), there are currently two new large stadiums under construction in Sweden. The largest is Friends Arena, which is expected to be opened in 2012, with a seated capacity of 50,000 replacing the old Råsunda Stadium. The stadium will host the AIK Stokholm, and the Swedish National Team. This stadium covers one of the 50,000 stadiums. In Stockholm, the Stockholm Arena (opening in 2013) with a capacity of 30,000 is also being built to host Hammarby IF and Djurgårdens IF. The stadium in Ullevi, which is currently the biggest in Scandinavia, but does not have a tenant, would have to be expanded to 50,000 (current 43,000). In Malmö, the Malmö stadium is situated with a capacity of 27,500. The stadium is former host to Malmö FF, but now only serves as their training field. This would be expanded to 30,000[28]. Malmö FF now plays their home games at the Swedbank Stadium, which is a very modern stadium, but only has a capacity of 21,000. As Sweden in the second scenario presented is providing five out of nine stadiums, including the majority of the large ones, it consequently means lower construction costs for Denmark. In this scenario, Parken would only be required to be expanded to 40,000 seats, and Tre-For Park to 30,000. NRGi Park would still have to be expanded to 40,000, as well as Brøndby Stadium. This means that a total capacity of 73,639 seats are missing to stage the UEFA Championship, and that 55,139 of them would have to be built in Denmark.

Construction costs

In order to estimate the construction costs for the number of required seats, a construction cost per seat needs to be selected. Besides location and building quality, this cost generally varies based on the size of the building project, and bigger stadia tend to require higher costs. In addition to the larger volume to be built, this is also due to the increased costs for supporting infrastructure required to service a higher number of spectators such as lifts, staircases, parking spaces etc. A large stadium also often requires premium seating, skyboxes etc. which must also be included in the average cost per seat (Sartori, 2011, p. 19)[29]. Furthermore, for the new stadiums, the average price must also include the land price and price for land development if the area is not already prepared for new building. Empirical data shows that the costs for such construction varies a lot (see appendix E), and it would therefore not be sufficient to base the estimations on experience from a few similar Scandinavian stadium buildings, but instead upon overall data on average construction cost per seat in Europe, which can be seen in appendix F. It is therefore set at approximately €4,000 (roughly DKK 30,000) for building 40,000-50,000

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[28] As the stadium only serves as a training field it would be unlikely to be expanded.

[29] It is assumed that training facilities for the national teams are sufficiently present at current time, which Rambøll Management (2006b) also do.

seats, approx. €3,000 (roughly DKK 23,000) for 20,000-40,000, and below 20,000 seats the price is set at €2000 (roughly DKK 15,000). These amounts roughly correspond to the average price for UEFA Championship explicit costs pr. seat, which Alm (2012, p. 88) finds to be US $2,960 (approx. DKK 16,000). An assumption is made regarding that the average price remains the same whether an expansion is made, or a completely new construction. It is important to state that it is only the stadium investments that would otherwise not have been realized without the UEFA Championship that count as costs for the project. Consequently, investments that already have occurred, or are projected by the time of this writing is not included (i.e. sunk costs). For instance, Maennig & Allmers (2009, p. 509) even goes as far as to say that not even costs for stadiums which are built only because of a major event, and remain in use afterwards, should be counted, but only the depreciation costs due to the usage during the tournament. However, applying such a method results in very small, and perhaps a bit misleading bottom-line results. Like most other CBA´s, the approach in this thesis is instead to include the full investment costs if the stadium, or renovation, would not have been realized without the UEFA Championship. Depreciation costs and rent payments by UEFA are expected to play a minor role in relation to such costs, and for that reason neglected (Rambøll Management, 2006b, p. 88).

Post-tournament utilization

For the outcome of the benefits of hosting, it is important that the creation of so-called "white-elephants" are avoided. Therefore, it is very important to consider the prospects of post-tournament utilization of the improved stadium facilities. If the improved/expanded stadiums can be sufficiently utilized after the UEFA Championship, they will provide a benefit for society afterwards. Opposite, if there is no legacy demand for stadiums of the size being built, it will make better sense to build them as temporary/event versions that can be re-configured, or demolished after the EURO2024; otherwise it will merely be a cost in terms of the original expenditure, and the maintenance and operational costs (Rambøll Management, 2006a, p. 88). Alm (2012) has provided some valuable insights regarding this issue as he explored 75 venues in 20 countries in terms of the utilization of the stadiums after having undergone severe renovations, or adaptions/expansions to host major sports events. The main conclusions are that despite some stadiums proving successful in terms of post-event utilization most fails to show positive legacies. Especially cases were an attractive anchor tenant is missing, or were attendance fails to increase post-event generally tends to have financial difficulties. A very cautious approach towards post-event utilization is therefore necessary, as Danish stadiums already suffer from low attendance figures in particular. As can be seen from table 4.2, none of the Danish host cities have average spectator rates even near to their maximum capacity despite of their state-of-the-art

constructions, and some of the host cities, for instance Brøndby and Esbjerg, have very small populations in comparison to the size that the stadiums would be expanded to. For that reason, it is questionable if the expanded stadiums would provide a benefit after the UEFA Championship, even though both cities currently have teams in the best Danish football league. It is therefore assumed that all current stadiums, except Parken[30], only will have profitable shares on the investment that equal the operational and maintenance costs. The new stadiums are included as event-specific versions, so that they can be re-configured after EURO2024[31]. Rambøll Management (2006a, p. 16) calculate that event-facilities can be built at 60 % of the price of the permanent structures. A more cautious assumption is made here with 70 %. With respect to the costs of re-configuration after the EURO2024, data is provided based on re-configuration of the two former Olympic Stadiums in respectively Australia and USA (i.e. the ANZ Stadium from 110,000 to 83,000, and Turner Field from 85,000 to 49,000). The re-configuration of the ANZ Stadium costs approx. US $80 million equaling 11 % of the original investment, while Turner Field amounted to US $40 million or 12 % of the original expenditure (Alm, 2012, pp. 18-20). The percentage point is rounded upwards to 15 % in this analysis due to the conservative approach. Parken and the two provincial stadiums constructed specifically for the purpose of the UEFA Championship are assumed utilized by teams and spectators after the championship, as well as displaying a novelty effect[32] resulting in a 50 % profitable share of investment, as also applied by Nooij & Koopmans (2010) and Rambøll Management (2006a). The new national stadium is only assumed to be filled for mega-events, or when Parken is occupied, which equals around 3 times a year comparing it to the new Olympic stadium in the study by Rambøll Management (2006a). Because of this limited utilization, the future benefits are only expected to cover operational and maintenance costs plus 10 % of the original expenditure, as Rambøll Management (2006a) also assume. The same assumptions are made in scenario 2. Thus, only Parken is assumed to provide a profitable share in excess of operational and maintenance costs.

Total investment costs

Based on the above calculations an overview is displayed in table 4.4 of necessary investment costs for scenario 1.

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[30] Even though Parken is running nowhere near full capacity in weekly matches, and have been down-sized recently, they still occasionally fill the stadium at big matches or concerts; hence some of the investment may prove as a benefit afterwards.

[31] The sensitivity analysis covers the opportunity that also existing venues can profitably be adapted in event-specific versions with a 10 % decrease in costs.

[32] The novelty effect reflects the assumed increase in spectator attendance by the improved stadium facilities resulting in increased income for the operators of the stadium, and the nearby region (eg. Borcherding et al., 2006).

Table 4.4: Investment costs scenario 1 (DKK million)

Stadium	Additional seats for the EURO Cup	Type of adapation (Event specific=70 % of costs)	Necessary investments exluding the autonomous	Costs for re-configuration (15 % of total costs)	Total investment costs
Parken	11,935	Permanent	358.1	0	358.1
New national stadium	50,000	Event	1,050.0	157.5	1,207.5
Brøndby Stadion	16,600	Permanent	249.0	0	249.0
NRGi Park	20,567	Permanent	473.0	0	473.0
Tre-For Park	26,037	Permanent	598.9	0	598.9
Blue Water Arena	18,549	Permanent	278.2	0	278.2
Nordjyske Arena	22,300	Permanent	512.9	0	512.9
New provincial stadium	30,000	Event	483.0	72.5	555.5
New provincial stadium	30,000	Event	483.0	72.5	555.5

The total costs for construction amounts to DKK 4.8 billion for scenario 1. Scenario 2 follows in table 4.5.

Table 4.5: Investment costs scenario 2 (DKK million)

Stadium	Additional seats for the EURO Cup	Type of adapation (Event specific=70 % of costs)	Necessary investments exluding the autonomous development	Costs for re-configuration (15 % of total costs)	Total investment costs
Friends Arena	0	-	-	-	-
Ullevi	7,000	-	-	-	-
Parken	1,935	Permanent	29.0	0	29.0
Brøndby Stadion	16,600	Permanent	249.0	0	249.0
NRGi Park	20,567	Permanent	473.0	0	473.0
Stockholm Arena	0	-	-	-	-
Tre-For Park	16,037	Permanent	240.6	0	240.6
Malmö Stadion	2,500	-	-	-	-
Swedbank Stadion	9,000	-	-	-	-

For scenario 2, the costs for construction reach approx. DKK 1.0 billion. Including the profitable shares and discounting reveals that the costs of the stadium construction becomes DKK 2.7 billion in scenario 1 and DKK 660.4 million in scenario 2 (see table 4.6 below).

Table 4.6: Costs and benefits of stadium adaptions (DKK million)

	Number of stadiums needing investment	Total investments	Profitable share of investment	Unprofitable share of investment	PV of the net costs of stadium adaptions
Scenario 1	9	4,788.5	767.0	4,021.5	2,699.0
Scenario 2	4	991.6	14.5	977.1	660.4

In order for the increased number of spectators to get to and from the host cities, and match venues, the host countries infrastructural capacity needs to be adequately developed.

4.3.2 Infrastructure

Infrastructural investments alone very often decide whether hosting a MSE will show a positive or negative bottom-line. The host countries are responsible for providing sufficient infrastructure, and as quoted from the UEFA requirements each host country must have: "(…) *a modern, well-developed, high quality transportation infrastructure that links each host city. Travel within the host cities should be convenient and travel times should be reasonable.*" (Humphreys & Prokopowicz, 2007, p. 500). Furthermore each country must have"'(…) *a modern, well-developed, high-quality public transport network that links each Official Site to the city centre, the airport, railway stations and other transportation links"* (Humphreys & Prokopowicz, 2007, p. 500). While the hosts of 2012 spend billions of dollars on this due to the fact that they are well behind other European countries on infrastructure, Denmark will not be required to make the same kinds of investments. A comparison of the transportation infrastructure between the EURO2004 hosts Portugal, the 2008 co-hosts Austria, the 2012 co-hosts Poland, Denmark, and the total of other EU nations[33] can be seen in table 4.7[34].

Table 4.7: Benchmark of transportation infrastructure by selected countries

	Portugal "2004"	Austria "2008"	Poland "2012"	Denmark "2012"	EU-15 total
Area	92,391 km^2	83,855 km^2	312,685 km^2	43,098 km^2	3,200,000 km^2
Km of roads	67,484	109,084	383,313	73,929	53,104,000
Road density*	73 km/100 sq.km.	130 km/100 sq.km.	123 km/100 sq. km	172 km/100 sq. km	166 km/100 sq. km
Km of motorways	2,545	1,696	1,036	1,143	61,656
Km of railroads	2,800	6,256	20,665	2,667	153,003
Main Airports**	8	6	10	5	68

* own estimation based on the ratio of the length of the country's total road network to the country's land area.

** more than 150.000 passenger movements pr. year

*Source***:** epp.eurostat.ec.europa.eu, statistikbanken.dk, nationmaster.com, (Humphreys & Prokopowicz, 2007, p. 500), tispol.org and Wikipedia.org.

As seen in the table, Denmark´s area are much smaller than Portugal, Poland, and Austria, but the infrastructure are still superior to those countries comparing to the area of the country, particularly reflected in the road density that are higher than both Portugal, the two co-hosts, and the EU-15 average. Denmark currently has more kilometers of motorway than Poland even though it is a bigger country, and even though they spend large sums on infrastructure due to the UEFA Championship. Portugal, Poland, and Austria all have more kilometers of railroads, but in comparison to the country

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[33] The term U-15 refers to the 15 member states of the European Union as of December 31, 2003, before the new member states joined the EU.

[34] Figures from EURO2004, EURO2008, and EURO2012 are presented as they were in the year of the hosting, and the EU-15 in 2012 figures.

size it does not reveal a lack in Danish railway infrastructure. Moreover, Denmark also has 5 main airports located in Copenhagen, Århus, Billund, Esbjerg, and Aalborg and four of these are host cities in scenario 1[35]. In addition, it should be mentioned that the Copenhagen area currently holds one of the best metro-systems in the world (Nielsen, 2008). The metro-system is even being further developed with the building of the new "Cityringen" scheduled to be opened in 2018, which will provide new lines, and 17 new stations in the city center of Copenhagen (m.dk). Rambøll Management (2006a) actually concludes based on a vast amount of traffic statistics, for collective and individual traffic, that the Copenhagen area has one of the best traffic systems compared to previous or up-coming Olympic host cities. This being in terms of indicators such as number of departures, possibility of finding available seats, average driving speed, Park&Ride facilities, and density of car-traffic. Furthermore, the Danish government already has several infrastructural projects in place which by the year 2024 could help ease the pressure from out-of-town visitors, especially if some of them are pushed forward so that they can be ready for use before the year 2024 (Rambøll Management, 2006b, p. 10). It is very common to accelerate or justify new infrastructural projects with MSEs (Nooij & Koopmans, 2010, p. 10). Therefore it would be likely, but not absolutely necessary that investments would be made for the EURO2024. The Danish infrastructure both in the main host city of Copenhagen, and the other host cities are generally evaluated to meet the requirements of EURO2024, and as in the case of EURO2008 probably only minor directly event related investments will be required[36].

Event related infrastructure

For the EURO2008, the so-called Kombi-Ticket were introduced to handle the extra pressure and even to encourage people to use public transport on match days. The Kombi-Ticket made sure that people holding a match ticket could free of charge use all public transport for a total of 36 hours. This translated into a total of approx. 80 % using local public transportation, and 60 % using public transportation for long distance travel. For instance, in Switzerland 4,700 extra trains, and in Austria 3,977 extra trains and 22,000 bus trips helped transport people to and from stadiums on match days (Swiss Confederation, 2008, pp. 38-41; UEFA, 2008a, p. 4). It is expected in this analysis that it would be beneficial for a Danish bid and Danish/Swedish bid to apply the same kind of stadium transportation system. The costs for this only accounted for €5 million (equaling DKK 40.5 million adjusted for inflation) according to UEFA, and

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[35] Odense also has an airport with some international departures. However, as the travel time to for instance Esbjerg airport is only around one hour, it is not considered necessary to build a new airport in Odense.

[36] It should be noted that Rambøll Management (2006b, p. 24) propose a regional train station at Svanemølle Kaserne in their CBA for the EURO2016, as a new Olympic Stadium is due to be built at that location in their scenario anyway. However, without the Olympics it is not seen as a compulsory condition for the hosting of the EURO.

official reports shows approximately the same amount reported by the Austrian government in 2008 (Weibel & Schaer, 2008, p. 3). Supposing that this should be interpreted as a 50/50 split of the cost between the host nation and the LOC[37], only the expenditure for the host nation is included as the other part is already covered as a LOC operating expenditure, thus it would be a double-counting to include it here as well. This cost is expected to occur in 2024, and means that a net cost of DKK 25.3 million is included in scenario 2, and the double in scenario 1 under the item "event related infrastructure".

In addition to stadium and infrastructural requirements, the host nation is also required to provide sufficient security/safety for a number of people including visitors, players, staff, and UEFA delegates etc.

4.3.3 Security and safety costs

Due to the circumstance that a UEFA Championship is one of the largest sporting events in the world combined with the increased safety concerns following 9/11, the security costs of hosting the UEFA Championship are of a significant size. The costs for security vary a lot depending on the existing security level in the country, and risk level of the event. The host country is responsible for the safety in two primary areas. First, protect players, staff, sponsors, and spectators against external threats such as terrorism (i.e. the external threat). Second, protect players, staff, sponsors, and spectators at the actual event against threats such as hooliganism and vandalism (i.e. internal threat).

Security costs are borne primarily by the Danish government and will have to be provided both at stadiums, but also in the country in general, especially around borders, airports, train stations, main city points, and bridges. Even with Sweden as co-organizer, the costs for security will still be immense covering both internal and external threats by for instance the police, intelligence agencies, the military, private security companies, and volunteers. Rambøll Management (2006b, p. 25) estimates that for a EURO2016 between DK and Sweden it would cost approx. DKK 340 million (after inflation adjustment). The security costs differ from edition to edition, not least due to different estimation methods. In general, however, the costs for security have risen since the events of 9/11. Belgium, who hosted the EURO2000 with the Nederlands, budgeted only approx. US $25 million for security for their part of the UEFA Championship (DKK 172.0 million after inflation adjustments) (CNN, 2000), while in Portugal 2004 this number had risen to approx. US $47 million (DKK 297.6 million after inflation adjustment) (Sharkey, 2004). According to Humphreys & Prokopowicz (2007, p. 502), the estimations on the upcoming

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[37] It is unclear whether the total cost of the Kombi-Ticket system was paid for by the LOC, or split between the host nations and the LOC. Once again, to apply the cautious approach a cost is included for the host nation.

EURO2012 reveal that Poland will spend numbers that by far exceed those. Poland will spend up to US $750 million (DKK 4.0 billion) on security/safety before, under, and after the UEFA Championship. Ukraine, which is the co-host, will allegedly not spent nearly that amount, but still well over US $123 million (DKK 660 million) (W.A, 2011). Still, Poland and Ukraine are 1) transition economies and 2) much larger countries, thus a more comparable picture is obtained by looking at the costs for EURO2008 in Austria/Switzerland which shows data from a scenario more comparable to a Danish setting. For the EURO2008, Switzerland budgeted approx. €40.4 million (approx. DKK 297 million adjusted for inflation) for security (Swiss Confederation, 2008, p. 26). In that case Switzerland hosted games at four venues (cities). This is comparable to scenario 2 in this analysis, while a doubling is used for scenario 1 due to the increased number of matches, tourists, teams etc. Once again to allow for a conservative approach, and due to the high variety of the costs for security/safety, an additional 30 % will be added to the costs in both scenarios. As a result, a total of DKK 772.2 million in scenario 1 and DKK 386.1 million in scenario 2. This amount also largely corresponds to the average expenditures for security from EURO2000 to EURO2008 based on the available inflation adjusted data. It could be chosen to include a part of the investment in security/safety as a benefit, as the hosting may have spill-over effects towards future utility for the society (Rambøll Management, 2006a, p. 25)[38]. The level of such is uncertain, and it is assumed that most of the benefits will be in terms of learning and knowledge; thereby no significant profitable quantifiable share is expected neither included. The costs are expected to occur in the years 2023 and 2024 as costs are both incurred for security/safety preparations, and during the month of hosting. When discounting the values, scenario 1 entitles net costs of DKK 492.0 million while scenario 2 accounts for DKK 246.0 million. As these figures are subject to high uncertainties based on increasing/decreasing security threats, they are also included in the sensitivity analysis.

In addition to the large expenditures in terms of providing security/safety for the visitors, it is usually also seen that large amounts are spend on improving the host nation´s hotel capacity to be sufficient for the increased amount of visitors.

4.3.4 Investment in hotel capacity

Hotels are the most important form of accommodation for tourist and other visitors for the UEFA Championship. In order for Denmark to accommodate the large numbers of visitors, in a period were a lot of tourists already visit Denmark, a vast amount of rooms are needed. According to Humphreys & Prokopowicz (2007, p. 501), Poland for instance had to spend around US $1 billion to fulfill hotel

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[38] Rambøll Management (2006b, p. 25) for instance include a 10 % beneficial share of the costs, as investing in security for the EURO may reduce investments in the future.

requirements for the EURO2012, and in Atlanta during the Olympics in 1996 around 7,500 new rooms were built to increase capacity to more than 60,000 hotel rooms (Feddersen & Maennig, 2010, p. 6). If the capacity is too small, it can potentially lead to a large share of crowding-out. Investing in too much hotel capacity may also provide a risk due to the expected decrease in demand of high-end accommodation after the event, as was the case for instance in Lillehammer after the 1994 Winter Olympics were 40 % of full-service hotels in the region had gone bankrupt within five years after (Barclay, 2009, p. 65). Hotel rooms are needed not only for the tourists coming for the UEFA Championship, but also for the UEFA delegation that requires quite a lot of accommodation, especially in the high-end sector. UEFA´s requirements for hotel accommodation for UEFA officials, teams, referees, VIP´s/partners etc. (i.e. "key target group") are very detailed in its specification, and can be seen in appendix G. The requirements translate into the following minimum requirements of hotel rooms for the "UEFA key target groups" specified by match day. The opening match requires 4,000 rooms, group matches require 2,600, the round of 16 requires 2,800, the quarter finals require 3,200, the semi-finals require 5,000, and the final requires 7,200. This provides an average pr. day of 4,217 rooms during the championship. These rooms must be provided by a minimum of 75 % four and five-star hotels, and a maximum of 25 % three star hotels. In addition to the key target group of UEFA comes of course the media, and the regular visitors for the tournament. In Portugal 2004, it was estimated that 600,000 people visited, and 75 % stayed in the country for at least four days. In 2008 in Switzerland/Austria, this number accounted for 2 million people (UEFA, 2009, p. 3 sector 11). The accommodation of the visitors are not limited to four and five star hotels as the UEFA officials, but represent a wide array of different preferences towards accommodation such as hotels, camp sites, pensions etc. (UEFA, 2009, p. 3 sector 11). The costs of fulfilling the requirements by UEFA will not be dealt with here, as the decision to build new hotels/expand current are private decisions in Denmark, which is only assumed done if the benefits at least equal the costs (i.e. net costs plus net benefit can therefore be set to zero). However, the question whether Denmark at the present moment can provide enough hotel rooms in total are briefly addressed to assist in evaluating the potential crowding-out, and the general prospects of the two scenarios.

The current situation is that there are approx. 500 hotels in Denmark covering 20,817 hotel rooms[39] in the Copenhagen area where most of the UEFA Championship would be located, and 42,248 in Denmark in total (statistikbanken.dk). The occupancy rates of respectively the Copenhagen area hotels, and

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[39] Expected to be two-person rooms in average.

Denmark in total were 70 % and 52 % in June 2010 (see appendix G). Looking at scenario 1, it is calculated that approx. 577,000 people[40] (excl. UEFA officials and media) will visit Denmark in June and spend 4 days on average, and that 60 %[41] of those will stay at hotels. This equals that 1,386,098 overnight stays that must be provided by hotels. As there are 30 days in June, and that there are 20,237 rooms available this means that there are a total of 1,214,208 overnight stays available in the period. Subsequently, an additional occupancy rate of 55 % will occur for Denmark in total from the visitors. For scenario 2, this number ends up at 26 % as fewer will visit Denmark during the championship than in scenario 1 due to the lower number of matches. Including the rooms required by UEFA during the month of the championship adds an additional 10 % in scenario 1 and 5 % in scenario two. This corresponds to a lacking capacity of 20 % (approx. 500,000 overnight stays) in scenario 1, while scenario 2 still holds an additional 17 % (approx. 430,000 overnight stays) available. Especially the Copenhagen area would encounter problems under scenario 1, as the normal occupancy rate is far higher there than in the Danish average. Given the assumption of no crowding-out during the UEFA Championship the number by far exceed 100 % capacity for scenario 1, meaning that investments would have to be made in order to fulfill the additional accommodation demand due to the championship. The same is not the case for scenario 2. An overview can be seen in table 4.8.

Table 4.8: Danish hotel room situation and expected impact of EURO2024

	Scenario 1	Scenario 2
Number of two-person hotelrooms in June	42,248	42,248
Occupancy rate (%)	52%	52%
Average number of available two-person hotelrooms in June	20,237	20,237
Total number of overnight stays available at hotels in June (30 days)	2,534,880	2,534,880
Additional number of overnight stays available at hotels in June (30 days)	1,214,208	1,214,208
Tourists		
Additional number of tourists coming	577,541	276,656
Additional overnight stays during the championship (4 day average)	2,310,164	1,106,624
% Staying at hotels	60%	60%
Total additional number of overnight stays at hotels during the championship	1,386,098	663,974
Expected shortage/available overnight stay availability at hotel-rooms in June	-171,891	550,233
Additional occupancy rate in June caused by the championship visitors (%)	55%	26%
UEFA delegation		
Number of UEFA reserved two-person hotelrooms on average pr. day during the championship	4,217	2,108
Number of UEFA required overnight stays (30 days)	253,020	126,480
Total occupancy rate caused by the UEFA delegation (%)	10%	5%
Total		
Total occupancy rate in June casued by the championship visitors and UEFA delegation (%)	120%	83%
Lacking/additional capacity (%)	-20%	17%

[40] Calculations on visitors follow in section 4.4.1
[41] Based on estimations by Oldenboom et al. (2002).

The rationale for public intervention in investment in hotel capacity would be to avoid that visitors may have to stay in nearby countries like northern Germany or Sweden, which would mean a foregone income for the Danish society, or as in the case of the EURO2012 in Poland/Ukraine to help accelerate the development of the country in general. However, the assumption of no loss in regular hotel users (i.e. crowding-out) is very unlikely to hold true partly because of the increased general congestion, and partly because of higher prices to be expected. As an example, German hotels actually reported a drop in occupancy rate from June 2005 to June 2006, the year of hosting the FIFA World Cup, of 2.7 percentage points according to Maennig & Plessis (2007, p. 584). This shows the massive implications that crowding-out may have, and therefore how important it is to avoid in order not to lose the "regular" hotel users. For instance, extra capacity could be provided by renting cruise ships docking in harbors near the venues (Rambøll Management, 2006b, p. 15). In this way, excessive capacity after the event would be avoided, while at the same time covering the extra demand during the UEFA Championship, and possibly forcing down prices at the hotels. Hotel investments are not further dealt with neither as a benefit nor cost. The precondition for such investments to become relevant is that the UEFA Championship hosting is secured through an official candidature, and promotion needs to be made in order to display Denmark as an attractive host, and afterwards to attract as many visitors as possible.

4.3.5 Bidding and promotional costs

Hosting the UEFA Championship requires a long and expensive bidding competition usually among many bidders for as long as three to four years prior to the final choice of host country. There are no tradition for application fees for the UEFA Championship, but there are costs related to tasks such as promoting the candidature internally to reach consensus and local sponsors, developing bidding applications, analysis, and participating in meetings, and decision rounds (Lotti, 2008, p. 35; Rambøll Management, 2006b, p. 18). These costs were estimated by Rambøll Management (2006b, p. 18) to reach around DKK 50 million in 2008 (DKK 56.6 million after inflation adjustment). This amount is used for both scenarios.

In addition to the heavy marketing/promotional activities that UEFA (and its partners) and the media do in relation to the UEFA Championship, an amount of national promotion is often made. It is only the cost for the national promotion that is included, as the costs for UEFA et al. for promotional activities is not relevant for this CBA. For the EURO2008 this amounted to €15.4 million (DKK 124.7 million adjusted for inflation) for Switzerland (Swiss Confederation, 2008, p. 26). The double amount is selected in the first

scenario as more host cities in Denmark will require more promotion. The bidding procedure starts eight years prior to the tournament, and it takes about three years to decide upon a host, thus the bidding costs are discounted in equal annual parts from the years 2016-2018, while the promotional costs are expected to occur after Denmark is selected as host (in 2018), and until the final tournament starts in 2024. The promotional costs are also discounted equally throughout the six years. This amounts to a PV of the bidding and promotional costs of respectively DKK 222.3 million in scenario 1 and DKK 134.4 in scenario 2. Promotion, as well as other task in terms of preparation and operation, requires resources provided by the government.

4.3.6 Costs of preparation and operational costs for the government

Ministries, municipalities, and the police are likely to spend considerable time in the preparations for a UEFA Championship. The largest investments in time are likely to be spent in the cities hosting the games. Nooij & Koopmans (2010, p. 12) estimate that at the start of the preparations for a FIFA World Cup 2018 in the Nederlands, one FTE (Full-time Equivalent) from the municipalities will be devoted to preparations in each city hosting a tournament stadium, increasing to nearly seven FTE´s in the year of the championship. Accordingly, they assume police services to require FTE´s ranging from one in the start of the preparations to nearly five in the year of the championship. Also government officials are required, ranging from five FTE`s to more than fifteen. They assume that one FTE costs approximately €100,000 (including overhead costs), and that the work will continue until 2019 with concluding tasks. As further empirical data on this issue is lacking in the literature, the same levels are assumed in this analysis. However, they include ten years while this analysis only includes eight years, thus their first two years are skipped, and the number therefore starts at €1.3 million (DKK 9.7 million), and increases towards €4.8 million (DKK 35.8 million) in the implementation year.

There is also an operational side to the hosting of a UEFA Championship from the perspective of the government. This includes such matters as organization of fan-events, additional cleaning, sanitation, and beautification of the cities. Nooij & Koopmans (2010, p. 12) apply a figure of €5 million in 2006 for the hosting of fan-events in Stuttgart during the World Cup plus an additional 50 %. Correcting this figure for inflation would incur costs of DKK 42.2 million pr. city equaling DKK 337.6 million in scenario 1 and DKK 168.8 million in scenario 2. The total costs of the government services can be seen in the table below. Scenario 2 assumes that because of the half number of host cities and matches only half the government services are required.

Table 4.9: Total costs of government services (DKK million)

	PV	2018	2019	2020	2021	2022	2023	2024	2025
Scenario 1	306.1	9.7	11.2	13.4	15.6	20.9	26.8	373.4	7.5
Scenario 2	153.1	4.8	5.6	6.7	7.8	10.4	13.4	186.7	3.7

As can be seen, the costs of government services incline until the peak in 2024 were the operational costs are also incurred. The total PV reaches DKK 306.1 million in scenario 1 and DKK 153.1 million in scenario 2. An extra form of government service is needed for UEFA since, according to the official bid requirements for the UEFA EURO2016, the host nation is required to provide a number of tax exemptions in relation to the UEFA Championship.

4.3.7 Tax exemption for UEFA

A large number of people including such as UEFA employees, officials, participating teams, accredited member of the media etc. will be working and making income on for instance salaries, bonuses, and reimbursements of expenses during the championship. UEFA require that these people, besides the domestic share, receive tax exemptions. In the same way, UEFA will as an organization work alongside the LOC in the host country, and require that they will not be subject to taxation on their income, turnover, or other similar taxes as a result of staging the UEFA Championship. All VAT, sales taxes, automotive tax etc. from money that are transferred to or from the LOC must be exempted (UEFA, 2009, pp. 8-9 in sector 7). Normally taxes should not be directly included in a CBA, but because the tax would have come from outside the region, and not simply represent a re-distribution between sectors, it would have been relevant. This means that the society loses potential income from the UEFA Championship. However, this income would nevertheless not have occurred in the counterfactual scenario, hence only the foregone tax income for the society is important. This makes tax exemptions for instance for broadcasting rights, ticket sales, and temporary UEFA offices irrelevant. The only tax that is important is the foregone tax on hotel rooms rented through UEFA, because these rooms would likely have been used without the UEFA Championship, and therefore represents a loss in tax income for the society (Nooij & Koopmans, 2010, p. 13). As explained the requirements set forth by UEFA holds a total of 25,300 rooms to be available during the UEFA Championship for the UEFA delegation, teams, referees, media people, partners etc. A tax percentage of 25 %, an average room price of DKK 850 pr. night (approx. average of 2011 in Denmark)[42], and a total of 35 days of rent is applied. In scenario 1, the entire 26,300 rooms would be placed in Denmark while half would in scenario 2. This corresponds to costs in PV´s of DKK 117.5 million in scenario 1 and DKK 58.8 million in scenario 2. The tax exemptions represent the final tangible costs included for the EURO2024. However, the intangible costs are also of significance.

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[42] According to Betak (2012)

4.3.8 Intangible costs

As already discussed, costs from the event that are not directly quantifiable, but are of potential significance, must also be considered. Due to the vast nature of the event, with all of the out-of-town visitors, it cannot be prevented that some sort of disruption to the public life will occur. Before the event, construction work will be loud and fill up space, and in time of the event supporters will be celebrating in the streets and at public locations such as restaurants, bars, and town squares for the inconvenience of some people. In addition, these visitors will fill up hotels, roads, and public transportation, and some will commit vandalism and other crimes despite of the increase in security. Especially in the host cities, travel, and traffic congestion as well as other disruption to the public life will occur (Nooij & Koopmans, 2010, pp. 13-14; Oldenboom, 2006, p. 92). Some will value this as a considerable cost of staging the event, while others may see it as a triviality, and instead take part in it and enjoy the "fuzz". From a government perspective an unsuccessful UEFA Championship which do not succeed in displaying Denmark from its best side, or is overshadowed by some sort of disaster/accident may harm the reputation of Denmark for the rest of the world, and/or create a feeling of in security or dissatisfaction in the country.

In the Atkinson et al. (2008) study they classify the intangible costs of the Olympic Games 2012 in London into six categories, which are assessed in this CBA as well. The six categories are: "Crowding", "Increased risk of petty theft", "Increased safety and security risks", "Local disruption during construction", "Transport delays", and "Excessive media coverage". Despite a little ambiguity in the results of the analysis of Atkinson et al. (2008) between the respondents in different cities, the most important costs seems to be "Transport delays", "Increased safety and security risks", and "Crowding". Followed by "Local disruption" and "Increased risk of petty theft" and with "Excessive media coverage" as the least important. All of these are incorporated into the CBA, and are closer defined in appendix H as they were presented to the respondents. Besides costs, the UEFA Championship are surely also expected to have its benefits, which attention is now turned towards.

4.4 Benefits

Some of the main sources of income from the UEFA Championship are the broadcasting rights, commercial rights, ticketing, and corporate hospitality. This amounted to DKK 6.3 billion for the EURO2004, and DKK 9.7 billion for the EURO2008 (UEFA, 2008a, p. 2). Most of this turnover is, as earlier mentioned, almost exclusively kept by UEFA. So instead, one of the most important sources of benefit

from the UEFA Championship for the host nation comes from the additional visitors during the UEFA Championship. These visitors spend money on items such as lodging, transport, food, and merchandise. The model developed here to estimate the benefits from tourism is particularly based upon the framework applied by Nooij & Koopmans (2010), and empirical data collected from Oldenboom et al. (2002) and Kurscheidt et al. (2007), from respectively the EURO2000 and the FIFA World Cup 2006.

4.4.1 Tourism revenue

From the theoretical effects, earlier described, we know that tourism should be divided into three categories from the event based on their consumption in the host country: 1) additional consumption, 2) re-distribution, and 3) crowding-out. The nine groups that make up these categories have previously been described in details. This analysis incorporates all of these groups. Findings from two previous FIFA World Cup´s and EURO2008 can be seen in appendix I, and reveals that the percentage share of each group varies a lot from country to country, and edition to edition. Due to the heavy fluctuations, and the fact that evidence in two of the cases comes from a FIFA World Cup, it is not found appropriate to use averages of the findings. Instead, expectations towards each group are set more cautiously at the same levels as Nooij & Koopmans (2010, pp. 14-18). This is found to be appropriate, as the shares are then set at numbers around the highest that they have been reported at, and at the same time at suitable proportions towards each other.

Foreign spectators

It is assumed that on average 35,000 tickets[43] are available per game for spectators, and that visitors buy 2 tickets pr. person. The average occupancy rate for the EURO2000 games was according to Oldenboom et al. (2002, pp. 17-19) 95 %, but because of artificially high numbers at some matches due to free tickets, the number were adjusted to 92 %, which is also used in this analysis. Furthermore, they found that the average share of domestic spectators (i.e. Dutch and Belgium) for games during the EURO2000 were 32 %[44], which must be subtracted. However, more visitors must be removed from the equation, as explained earlier, represented by casuals (20 %), time-switchers (25 %), and extenders (15 %). For extenders, it is only the period that they choose to extend their period of stay with due to the championships that are counted. Nooij & Koopmans (2010, p. 15) suggests that this period equals 50 %

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[43] 51 games on nine stadiums equal 5.7 games in average pr. stadium. Multiplying 5.7 games with each stadium capacity provides a total of 1,935,000 available seats, or an average of 37,941 seats. Assuming around 4,000 media people and UEFA officials/partners at each game provides an estimate of 35,000 available seats pr. game on average.

[44] The corresponding number from the EURO2008 were found to be 27 %, but 32 % is chosen due to the premise of caution in benefit calculations.

of their total stay. As well as crowding-out effects occur, some crowding-in also occurs. According to Helmenstein & Kleissner (2008, pp. 116-18), one out of every eight spectator at the EURO2008 brought along a companion who did not attend any UEFA Championship games, but would nevertheless not have come without the UEFA Championship. This equals 12.5 % that is added to the equation. The number of additional foreign spectators, not counting UEFA officials and media people, ends up at 298,367 in scenario 1 and 139,806 in scenario 2 (see table 4.10). Oldenboom et al. (2002, p. 23) found that on average visitors spend one or two nights per ticket. This translates into an average duration of stay pr. person of 4 days. In EURO2008, the average nights pr. stay was around 3.5 days per person, thus a total of 4 days in this analysis seems appropriate (UEFA, 2008a, p. 1). In order to calculate the benefits from the increased number of visitors an average number of spending pr. day pr. visitor is needed. Oldenboom et al. (2002, p. 24) found this number to be €125 for the EURO2008 Nordic Bid. Nooij & Koopmans (2010, p. 15) correct this number for inflation to an amount of €150, while Rambøll Management (2006b, p. 26) works with a number corresponding to €200. Ex-post analysis of the EURO2008 showed spending in the range of €330 pr. night spent (UEFA, 2008a, p. 1). However, this amount must also include spending on items such as stadium tickets, which should not be included in this analysis. A near average of the former three of €160 pr. visitor pr. day is thus applied. The predicted additional expenditures by foreign EURO2024 event visitors can be seen in table 4.10 below.

Table 4.10: Additional expenses by foreign UEFA Championship visitors

	Scenario 1	Scenario 2
Total number of tickets sold	1,642,200	805,000
Number of tickets pr. person	2	2
Number of spectators	821,100	402,500
% Danish spectators	32%	35%
Number of foreign spectators	558,348	261,625
% Casuals	20%	20%
% Time-switchers	25%	25%
% Extenders	15%	15%
% Average extension by spectators extending their stay	50%	50%
Number of additional foreign spectators	265,215	124,272
Crowding-in	12.5%	12.5%
Number of additional foreign spectators	298,367	139,806
Stay (in days) pr. ticket	2	2
Average duration of stay	4	4
Expenditures per day (excl. ticket and travel)	DKK 1,200	DKK 1,200
Additional expenses	DKK 1,432.2 million	DKK 671.1 million

Note: Danish spectator share expected to be sligthly higher due to the lower number of games in scenario 2
(i.e. decrease in supply, increase in demand)

Foreign fan-event attendees

Fan-events are an important part of the UEFA Championship as it helps create feelings of pride, unity, happiness and celebration in the cities, especially for those that may not have acquired tickets for the games, but still wish to attend in some way. UEFA claims that millions of visitors without tickets travel to the host cities just to soak in the atmosphere, and watch the matches in public viewing areas. At the EURO2008 around 4.2 million people visited the fan-events, while at the EURO2012 the attendance record were already broken after 2 weeks, with over 5.5 million people attending the 8 official fan-zones in Poland and Ukraine (Dhoot, 2012). Kurscheidt et al. (2007) estimate in an encompassing study on consumer behavior during the FIFA World Cup 2006 in Germany that the fan-event attendance was roughly four times higher than the number of spectators attending the matches[45]. Applying the same level here brings the number of fan-event attendees up to 3,284,400 in scenario 1 and 1,610,000 in scenario 2. The fan-events attract largely domestic visitors, and at the FIFA World Cup 2006 around 80 % of the attendees were domestic. This number is also used in this analysis. The assumptions towards the tourism movements must be changed a bit, according to Kurscheidt et al. (2007, slide 12), as casuals represent a larger share at fan-events than time-switchers. As a result, casuals are set to account for 30 % and time-switchers for 20 %. The assumptions on extenders, length of stay, and daily expenditure remain the same as for the spectators, while crowding-in is not expected to occur for fan-events (Nooij & Koopmans, 2010, p. 17). As illustrated in table 4.11, fan-events could generate up to DKK 1.3 billion in scenario 1, and DKK 656.9 million in scenario 2 from foreign event visitors.

Table 4.11: Expenditures of additional foreign fan-event attendees in Denmark

	Scenario 1	Scenario 2
Number of fan-event attendees without stadium tickets	3,284,400	1,610,000
% Danish attendees	80%	80%
Number of foreign attendees	656,880	322,000
% Casuals	30%	30%
% Time-switchers	20%	20%
% Extenders	15%	15%
% Average extension by attendees extending their stay	50%	50%
Number of additional foreign fan-event attendees	279,174	136,850
Average duration of stay	4	4
Expenditures per day (excl. travel)	DKK 1,200	DKK 1,200
Additional expenses	DKK 1,340.1 million	DKK 656.88 million

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[45] The number *only* included visitors who did not possess stadium ticket(s). Counting visitors, who also possessed such, would result in a double-counting of visitor spending.

Danish spectators

If Denmark hosts the UEFA Championship a lot of Danish people will attend at least one match, and a portion of these people would have done so even if the UEFA Championship would have been held in another country. These can be interpreted as representing part of the group of home stayers, as they decide to stay in the country instead of going away on a holiday in another country due to the UEFA Championships. Because of this two positive welfare effects are created. The first is that spending by supporters who would have travelled abroad stays in the country and may be considered additional. The second is that these supporters save money on travel costs. As discussed previously, spending by residents on the UEFA Championship in Denmark who would not have travelled abroad for the UEFA Championship is not considered as a benefit. The number of Danish spectators is calculated from table 4.10, and accounts for 262,752 in scenario 1 and 140,875 in scenario 2. Kurscheidt et al. (2007, slide 12) finds that 10 % of the German spectators at the FIFA World Cup 2006 said that they would have attended the match if it had been held abroad. Based on the same assumptions as before for spending and average stay, scenario 1 provides DKK 126.1 million in additional consumption and scenario 2 provides DKK 67.6 million. Nooij & Koopmans (2010, p. 18) assume the savings in travel costs to be €200 (roughly DKK 1,500 adjusted for inflation) pr. person, which also seems reasonable for this analysis and provides DKK 39.4 million in benefits in scenario 1 and DKK 21.1 million in scenario 2[46]. The spending that the remaining 90 % of the Danish spectators, who would not travel abroad, make on purchasing tickets for the games leaks out of the region to the UEFA headquarter in Switzerland. As the ticket prices for the EURO2012 ranges from €30 to €600 with an average around €140 (DKK 1,050), the costs of the leakage from the 90 % Danish people is thus DKK 496.6 million in scenario 1 and DKK 266.3 million in scenario 2 (UEFA.com). A summarization of the welfare benefits for the Danish spectators is displayed in table 4.12.

Table 4.12: Welfare benefits for Danish spectators

	Scenario 1	Scenario 2
Danish spectators	262,752	140,875
% remaining at home	10%	10%
Danish people who would otherwise have travelled abroad	26,275	14,088
Average stay	4	4
Spending pr. day	DKK 1,200	DKK 1,200
Spending that would otherwise have taken place abroad	DKK 126.1 million	DKK 67.62 million
Avoided travel costs pr. person	DKK 1,500	DKK 1,500
Travel costs avoided by Danish spectators	DKK 39.4 million	DKK 21.1 million
Average ticket price	DKK 1,050	DKK 1,050
Leakage of tickets for Danish people who would not attend a EURO Cup elsewhere	DKK -496.6 million	DKK -266.3 million

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[46] Travel costs for the Danish media people, VIP´s, sponsors, and UEFA members is not estimated due to the somewhat negligible amount that it represents.

Danish fan-event attendees

The assumptions for Danish participants at fan-events remain the same as for Danish spectators for matches. However, the assumption that the same share of people would have been willing to travel abroad to participate in a fan-event as to watch a match is not applied here, as Nooij & Koopmans (2010) do. The underlying argument for this is purely based a on a personal rationalization. It appears unlikely, as well as empirically undocumented according to my knowledge, that the same share of Danish people would be willing to travel miles abroad to participate in what must be said to be somewhat of a side-event of the real happening of the UEFA Championship – the matches. The willingness to do so may be higher among the Dutch supporters due to a stronger commitment towards national football, and may also be highly affected by how far away it actually takes place. However, in order not to exaggerate benefits from tourism, the percentage share of Danish people staying at home is adjusted to only 2 %. As a result, the spending staying in Denmark in scenario 1 is approx. DKK 252.2 million and DKK 123.6 million in scenario 2. The avoided travel costs are respectively DKK 78.8 million and DKK 38.6 million (see table 4.13).

Table 4.13: Additional spending and avoided travel costs by Danish fan-event attendees

	Scenario 1	Scenario 2
Danish fan-event attendees	2,627,520	1,288,000
% remaining at home	2%	2%
Danish people who would otherwise have travelled abroad	52,550	25,760
Average stay	4	4
Spending pr. day	DKK 1,200	DKK 1,200
Spending that would otherwise have taken place abroad	DKK 252.2 million	DKK 123.7 million
Avoided travel costs pr. person	DKK 1,500	DKK 1,500
Travel costs avoided by Danish fan-event attendees	DKK 78.8 million	DKK 38.6 million

Before a final number of tourists and economic benefits can be reached, the crowding-out effect must be assessed. This means deciding upon an appropriate share of expected runaways, avoiders, and changers to be subtracted from the total spending. However, according to Oldenboom´s (2006, pp. 152-55) EURO2000 findings, runaways and changers should not be included, as these groups are very small and/or their effects negligible, thus only the avoiders are of interest.

Crowding-out

In relation to avoiders, the MSEs are planned a considerable number of years ahead, which provides for good opportunities for tourists to choose other locations. Baade & Matheson (2004) for instance found, that New York had fewer tourists in the months of hosting the FIFA World Cup in 1994 than normally, and Männig (2007) similarly found that the FIFA World Cup 2006 generated no additional overnight

stays compared to the normal, which implies a crowding-out effect of a staggering 100 %, meaning that all additional tourists due to the FIFA World Cup simply replaced other tourists. The same was the case for South Korea during the FIFA World Cup in 2002 where an extra amount of European visitors of 460,000 were completely offset by fewer visitors from other countries (Matheson, 2006, p. 10). However, it is difficult to account for the reason for the lack of additional tourists, and all of it may therefore not necessarily be because of the event. It is rather difficult to precisely account for such as there are problems in identifying the people that "are not there", and asking them about their motives for not being there; especially the sub-group of cancellers.

In Nooij & Koopmans (2010, pp. 19-21) they argue for crowding-out effects ranging from 50-100 %. They do, however, assume that all of the additional tourists will prefer to stay at hotels. This assumption is not made in this analysis. Instead, as previously, only 60 % is assumed to have hotels as their preferred accommodation. This is expected to lower the crowding-out effect supposing that a larger geographical spread in accommodation and means of accommodation displace fewer tourists. According to Bary et al. (2004, p. 102), the EURO2008 was predicted to produce crowding-out ranging from 6 % to 42 % of hotel stays in Switzerland, which seems somewhat low in comparison to the empirical evidence from the 2002 and 2006 FIFA World Cup´s. As the additional visitors are estimated to produce a total occupancy rate of 120 % in scenario 1 (see table 4.8) there do, however, appear to be a crowding-out problem due to limited capacity, and increased number of visitors.

The fact that most of the UEFA Championship will take place in the tourist-attractive Copenhagen area also adds to the crowding-out. Due to lack of empirical evidence, the amount of crowding-out will have to be a "best-guess" based on, among other, the number of expected visitors, expected congestion, and available hotel capacity. Scenario 2 involves less additional visitors, and does not hold the same hotel room shortage, hence presumably less crowding-out. However, congestion and price increases may still occur, and the large share of Swedish tourists usually coming to Denmark[47] may be more likely to stay home due to part of the UEFA Championship in their home country, which speaks in favor of crowding-out. A crowding-out percentage is therefore still included in scenario 2, but at a lower rate than in scenario 1. As a result of the higher expected hotel room shortage, and general congestion by more visitors in scenario 1, a crowding-out percentage of 50 % is selected, and 40 % in scenario 2. These figures are comparable to the figures applied by Nooij & Koopmans (2010). It is assumed that the spending patterns of UEFA Championship visitors are equal to the ones of regular

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[47] Usually around 200.000 Swedish overnight stays in June according to visitdanmark.dk.

tourists. The total loss due to crowding-out is estimated at DKK 1.4 billion in scenario 1 and DKK 531.2 million in scenario 2 (see table 4.14).

Table 4.14: Displaced spending due to crowding-out

	Scenario 1	Scenario 2
Additional nights by foreign visitors (stadiums and fan-events)	2,310,164	1,106,624
Foreign tourists displaced (%)	50%	40%
Not-realized nights of lodging	1,155,082	442,650
Spending per day	DKK 1,200	DKK 1,200
Not-realized spending due to crowding-out	DKK -1,386.1 million	DKK -531.2 million

Total effects of tourism

The total effects of tourism are summarized in table 4.15. As can be seen, scenario 1 provides DKK 1.4 billion in benefits for the society, while scenario 2 provides DKK 782.6 million.

Table 4.15: Net proceeds from tourism (DKK million)

	Scenario 1	Scenario 2
Additional spending by foreign spectators	1,432.2	671.1
Additional spending by foreign fan-event attendees	1,340.0	656.9
Loss due to crowding-out	-1,386.1	-531.2
Additional spending due to Danish spectators staying home	126.1	67.6
Additional spending due to Danish fan-event attendees staying at home	252.2	123.6
Travel costs avoided by spectators staying home	39.4	21.1
Travel costs avoided by fan-event attendees staying home	78.8	38.6
Leakage of tickets for Danish people who would not attend a EURO Cup elsewhere	-496.6	-266.3
Net proceeds from tourism	DKK 1,386.1 million	DKK 781.6 million

Discounting these values result in a PV of DKK 865.8 million in benefits in scenario 1 and DKK 488.2 million in scenario 2.

Apart from the tourism spending, another major source of benefit for the hosting country comes from the expenditures by the LOC and the UEFA delegation.

4.4.2 Expenditures by the Local Organizing Committee (LOC) and UEFA officials

The UEFA Championship is owned by UEFA, but the host association, UEFA, and the local organizing company shares the organizing responsibility of the event. The overall steering of the event is done by a steering group consisting of representatives of UEFA, the host association, and the government authorities. UEFA has the overall leadership of the event, but to carry out the operational tasks of the tournament a local organizing company is founded. This company is led by a Local Organizing Committee (LOC) consisting of senior representatives of the host association and the host cities/nation´s

governments (UEFA, 2009, pp. 3-5 in sector 17). The actual organization and operation of the UEFA Championship covering the main issues of logistic and infrastructural activities is done by LOC, while UEFA is more in charge of the actual football related tasks. In principle, all direct income from the event (e.g. ticket-sales, broadcasting etc.) flows to UEFA, while the expenditures for the operations such as stadium rental, contribution to host cities, and personnel are paid for by the LOC (Oldenboom, 2006, pp. 157-58). However, agreements are made such that part of the revenue of the UEFA Championship is transferred to the LOC to cover the expenses. Nooij & Koopmans (2010, p. 22) propose this amount to be US $400 million for the FIFA World Cup (approx. DKK 2.2 billion adjusted for inflation), while the operational budget of the EURO2008 reached €234 million (DKK 1.9 billion adjusted for inflation) (UEFA, 2008a). The direct relationship is always subject to negotiations. Oldenboom (2006, p. 158) argue that as a general rule the ticket sales should cover most of the organizational expenditures by LOC. Due to the rising costs of staging the UEFA Championship, this hardly applies anymore. This is supported by the fact that the EURO2008 "only" generated ticket sales of DKK 729 million (adjusted for inflation) (UEFA, 2008a). Depending on the financial situation in the hosting country, they might also receive a share from broadcasting and sponsorships. In total, it is not important for this CBA how much UEFA earns by staging the event in broadcasting, sponsorships, ticket-sales etc., but instead how much money the LOC spends in Denmark, as most of it is considered to be new money. Considering the similarity between the EURO2008 host nations of Switzerland/Austria, and a Danish (Danish/Swedish) bid, it is likely that the operational budget will be similar to that one. Therefore, the LOC expenditure is set to DKK 1.9 billion in scenario 1. In scenario 2 it is, however, only expected that 60 % of the expenditures will be made within the Danish society thus a spending of DKK 1.1 billion (presuming that LOC will be located in Denmark). These benefits are expected to occur in 2024, and correspond to PV´s of DKK 1.2 billion in scenario 1 and DKK 730.8 million in scenario 2. The expenditure by LOC is included in the sensitivity analysis due to the high uncertainty regarding additional expenses.

In addition to the benefits derived from the direct expenditures by the LOC, the Danish host association receives a bonus (as well as the other countries) from their performance at the UEFA Championship, which represents new money as well for the Danish society. However, this bonus is received regardless of where the event is hosted so it is not included. The participating teams, however, has to pay tax of their bonuses, which is additional, but of a negligible amount in this context (Oldenboom, 2006, p. 159). According to Rambøll Management (2006b, p. 24), the host cities in addition receive 10 % of the sale of broadcasting rights to help cover expenses for security, infrastructure, and stadium adaptations. At

EURO2004 in Portugal the total amount of broadcasting revenue was approx. DKK 4.1 billion equaling DKK 415.5 million for the host cities (DKK 490.1 million after inflation adjustment). This amount is, however, expected already to be included in the operational expenditures by the LOC; hence it would be a double-counting to include the item once more.

During the weeks of the UEFA Championship a number of UEFA officials will be present spending money in the local economy. Bary et al. (2004, p. 37) apply a number of 800 for Switzerland for the EURO2008, which is used in this scenario 2, and 1,600 for scenario 1. These have higher expenditure patterns than regular tourists, and longer periods of stay. In their study, they argue for a 15 day average stay with expenditure of approx. DKK 2,500 per day. This corresponds to DKK 60 million in scenario 1 and DKK 30 million in scenario two, or respectively DKK 37.5 million and DKK 18.7 million in PV´s. In the same way national teams, media, and sponsors also have different expenditure patters than regular tourists; hence they must be treated separately.

4.4.3 Expenditure by national teams, media, and VIP´s/sponsors

The number of people and amount of daily expenditure within these three groups are also different. They are therefore treated separately, starting with the national teams.

4.4.3.1 Spending by national teams

For the EURO2024 in scenario 1, 24 teams will have to be accommodated and catered in Denmark, while it is assumed that half would in scenario 2. In order to calculate the amount that these teams contribute to the Danish society with, the number of days spend here, and the average spending pr. day is needed. Nooij & Koopmans (2010, p. 23) argue that teams are required to be present at least five days before the tournament starts, and that they will tend to stay one day after they have been eliminated. The length of the tournament ranges according to the UEFA 2016 bid requirements between 29-31 days, and the least is selected for this analysis (UEFA, 2009, p. 4 in sector 3). This means that a total number of 574 days will be spend in Denmark in scenario 1 and half that amount in scenario 2. The daily expenditure pr. team is often quite high as they require a high number of flights, accommodation, catering, security, consultants, medical staff, VIP functions etc. (Access Economics PTY Limited, 2010, p. 48). At the FIFA World Cup 2006 in Germany, the average daily expenditure of national teams were as high as €155,000 (adjusted for inflation), and for the EURO2008 this amount accounted for €185,000 pr. day (adjusted for

inflation) (Nooij & Koopmans, 2010, p. 23). A near average estimate of these is thus applied at €170,000 pr. day pr. team.

4.4.3.2 Spending by media

Nooij & Koopmans (2010, p. 23) argue that a total of 12,000 media representatives were present at the EURO 2008 in Switzerland/Austria. Bary et al. (2004, p. 37) extends this analysis to look at Switzerland only, and claims as the International Broadcasting Centre (IBC) were located in Vienna an estimated 3,300 media people (27.5 %) were located in Switzerland and 8,700 in Austria (72.5 %). The IBC is usually placed in the city where the final is played, so in scenario 2 the IBC will be placed in Sweden. The costs of press-facilities (accounted as a cost) is by Rambøll Management (2006b, p. 17) estimated at DKK 50 million in the case of a Swedish/Danish 2016 joint bid (DKK 56.6 million adjusted for inflation). The same level is assumed in this analysis, with a doubling in scenario 1, equaling PV´s of DKK 70.8 million in scenario 1 and DKK 35.4 million in scenario 2. The facility is expected to be of a temporary character, thereby not enabling any future benefit.

The average daily expenditure is slightly higher for media people than for regular tourists (DKK 1,600 assumed here), and the average stay are until around the elimination of the media people´s respective national teams (Nooij & Koopmans, 2010, p. 23). This corresponds to 750 reporters for each participating team in the EURO2008, equaling 18,000 for the EURO2024 in Denmark for scenario 1 (72.5 %) and 4,950 in scenario 2 (27.5 %). From earlier, it was estimated that a total of 574 days would be spend by national teams in Denmark, so with 750 reporters pr. team in scenario 1 and 206 in scenario 2 (27.5 %), this would translate into a total stay by media people in Denmark in scenario 1 of 430,500 days and 118,387 days in scenario 2.

4.4.3.3 VIP´s and sponsors

This group is already mostly accounted for in the money streams from the regular tourists, and as part of the expenditure by LOC. UEFA, however, has ten official global sponsors which during a UEFA Championship spend money on a number of activities in addition to "regular" accommodation, catering etc. such as advertising, promotion, and PR (UEFA.com). For the FIFA World Cup this group normally spends between €60 and €120 million (Nooij & Koopmans, 2010, p. 24). However, the amount are assumed to be somewhat smaller at a UEFA Championship than at a FIFA World Cup. For that reason, an estimate of €40 million (DKK 298 million) is selected for scenario 2, while €100 million (DKK 745.1 million) is selected for scenario 1.

Total expenditure by teams, media, and VIP´s/sponsors

The total amount of expenditure by teams, media, and VIP´s/sponsors is displayed in table 4.16 together with the PV of the expenditures.

Table 4.16: Expenditure by teams, media, and VIP´s/sponsors (DKK million)

Spending by	Scenario 1	Scenario 2
National teams	727.0	363.5
Media people	688.8	189.4
VIP´s and sponsors	745.1	298.0
Total expenditure	2,160.9	850.9
PV of total expenditure	DKK 1,349.8 million	DKK 531.5 million

The benefits that have been presented by now represent some of the most straightforward to include in a CBA. However, other benefits may also exist, which therefore require a couple of remarks for not including.

4.4.4 Non-included benefits

Some of such effects are exaggerated, or have not yet been sufficiently empirically demonstrated, but commonly used to advocate for sports events anyway, and are therefore subject to discussion. Those effects, and the reasons for not including them, are briefly discussed in this paragraph before looking towards the intangible benefits of the UEFA Championship. This includes respectively retail spending, economic growth, employment effects, public health benefits, and event legacy.

Increased retail spending

Retail sales can be included as a good example of the substitution effect, and not least of non-relevant spending for the purpose of a CBA. Sales including items such as beer and televisions are often claimed to rise if a country hosts a MSE. Oldenboom (2006, p. 170), however, argues that this rise is also occurring if the event takes place in another country making the effect non-additional. Maennig & Allmers (2009, p. 507) furthermore argues, that an increase in domestic consumption resulting in extra profit for individual enterprises and sectors is counterbalanced by reduced demand in other months and/or sectors, as long as the national savings rate remain constant, implying the presence of the substitution effect. Oldenboom´s findings (2006, pp. 170-71) also support this. Sales of merchandise cannot either be considered additional, as these expenditures are also subject to the substitution effect, and therefore merely represents a shift in spending over branches unless it is bought by foreigners. If bought by foreigners, the expenditure is already accounted for as tourism revenue. Maennig & Plessis (2007, p. 584) even report for the FIFA World Cup that it is difficult to identify increments with

merchandise sales at all. This is reported to be either due to insignificant spending by foreigners, or that their spending is compensated by less spending by domestic consumers who may be diverted from their normal consumption patterns because of the "couch-potato effect"[48].

Economic growth

Proponents state that MSEs can lead to improved name-recognition, reputation, and business networks which may increase trade, and thereby the economic growth (Nooij & Koopmans, 2010, p. 24). However, the majority of empirical studies do not support this relation to economic growth (Baade & Matheson, 2004; Siegfried & Zimbalist, 2006; Sterken, 2006). Even if an economic growth is seen it may be regional, or because the country was selected due to its potential for national economic growth (e.g. Poland and Ukraine, which are transition economies). Sterken (2006) for instance applies a macroeconomic model to assess the impact of the Summer Olympic Games and the FIFA World Cup on GDP-growth rates, and only the Olympic Games seems to show a positive economic impact over time. It is therefore assumed that the UEFA Championship will have no significant impact in terms of economic growth in relation to the counterfactual situation were the event does not take place. Closely related to economic growth is employment growth, which is often used as argumentation for hosting MSEs.

Employment effects

When considering the effects of the UEFA Championship in terms of employment it must be remembered that the actual event only has a duration of one month, thus catering and accommodation will be unlikely to hire new staff, or only hire very little, and instead draw extra on the already employed ones (Mules & Dwyer, 2006, pp. 344-45; Nooij & Koopmans, 2010, p. 25). Likewise, the Danish national football association will most likely hire a lot of voluntary workforce, which is common, and does not add any monetary benefits. Also, in such a situation, the wages will certainly not reflect the opportunity costs for the employees. The construction of new facilities and organizing in general lasts longer than the one month, and might require new employees due to the longer duration, but as this type of work is typically very specialized it will require resources from outside the region (Matheson, 2006, p. 12). Furthermore, for the employment to be beneficial it has to come from unemployed workers, and not crowd out other employment. Hence the employment-level in the country are very important (Rambøll Management, 2006b, p. 94). If there are any employment benefits, they are likely to be small, temporary, for unskilled labor in particular, and often concentrated in only a few sectors (Feddersen &

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[48] The "couch-potato effect" relates to consumers who are diverted from their normal consumption patterns illustrated by restricting themselves to the consumption of potato fast food at home on their couches due to the sporting event (Maennig & Allmers, S., 2009, p. 587).

Maennig, 2010; Männig, 2007). For instance, Hagn & Maennig (2007) found that the FIFA World Cup 2006 in Germany had no significant short-term employment benefits, and in another study from 2008 they found that the FIFA World Cup in 1974 had neither short nor long-term effects. Feddersen & Maennig (2010, p. 34) argue that the employment effect is at least too small to justify public spending. The controversial arguments in oppose to employment benefits taken into account, such benefits are not included.

Public health benefits

Public health benefits have very often also been mentioned, as the argument goes that the increased awareness on sport before, under, and after a large sporting event inspires and motivates especially children to participate in sports themselves. Increase in physical activity is then expected to improve public health, and save money for the society in terms of medical care in the long run. Much of the academic literature, however, reveals skepticism towards the argument, as most studies fail to show this positive relationship (e.g. Murphy & Bauman, 2007; McCartney et al., 2010). The report by (Rambøll Management, 2006a), which this analysis on many aspects builds upon, for instance includes a very large amount of benefits related to improvements in public health. The study which they build their argumentation upon is a study by Veal & Toohey (2005), which shows a general increase in physical activity due to the 2000 Olympics in Australia. The report, however, is inadequate for the purpose, as it actually displays that the Olympic sports experiences a decline in participation numbers in the period of the Olympics, while it is the non-Olympic sports that experiences increases, which does not correspond to the idea of the Olympics providing awareness on the Olympic sports and thus increases in sports activity. Professor Rasmus Storm of the University of Southern Denmark for instance argues that despite being the highest promoted and successful sport in Australia, swimming experienced a drop in participation numbers when the numbers were measured one year after the games. The commercial value of the UEFA Championship will not automatically equal an increase in football participation numbers. Storm (2010) furthermore argues, that physical activity of parents, nearness and access to facilities, and good association offers are much more important for children´s activity than seeing for instance Caroline Wozniacki, or Lionel Messi raise a trophy. Due to the empirical skepticism towards the public health benefits, such is not included as a direct quantified benefit. With that said, a clear and determined strategy might still affect the motivation to participate in a positive way (Storm, 2010). Even if it does not result in actual sports participation, the (somewhat limited) inspirational factor may still represent a value to the Danish population. As a consequence, it is found appropriate to include it as part of the CVM, where it reflects the value asserted to the increase/decrease in social well-being on

behalf of the Danish population´s perception of the issue[49]. The final uncertain argument often used to promote MSEs is the event legacy as described in part 2.2.3.

Event legacy

The most important part of the legacy of a MSE is said to be the future increase in tourism, which is highly related to the investments made for the event, and not least to the promotional effect the event creates. The promotional value of the UEFA Championship in terms of displaying Denmark, and its host cities, to the rest of the world would be thought to have large potential significance due to the many hours of media coverage by international media. It was for instance estimated, that the visibility of host cities names on perimeter boards during the EURO2008 reached a total of seven hours, representing a value of €90 million (UEFA, 2008a, p. 6). However, a mega-event is merely nothing but a flash in history, and the tourism for a city like for instance Copenhagen is likely to be more affected by its broader environment such as competitors, climate, terrorism, and the media than by the limited influence that organizers of sports events can create. It is therefore very important to remember that even if a positive promotion effect is achieved, it will not last forever (Solberg & Preuss, 2007, p. 220). Oldenboom (2006, p. 142) for instance argues that only two months after the EURO2000 up to 55 % of random respondents in five European countries could not answer which country(s) had hosted it. Furthermore, according to Solberg & Preuss (2007, p. 220), five years after the EURO1996 in England only 10 % of respondents in France, Italy, and Spain remembered where it had been hosted. It is important to state that the same event can, and most likely will, create different levels of tourism legacy in different cities based on the additional attractiveness created in the city, and the political targets pursued for the event. For instance, the 1996 Olympics in Atlanta did not create the same tourism attractiveness as the 1992 Barcelona Olympics (Preuss H. , 2007b, p. 215). For the 2000 Sydney Olympics, the tourism legacy was estimated at 1.0 % in 2001 and 0.6 % in 2002, translating into an additional amount of around US $150 million in the two years following from the Olympics (Access Economics PTY Limited, 2010, p. 23). However, others found this estimation to be way to optimistic, and found that the legacy of the 2000 Sydney Olympics actually ended up negative (ETOA, 2008). In addition, both Portugal who hosted the EURO2004 and South Africa who hosted the FIFA World Cup 2010 experienced loss in tourism the year after hosting (Sunden, 2012). It is hard to determine whether a Danish UEFA Championship would attract post-tourism, and would largely depend on the successful/unsuccessful staging of the championship, as well as the degree of exploitation of the opportunities provided by hosting the championship (i.e.

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[49] It is included as the item "Motivation and inspiration for people to participate in sports" which by further definition does not state anything about increase in public health.

investments in infrastructure, promotion etc.). The tourism legacy, and especially the increase in recognition and awareness of the host cities (i.e. promotional value), largely vary between the participating nations in terms of their performance at the UEFA Championship, and the cultural differences (Oldenboom, 2006, pp. 145-52). Interestingly, Oldenboom (2006, pp. 150-52) also accounts for the changes in intention to visit the Nederlands prior to, and after the UEFA Championship, and can therefore be interpreted as an indicator of the promotional effect. The changes are very small for each nation's respondents, thus implying that no tourism legacy was to be expected from the EURO2000. Accounting for such changes for the EURO2024 would require careful ex-ante and ex-post surveys to precisely reveal and value changes in image perceptions and awareness, which goes beyond the prospects of this paper.

Additional legacy effects have the potential to occur if a sufficient strategy is made towards leveraging them, but these are not included as monetized items in the thesis either[50]. This is partly due to uncertainty regarding the realization of them, and partly due to the difficulties in estimating the value of them accurately ex-ante.

Other non-directly quantifiable effects of the UEFA Championship are the intangible benefits.

4.4.5 Intangible benefits

In the same way as the intangible costs created by the magnitude of and attention for the event, benefits are also said to develop representing an increase/decrease in social well-being for the citizens. This shows especially through feelings of national pride, happiness, and identity created by the temporary "fuzz" and attention shown towards the host country. Residents may feel truly proud, and as a consequence unite because of the possibility to display their country to the outside world (Heyne et al., 2010).

Atkinson et al. (2008) found in relation to the London 2012 Olympic Games that the five most important intangible benefits for hosting the Olympics were[51]: "Motivation and inspiration for people to participate in sports", "Uniting people/Feel-good factor/National pride", "Legacy of sporting facilities", "Awareness of disability"[52], and "Possible environmental improvements". In addition, "Promotion of healthy living" and "Cultural and social events" did not matter so much, but are still included in this

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[50] Except the value of the stadiums after the UEFA Championship, and some of the intangible impacts which might be interpreted as representing event legacies. Legacy from infrastructure are commonly mentioned as a major potential benefit, but no such investments are included in this analysis, thus no legacy.

[51] Definitions of the costs and benefits as presented to the respondents can be found in appendix H.

[52] It refers to the experiences of the 12-day Paralympics that accompany the regular Olympics. Even though UEFA strive to improve possibilities for disabled to participate in sports, it is not expected to have nearly the same effect as the Paralympics, thus it is left out.

analysis as perceptions may differ. Furthermore, UEFA strives to achieve improvements to the quality of life by the UEFA Championship from six aspects. Those are focus on racism and discrimination, football for disabled persons, football and health, football and humanitarian aid, and football for the environment, which for the analysis creates two additional categories: "Focus on racism and discrimination" and "Humanitarian awareness". A last category of potential benefit is included as a "Sports related benefit", as a hosting of the UEFA Championship guarantees participation, and almost always provides some sort of home-crowd advantage. It will most likely represent a value to part of the population to have the national team directly qualified for the tournament. Furthermore, the staging of a successful MSE like the UEFA Championship on Danish ground would perhaps open doors towards at some point in time hosting even more MSEs (Rambøll Management, 2006a). This might also represent value to human life.

The following section presents the result of the CVM for the intangible impacts, which provides for a quantification to be included in the CBA.

4.5 Contingent Valuation Results: Quantification of intangible impacts

The sample consists of 309 respondents with a non-included dropout of 11 %. After removal of cases with missing values[53], and/or suspicious and erratic responses, the final sample consists of 273 respondents, whose sample characteristics[54] are displayed in table 4.17 on the following page. As seen, 51 % are men and the average yearly household income DKK 450,000, which both correspond to the overall Danish population. The sample contains a bit less respondents living in Jutland by percentage than the distribution of people in the whole of the population (38.7 % in the sample versus 46.0 % in the total). The average age and educational level does not correspond entirely to the overall Danish population. The sample has an average age of 34 compared to 41 in the total population, and the sample contains far more well-educated people (e.g. medium-, long-cycle higher education etc.), and less with vocational training and primary school as their highest completed education than the total of the population. This is due to the majority of respondents being captured through online means such as the social media and QR-Codes, where younger and well-educated people are expected to be represented the most.

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[53] The data still displays a lot of respondents with missing values. This is due to data transformation for purposes of the processing and analyzing of the data, and thus not an indicator for real missing values, but instead options chosen like for instance "Don´t know", "Irrelevant" etc.

[54] Some studies also use marital status to characterize respondents. In order to limit the extent of the questionnaire to a minimum this was a question that were left out, and the respondents are characterized using other descriptors.

Table 4.17: Summary of sample characteristics

Variable/description	Sample (n=273)	Population (n=5.561.000)
Males (%)	51%	50%
Females (%)	49%	50%
Average age*	34 years	41 years
Average annual household income**	DKK 450,000	DKK 458,527
Education (%)		
Folkeskole (Primary school)	6.2%	30.5%
Almengymnasial (Upper secondary school)	17.2%	6.3%
Erhvervsgymnasial (Commercial upper secondary school)	6.2%	2.3%
Erhvervsuddannelse (Vocational training)	15.8%	32.7%
Kortere videregående (Short-cycle higher education)	8.1%	4.3%
Mellemlang videregående (Medium-cycle higher education)	27.5%	12.9%
Lang videregående (Long-cycle higher education)	17.9%	6.7%
Researcher	0.0%	0.4%
Other	0.7%	3.7%
Respondents in area (%) ***		
Jutland	38.7%	46.0%
The islands	61.3%	54.0%
Level of football interest (%)		
Fan of one or more team(s), and often goes to the stadium, or watch matches on TV	31.9%	-
Not fan of any team, but sometimes or often goes to the stadium, or watch matches on TV	54.2%	-
Not fan of any team, and never goes to the stadium, or watch matches on TV	13.2%	-

* Using mid-points of intervals. Group <18 recieves a mean value of 9, and >65 recieves the value of 71 as the life expectancy in Denmark is 78
** Using mid-points of median interval
***Using Zip codes
Note: Not all the figures add up to 100% due to non-responses

Source: Population data from CIA World Factbook and Statistikbanken.dk (2011 data).

The sample furthermore reveals a high general interest in football with 31.9 % rating themselves being fans of one or more teams, and often goes to the stadium, or watch matches on TV, while 54.2 % says they are not fans, but sometimes or often goes to the stadium, or watch matches on TV. Only 13.2 % states that they are not fans, and never goes to the stadium, or watch on TV. In addition, 50.9 % state that they watched many or almost all games during the EURO2012.

Support for the EURO2024

The overwhelming majority supports a combined Danish/Swedish bid for the EURO2024 (86.1 %), while fewer supports a pure Danish bid (67.0 %). The lower support for an entirely Danish bid may be reflected in the fact that only 56.8 % believes in the capability of Denmark to organize the UEFA Championship on their own, while 94.5 % believes in the capability of organizing it in co-operation with Sweden. With respect to use and non-use values, 65.9 % says that they will attend at least one match if EURO2024 were held in Denmark/Sweden, and 72.9 % says that they will in the case of Denmark alone. Furthermore, 67.8 % will attend a fan-zone arrangement at least once in the DK/Sweden case, while 71.3 % will in Denmark alone. This reveals a high interest in both attracting the UEFA Championship, and attending it.

4.5.1 WTP for scenarios

With respect to the two scenarios[55] presented to the respondents, the WTP a positive amount for EURO2024 in Denmark alone is slightly higher (36.6 %) than for DK/Sweden (34.4 %), which is somewhat surprising, as respondents earlier generally indicated that they were more supportive of a combined DK/Sweden bid. For the actual amount of WTP, a large disparity is found between mean and median WTP values with the median value being 1 (DKK 0) in both scenarios, and the mean value respectively 4.77 (approx. DKK 142.75)[56] in the DK case, and 4.34 (approx. DKK 118.25) in the DK/Sweden case. No significant WTP to avoid the UEFA Championship were found. According to Atkinson et al. (2008, p. 431), it is not uncommon to find a skewed distribution of WTP values between median/mean values within CVM studies of environmental and cultural goods because there may be a small number of respondents bidding large values, and conversely a large number of respondents bidding very low, and in this case, zero values. A cluster analysis supports this argument by providing two final clusters. One with a large number of respondents (n=178), and one with a smaller number (n=46), but with the smaller cluster displaying by far the highest mean WTP, and the bigger cluster showing only very limited mean WTP (see appendix J[57] for the frequencies on WTP of the clusters). Dividing the respondents into low (n=36), medium (n=148), and high football interest (n=87)[58] furthermore reveals, as expected, that the level of football interest may be an indicator of WTP, as mean WTP for people with a high football interest is higher than the other groups (see appendix K for mean values of WTP for low, medium, and high levels of football interest). A "One-Way ANOVA" (see appendix L) reveals that high versus medium/low football interested groups are significantly different in terms of WTP with regard to WTP for scenario 1 (F=9.32; $p < 0.001$) and scenario 2 (F=7.43; $p < 0.001$). In the same way there is a significant difference between WTP for the intangibles for scenario 1 (F=5.14; $p < 0.05$) and intangibles for scenario 2 (F=5.65; $p < 0.05$) among people with high and people with low football interest. The dilemma from an aggregation point-of-view is that because of this skewed distribution, the mean WTP gives "excessive" weight to respondents who have a strong preference for the scenario presented. However, the mean WTP is still the best indicator of the projects true worth for the respondents, as it displays a total picture

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[55] One of the scenarios has already been presented in section 3.2, and both can be seen in the questionnaire in appendix B.

[56] The mean is transformed to a value by splitting the interval 4 into four equal parts (1) 100-112.5; 2) 112.5-124; 3) 124-136.5; 4)136.5-149), and then using the midpoint of the interval in which the mean value falls (1=<4.25, 2=4.25-4.50, 3=4.50-4.75, 4=>4.75).

[57] Appendix J contains a list of definitions for the various variables displayed in tables throughout this section.

[58] *N* in each group fluctuates a bit for each of the WTP variables as "don´t know" responses differ. The exact numbers are displayed in appendix K. The same goes for the "Independent Sample T-test" in section 4.5.4 (see appendix N for full results).

of the WTP, while the median would be more suitable as an indicator of the possible political acceptability of the project in terms of raising local taxes for households to pay for the championship. This is because the median measures the amount that at least 50 % of the sample is willing to pay, and therefore reflects the potential outcome were the proposal actually put to a referendum (Atkinson et al., 2008, p. 433). Consequently, the mean value is the most suitable for the purpose of the CBA, as the aim is not to determine political support for the project, but to determine total WTP by the population. A summarization of the EURO2024 support follows from table 4.18.

Table 4.18: Overview of respondents EURO2024 support

Variable/description	Scenario 1 (DK alone)	Scenario 2 (DK/Sweden)
EURO2024 support		
Bid support (%)	67.0%	86.1%
Trust in organisational capability (%)	56.8%	94.5%
Respondents who expects to see at least one match at the stadium (%)	72.9%	65.9%
Respondents who expects to visit fan-zones at least once (%)	71.3%	67.8%
WTP perception		
Positive WTP for scenarios (%)	36.6%	34.3%
Mean amount of WTP for scenarios (DKK)	DKK 142.75 (pr. person)	DKK 118.25 (pr. person)

4.5.2 Perception and WTP for intangible impacts

The main purpose for the CVM is to elicit WTP for the intangible impacts of the UEFA Championship. In order to do that, it is first beneficial to get an idea of which of the intangible costs and benefits are actually important for the respondents, and therefore must be expected to facilitate the WTP. These can be seen in the table below.

Table 4.19: Importance of intangible impacts to people from hosting the EURO2024

Category of intangible impact	Mean (Lowest:0 - highest:10)
Benefits	
Uniting the nation/feel-good factor/national pride	7.46*
Cultural and social events	7.15*
Motivation and inspiration for people to participate in sports	7.11*
Sporting benefits	7.06*
Future usage of sports facilities	7.00*
Increased focus on racism and discrimination	5.35
Promotion of humanitarian causes	5.09
Environmental improvements	4.60
Promotion of healthy living	4.32
Costs	
Increased safety risk	6.47*
Excessive media coverage	6.45*
Transport delays	6.06*
Increased risk of petty theft	5.91*
Crowding	5.72
Local disruption during construction	5.17

* Significantly important based on a "One-Sample T-Test" (Test value=5)

In total, 87.2 % of the respondents rate the intangible benefits as being important for them as a consequence of the EURO2024. In comparison, Dawson et al. (2008, p. 310) find 75 % of their respondents to rate the intangibles as important. The significantly important benefits based on a "One-Sample T-Test" (see appendix M for test output) are the uniting of the nation/feel-good factor/national pride (t=16.83; $p < 0.001$), cultural and social events (t=15.56; $p < 0.001$), the motivation and inspiration for people to participate in sports (t=13.04; $p < 0.001$), the sporting benefits (t=13.54; $p < 0.001$), and the future usage of sports facilities (t=13.35; $p < 0.001$). The highest rated costs are similarly increased safety risk (t=9.37; $p < 0.001$), excessive media coverage (t=8.28; $p < 0.001$), transport delays (t=6.17; $p < 0.001$), and increased risk of petty theft (t=5.19; $p < 0.001$). The uniting of the nation etc., the motivation for people to participate in sports, and the legacy of sports facilities are also rated as some of the most important intangible benefits in the study by Atkinson et al. (2008). In contrast, promotion of healthy living (t=-3.74; $p < 0.001$), environmental improvements (t=-2.40; $p < 0.05$), increased focus on racism and discrimination (t=1.96; $p > 0.05$), and promotion of humanitarian causes (t=0.53; $p > 0.05$) score the lowest as benefits, and are not significantly important, while local disruption due to building projects (t=0.98; $p > 0.05$) and crowding (t=4.20; $p < 0.001$) do in terms of costs. It is a little surprising that especially the promotion of healthy living score as low as it does. It can probably be attributed to the circumstance that football in Denmark, for many, is closely related to unhealthy products such as beer and junk food, so that people simply do not believe that a UEFA Championship would create awareness on healthy living. The same skepticism of the positive effect of the item to occur is likely to be the case in terms of environmental improvements, racism/discrimination, and humanitarian causes as well. Open comments in the survey support the skepticism. For instance, one respondent specifically mentioned the sponsorship of McDonalds to be harmful to his perception of the health impact of the UEFA Championship. The fear of an increased safety risk are also in common with the Atkinson et al. (2008) study. The possibility of excessive media coverage are, however, a distant lowest rated in their study, while it is rated as the second most important in this one.

The essential point is how much the respondents are willing to pay for these intangibles considering that there are both positive and negative effects. Slightly lower mean WTP for these non-use values appear, while median is still zero. The mean WTP is for DK/Sweden 4.15 (i.e. DKK 106.25 using mid-point of intervals), and for DK alone 4.73 (i.e. DKK 130.25 using mid-points of intervals). This is an important finding indicating that there is only slight difference with regard to WTP in terms of use and non-use values, meaning that the respondents must already have considered the intangibles to be a major part of the UEFA Championship when considering their WTP for the scenarios earlier in the questionnaire.

This is also reflected in the fact that 87.2 % rated them as being important to begin with. Based on these results, I can now estimate an aggregate value for the intangible impacts of hosting the EURO2024 in Denmark.

4.5.3 Aggregation of WTP for intangibles

There are approx. 5,561,000 people in Denmark and subtracting all under the age of 16 leaves us with a total number of 4,507,431 people (statistikbanken.dk). Applying the mean WTP for the intangible impacts in scenario 1 (DK alone) of DKK 130.25 reveals an estimated aggregate benefit for Denmark of the EURO2024 of DKK 587.1 million, and in scenario 2 (DK/Sweden) this number becomes DKK 478.9 million[59]. These figures can be interpreted as being equal to the CS for the intangible impacts, as the intangibles are created free as a by-product of the event; and therefore does not have a market price (i.e. WTP - market price = CS). So, as can be seen, the total value attached to the intangible impacts by the Danish population is of a noteworthy size in relation to the financial economic costs and benefits of the EURO2024. It should be noted that Heyne et al. (2010, p. 208) actually found that the amount of people who were willing to pay for the FIFA World Cup 2006 actually increased from below 20 % to over 40 % from ex-ante to ex-post in their study, meaning that a higher total WTP could in fact easily be the case here also. The cause behind the large change can be found by interpreting the UEFA Championship as an "experience good" like mentioned in section 2.2.2. Results on WTP for sports events vary largely based on country, event, population, and whether or not both tangible and intangible impacts are considered. For instance, Barros (2006) finds very low WTP values for the EURO2004, while Atkinson et al. (2008) and Dawson et al. (2008) both finds high WTP values for intangible impacts for the Olympics in London. Therefore a direct comparison towards other studies is not made.

A couple of remarks upon the survey design are necessary to account for the biases in the data collection, and the implications for the results.

4.5.4 Biases, validity, reliability, and the implications for results

The questionnaire proved to have a couple of caveats. First of all, it is common to term respondents who indicate a zero WTP as protest votes, in most cases, due to the payment vehicle (i.e. an immediate one-year tax). This analysis does not account for such protesters as for instance Atkinson et al. (2008, p. 429) and Dawson et al. (2008, p. 310) do who presents numbers of 7 % and 13 % for the 2012 Olympics. Much of the funding would most probably have to come out of taxes, so in that way there is no point in

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[59] In 2012 current prices as respondents are asked about a one-time immediate extra tax payment.

removing the protest votes from the equation. On the other hand protest voters may not reflect very well the opinion towards the actual theme under investigation, but merely a stand towards politics (raising taxes), so in that regard it would have been beneficial to exclude them. A couple of protesters were nevertheless identified through open comments regarding the WTP through taxes in oppose to through private initiatives. Despite the payment vehicle providing protesters, it is still perceived as the most suitable and realistic for the purpose, and as Dawson et al. (2008, p. 308) mentions it; if a voluntary payment is selected as payment vehicle, respondents have a tendency to overstate their willingness to contribute to ensure that the project goes ahead, and then rely on others to make up the funding. That would not have provided any more precise results. Most of such protesters have nevertheless been removed from the sample as cases with missing values or cases with erratic answers. Quite a lot of missing values/erratic answers was detected, especially in the questionnaires filled out by hand. This is due to the fact that many failed to understand that they had to provide answers for both scenarios even though they were clearly instructed that they should. Besides this, question 11, which asked respondents to rate how big a part the intangibles represented of their WTP for the UEFA Championship proved to be too difficult to answer, and is not perceived to have provided valid answers and consequently not used.

The validity of CVM studies is commonly assessed through "construct validity" which examines if the relationship between WTP and other indicators are in accordance with expectations (Atkinson et al., 2008, p. 433). The most important indicator must be expected to be the level of football interest, which has already proved to show significant differences regarding WTP. Even though more elements should be tested (e.g. via parametric tests) in order fully to account for the construct validity, it indicates that the validity is acceptable. There were furthermore not found any indications that any other of the questions should have provided invalid answers (besides question 11). In terms of reliability it would be very beneficial to carry out a similar study at another point in time, as CVM studies are often criticized for being too unreliable, imprecise and biased (Dawson et al., 2008, p. 308). As the survey builds upon a specific scenario with specific biases, and a high degree of hypothetically, it would be unlikely that other analysis found the same results, unless perhaps if they applied the exact same scenarios, and found the exact same biases.

Besides the caveats caused by the design of the questionnaire, the means of distribution also provides some biases which must be considered. First of all, attention should be shown towards the "warm glow" effect, as described by Venkatachalam, 2004, (p. 99), which says that there is a tendency to exaggerate

WTP in face-to-face interviews. The largest part of the surveys were collected online though, so it is not expected to have a significant effect on the results. Further, clearly erratic responses have been removed to account for such. Ideally for the purpose of the analysis, a completely random sampling approach would have been preferred, but due to the limited resources available, it had to be only partially random. The distribution of the surveys has therefore, as expected, not provided perfect sample characteristics. It is important to state that the sample reveals a lack of respondents with primary school and vocational training as well as elderly people, thereby not being perfectly representable for the Danish population. This could, if the WTP from these groups are lower than the other groups in the sample, provide a bias in terms of the total aggregated amount becoming too high. An "Independent Samples T-test" is therefore run to check for significant differences in WTP between groups with primary school or vocational training and the rest of the sample, and the same test are run to check for differences between people under the average age and above the average in the sample[60]. Appendix N shows the output of the tests, which by the look of the levels of significances, shows that the underrepresented group with primary school or vocational training ($n=57$) does not have significantly different mean WTP than the other groups ($n=197$) neither for WTP for scenario 1 ($F=0.80$; $p > 0.05$), WTP for scenario 2 ($F=1.61$; $p > 0.05$), WTP for intangibles only scenario 1 ($F=0.239$; $p > 0.05$), nor for WTP for intangibles only scenario 2 ($F=0.02$; $p > 0.05$). So, there does not appear to be an aggregation problem in terms of education. The same is not the case when looking at age. The test output there shows that the groups differ with regard to all of the four relevant WTP variables tested. Surprisingly though, a look at the mean values reveals that the age group above the average in the sample ($n=155$) actually has higher WTP than the group below ($n=101$) for both scenario 1 ($F=4.19$; $p < 0.05$), scenario 2 ($F=10.98$; $p < 0.05$), intangibles only for scenario 1 ($F=37.39$; $p < 0.001$), and intangibles only for scenario 2 ($F=15.01$; $p < 0.001$).This actually indicates that a higher average age in the sample could perhaps have provided a higher average WTP, and therefore a higher total aggregated amount for the population. As stated earlier though, a careful approach is chosen towards not overestimating benefits of the project, so it does not represent a problem that the aggregated amount may in fact be even higher had the sample been more representative in terms of age. Overall, the sample seems to be somewhat representative for the Danish population, and with the biases in mind allowed for a justified aggregation of the individual average WTP´s for illustrative purposes.

Having estimated both tangible/intangible impacts of EURO2024 allows for the final CBA next.

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[60] To be completely precise a test should have been run to check for differences between each single under-represented group compared to the rest of the sample. It is, however, perceived sufficient simply to look at the groups in this way for the purpose of this analysis.

5. Results of the CBA and implications for the EURO2024

Having quantified both the tangible and intangible impacts of the EURO2024 allows for a presentation of the data in a final CBA account. The scenarios and their respective PV´s and the NPV are presented first in an account excluding the intangibles, and then in an account including all impacts. In the subsequent sections the sensitivity of the results, as well as the recommended alternative are presented.

5.1 Cost-benefit account for the EURO2024

The account in table 5.1 presents the PV´s of the project (in 2012) for each item, as well as displaying the final NPV of each scenario for the tangible impacts of the EURO2024[61].

Table 5.1: CBA account for the tangible costs and benefits of hosting the EURO2024

(PV, DKK million)	Scenario 1 (DK)	Scenario 2 (DK/Sweden)
Tangible costs		
Stadium investments	2,699.0	660.4
General Infrastructure	0	0
Event related infrastructure	50.6	25.3
Media facilities	70.8	35.4
Security and safety	492.0	246.0
Investments in hotel capacity	0	0
Costs of preparation and operational costs for the government	306.1	153.1
Bidding and promotional costs	222.3	134.4
Tax exemption for UEFA	117.5	58.8
Total of tangible costs	3,958.3	1,313.3
Tangible benefits		
Increased tourism	865.8	488.2
Expenditure by LOC and UEFA officials	1,224.2	730.8
Proceeds from national team lodging	454.1	227.0
Proceeds from media lodging	430.2	118.3
Proceeds from lodging and additional expenditure by sponsors	465.4	186.1
Total of tangible benefits	3,439.7	1,750.4
NPV of EURO2024	**DKK -518.6 million**	**DKK 437.1 million**

As expected, the largest expenditure in both scenarios derives from stadium investments and security/safety. In respectively scenario 1 and 2, these figures amount to DKK 2.7 billion and DKK 660.4

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[61] Nominal values of the project can be seen in appendix O.

million for stadium upgrades, and DKK 492.0 million and DKK 246.0 million for security/safety. In oppose to many other countries, a EURO2024 in Denmark (or DK/Sweden) would not necessarily require substantial investments in infrastructure, but only minor event-specific investments. Instead, the costs for preparation and operational costs for the government amounts to respectively DKK 306.1 million in scenario 1 and DKK 153.1 million in scenario, making it the third largest cost item. Costs for bidding and promotion reach an amount of approx. DKK 222.3 million in scenario 1 and DKK 134.4 million in scenario 2, while tax exemptions and media facilities only represents minor costs. The total net costs in scenario 1 are DKK 4.0 billion and DKK 1.3 billion in scenario 2.

The largest benefits come from the expenditure of the LOC and UEFA officials with respectively DKK 1.2 billion in scenario 1 and DKK 730.8 million in scenario 2. The second largest benefits come from the expected additional tourists with DKK 865.8 million in scenario 1 and DKK 488.2 million in scenario 2. The remaining benefits are expected to come from national teams, media people, and additional expenditures by VIP´s and sponsors of an aggregated amount of DKK 1.4 billion in scenario 1 and DKK 531.5 in scenario 2. The total net benefits accrue to DKK 3.4 billion for scenario 1 and DKK 1.8 billion for scenario 2. Scenario 1 thus reveals a total deficit of DKK -518.6 million, while scenario 2 shows a surplus of DKK 437.1 million. As a result, only a EURO2024 in Denmark/Sweden would provide a welfare gain. In theory, if the benefit were divided equally for scenario 2, it would provide a benefit of DKK 97 per Danish citizen above the age of 16. On the contrary, the Danish citizens would have to assign at least DKK 116 of value each to the increase in social well-being caused by the EURO2024 for scenario 1 to be feasible. Including intangible impacts for scenario 1 reveals that the population, in fact, do assign at least this amount to the intangibles. This can be seen in the final CBA account in table 5.2 on the following page.

Including the significantly important intangible impacts shows that the WTP by the Danish population for these of DKK 587.1 million in scenario 1 increases the bottom-line into a surplus of DKK 69.0 million. The surplus in scenario 2 increases by a DKK 479.0 million added value from intangibles to DKK 916.0 million. Thus including both tangible and intangible impacts of the EURO2024 actually shows that the benefits outweigh the costs in both scenarios and the EURO2024 in other words increases welfare. Even though both project alternatives show a bottom-line welfare gain to society, one alternative must be chosen as the alternatives are mutually exclusive. In order to decide upon an alternative it is important to assess the key uncertainties for each alternative, and how they affect the final project outcome. Furthermore, the aforementioned decision-rules are applied to help facilitate decision-making.

Table 5.2: Total CBA account of cost and benefits for the EURO2024

(PV, DKK million)	Scenario 1 (DK)	Scenario 2 (DK/Sweden)
Tangible costs		
Stadium investments	2,699.0	660.4
General Infrastructure	0	0
Event related infrastructure	50.6	25.3
Media facilities	70.8	35.4
Security and safety	492.0	246.0
Investments in hotel capacity	0	0
Costs of preparation and operational costs for the government	306.1	153.1
Bidding and promotional costs	222.3	134.4
Tax exemption for UEFA	117.5	58.8
Total of tangible costs	3,958.3	1,313.3
Tangible benefits		
Increased tourism	865.8	488.2
Expenditure by LOC and UEFA officials	1,224.2	730.8
Proceeds from national team lodging	454.1	227.0
Proceeds from media lodging	430.2	118.3
Proceeds from lodging and additional expenditure by sponsors	465.4	186.1
Total of tangible benefits	3,439.7	1,750.4
Intangible costs		
Increased safety risks	-	-
Excessive media coverage	-	-
Transport delays	-	-
Increased risk of petty theft	-	-
Intangible benefits		
Uniting people/feel-good factor/national pride	-	-
Cultural and social events	-	-
Motivating/inspiring people to participate in sports	-	-
Sports related benefits	-	-
Future usage of sports facilities	-	-
Total of intangible impacts	587.1	479.0
NPV of EURO2024	**DKK 69.0 million**	**DKK 916.0 million**

5.2 Sensitivity analysis and recommended alternative

Due to the uncertain character of an ex-ante CBA the outcome of the project can easily be affected by several unknown factors. Knowing exactly how sensitive the outcome is to these factors can help determine whether it is worthwhile spending more time and money to obtain more precise and up-to-date data. It also aids in communicating to decision-makers the extent of uncertainty and risk in each of the project alternatives. The limitations to the analysis lie in the fact that it only accounts for changes in

one variable at the time, holding all others constant. In the real world, factors would be likely to interact. However, it still acts as a helpful tool in exploring the importance of the risks and uncertainties, and the resulting sensitivity of the project alternatives (Watson, 1998, p. 46). The sensitivity analysis for the EURO2024 is displayed in table 5.3 below.

Table 5.3: Sensitivity analysis on key costs and benefits

Expenditure / Benefit item		Scenario 1 (DK alone)		Scenario 2 (DK+SE)	
		NPV (DKK million)	Variance (DKK million)	NPV (DKK million)	Variance (DKK million)
Base case (incl. Intangibles)	🟡	68.5		🟢 916.0	
+50% stadium investment	🔴	-1,281.0	-1349.5 🟢	585.8	-330.2
-10 % stadium investment	🟢	338.4	+269.9 🟢	982.0	+66.0
+10 % tourism revenue	🟢	155.1	+86.6 🟢	964.8	+48.8
-50 % tourism revenue	🔴	-364.4	-432.9 🟢	671.9	-244.1
+10 % LOC and UEFA expenditure	🟢	190.9	+122.4 🟢	989.1	+73.1
-10 % LOC and UEFA expenditure	🔴	-53.9	-122.4 🟢	842.9	-73.1
+50 % Security and safety	🔴	-177.5	-246.0 🟢	793.0	-123.0
-10 % Security and safety	🟢	117.7	+49.2 🟢	940.6	+24.6
2 % discount rate	🟡	83.6	+15.1 🟢	1,082.2	+166.2
6 % discount rate	🟡	75.8	+7.3 🟢	792.7	-123.3

Expenditure / Benefit item		Scenario 1 (DK alone)		Scenario 2 (DK+SE)	
		NPV (DKK million)	Variance (DKK million)	NPV (DKK million)	Variance (DKK million)
Base case (excl. Intangibles)	🔴	-518.6		🟢 437.1	
+50% stadium investment	🔴	-1,868.1	-1349.5 🟢	106.9	-330.2
-10 % stadium investment	🔴	-248.7	+269.9 🟢	503.1	+66.0
+10 % tourism revenue	🔴	-432.0	+86.6 🟢	485.9	+48.8
-50 % tourism revenue	🔴	-951.5	-432.9 🟢	193.0	-244.1
+10 % LOC and UEFA expenditure	🔴	-396.2	+122.4 🟢	510.2	+73.1
-10 % LOC and UEFA expenditure	🔴	-641.0	-122.4 🟢	364.0	-73.1
+50 % Security and safety	🔴	-764.6	-246.0 🟢	314.1	-123.0
-10 % Security and safety	🔴	-469.4	+49.2 🟢	461.7	+24.6
2 % discount rate	🔴	-503.5	+15.1 🟢	603.3	+166.2
6 % discount rate	🔴	-511.3	+7.3 🟢	313.8	-123.3

Note: Red: NPV < DKK 0 million; yellow: NPV = DKK 0-100 million; green: NPV > DKK 100 million.

The analysis covers the uncertainties relating to the four main items of costs and benefits, respectively tourism revenue and LOC/UEFA expenditure, as well as stadium investments and security/safety. The analysis also displays how a lower (2 %) and higher (6 %) choice of social discount factor affects the project outcome. The comments and conclusions are made towards the CBA including both tangible and intangible impacts.

The stadium investment costs are of a very preliminary character, and more detailed and specialized studies are needed at a later point in time to calculate precise costs and the opportunities of expansions, adaptions, re-configuration, post-tournament utilization etc. However, to account for the risk of not being able to expand any of the stadiums in Brøndby, Århus, Odense, Esbjerg, or Aalborg to

the required size, a considerable 50 % increase is added to costs in the analysis. It is perceived unlikely that the costs will be significantly lower than the already proposed ones. However, it might be possible to make temporary expansions of existing venues instead of permanent, which could perhaps provide savings assuming that the costs of re-configurations are lower than the amount saved by building as temporary versions. This is accounted for by a 10 % decrease in stadium investments. As can be seen, scenario 1 is very sensitive towards changes in construction costs, and changes the outcome of the project to a large deficit of DKK -1.3 billion, as the costs represent a big part of the total costs and benefits of the scenario. On the other hand, a 10 % decrease in costs sends the scenario into a stronger DKK 338.4 million surplus. Scenario 2 is more robust towards changes in construction costs and continues to show a surplus of DKK 585.8 million even when increasing the costs with 50 %.

In terms of tourism revenue, the highest uncertainty derives from the amount of crowding-out. A 50 % decrease is thus included to account for those uncertainties, meaning that basically all tourism crowds out other tourism, and once again only 10 % is included on the benefit side as additional revenue. As with stadium investments a decrease in tourism revenue of 50 % means that scenario 1 also this time shows a deficit of DKK -364.4 million, while scenario 2 remains in clear surplus.

Security/safety costs also represent one of the significant and insecure items. Due to increasing/decreasing risks of especially terrorism, costs may be much higher or lower in 2024 than today. As earlier described, costs have been rising since EURO2000. To account for that a 50 % increase in security/safety costs have been included, and once again only a 10 % decrease. The 50 % increase reduces both scenarios and scenario 1 drops to a deficit of DKK -196.6 million, while scenario 2 remains in DKK 793.0 million surplus.

The same pattern shows in terms of the LOC/UEFA expenditures. Reducing the expenditure by 10 % brings scenario 1 to a DKK -53.9 million deficit, while leaving scenario 2 in a clear surplus.

As can be seen from the table, and as expected, the discount factor may also affect the project. However, in both scenarios the change is minimal in relation to the total turnover, and do not affect the sign of the final outcome of the project. It may seem strange that the 4 % discount factor shows the lowest project NPV of the three discount factors in scenario 1. This is due to the size and timing of the costs and benefits, and the associated weights the discount factor applies them (Boardman et al., 2001,

p. 229). Without being directly reflected in the NPV, the operating margin of the project does in fact still increase from the 2 %, to 4 %, and to 6 % discount factor. The development is more as expected in scenario 2 were a higher discount factor decreases NPV all the way through. Worth noting there is that the 2 % discount factor increases the NPV with approx. DKK 166.2 million to reach an NPV of almost DKK 1.1 billion[62].

In conclusion, scenario 1 is more sensitive towards changes in the primary cost/benefit items in terms of showing a final surplus or deficit. Scenario 2 is robust as it does not change to a deficit even when applying 50 % increases/decreases in the primary cost/benefit drivers. This must be interpreted as a sign that scenario 2 is fairly reliable in terms of showing a net gain for society under the conditions applied. However, it should be kept in mind that the sensitivity analysis only accounts for changes in one variable at the time, which is somewhat unlikely.

Recommended alternative

Having considered potential risks and uncertainties of both scenarios allows for decision-making rules to be applied. As mentioned earlier, the Kaldor-Hicks Criterion forms the basis for the NPV-rule. If the amounts that someone in society wins can compensate the amounts that someone else loses, and no-one is made worse off; the project is socially preferable. The NPV decision-rule reveals that both projects should be adopted in the base case as they display a positive NPV, meaning that winners could in theory compensate losers, without decreasing welfare. However, the projects are mutually exclusive so scenario 2, which has the highest NPV, is the preferred project. Including the BCR also supports scenario two with a ratio of 1.7 to 1.0. However, as earlier discussed, the BCR is seldom recommended and mostly applies as decision-making rule for projects with a budget constraint, which is not the case here. Furthermore, the IRR should not be used to rank and select between mutually exclusive projects (Atkinson et al., 2006, p. 69). The NPV thus provide the basis for the decision-making, and the recommended alternative based on the CBA is consequently a EURO2024 in Denmark and Sweden in co-operation.

In the following final section, before the concluding remarks, a discussion of the results and briefly the general prospects of hosting the EURO2024, as well as implications for future research follow.

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[62] Calculations and variations of the discount factor from 1 % - 10 % can be seen on the attached CD-ROM.

6. Prospects of the EURO2024 in Denmark

The results of the analysis differ from most academic findings that find MSEs to have a hard time proving themselves economically feasible for the host country. When considering the bottom-line results for the scenarios, including both tangible and intangible impacts of the EURO2024, surplus are reached in both even though a conservative approach have been applied throughout the analysis. Even excluding intangible impacts, and applying heavy negative fluctuations in relation to the most important drivers of costs and benefits still means a surplus for a combined Danish/Swedish bid. Accordingly, a combined Danish/Swedish EURO2024 will generate benefits for the society in the region of DKK 2.2 billion (DKK 4.0 billion for a Danish alone), and cost the society in proximity of DKK 1.3 billion (DKK 4.0 billion for a Danish alone). The costs are far lower than other hosts like for instance Ukraine that allegedly spent around US $3.8 billion for the co-hosting of the EURO2012, and even more Poland who spent US $35.6 billion of government money (Discover Ukraine Ltd., 2011). However, those two cases are extremes, as the two countries are transition economies that have utilized the tournament in order to invest heavily in infrastructure (e.g. motorways, airports etc.), hotel capacity, expensive stadiums, and general modernization and modification of the countries (Humphreys & Prokopowicz, 2007). This is reflected in the fact that the costs for the EURO2012 were up to 40 times higher than for the EURO2008 in Austria/Switzerland whom spend around US $1.1 billion in total, and approx. 10 times higher than the previous record-holder in terms of expenses of EURO2004 in Portugal (US $4.8 billion) (Discover Ukraine Ltd., 2011). The costs for Austria, as co-host in relation to the EURO2008, especially seem to be comparable to the recommended alternative in this analysis. The total costs for the federal government of Austria in terms of the EURO2008 only amounted to €130-180 million excluding security costs, which is a number similar to the one estimated in this analysis (Swiss Confederation, 2008, p. 25; Weibel & Schaer, 2008, p. 3). In both Austria and Switzerland, they were able to mostly rely on their existing infrastructure (i.e. roads, railways, airports, accommodation etc.), such that no extraordinary spending had to be undertaken in that regard (Weibel & Schaer, 2008, p. 3). The same is perceived to be the case here. The somewhat low costs estimated in this analysis in relation to some of the other UEFA Championships should essentially be found in the lack of required infrastructural improvements, and the limited investments in stadiums. Despite, Maennig & Plessis´ (2007, p. 581) claim that it is unlikely that infrastructural costs will be any lower than stadium investments, it is due to the benchmarking made towards other former hosts of MSEs perceived as very likely that the Danish infrastructure are so well-

developed that such large infrastructural improvements are not inevitably necessary. Oldenboom (2006, p. 210) support the finding that investments in MSEs need not necessarily show a bottom-line deficit as the usage of already existent venues and infrastructure can prove to be appropriate and not least beneficial.

In total, the expected costs and benefits of the project represent only a small fraction of the Danish GDP. Denmark´s GDP in 2011 was at a level of US $209.2 billion[63], meaning that the costs of approx. €245 million for staging the EURO2024 for DK/Sweden would represent only 0.022 % of the GDP. In the same way, the positive impact of the EURO2024 in DK/Sweden is only estimated to be around US $170 million in 2012; or as little as 0,015% of the Danish GDP. Neither costs or benefits as presented here would therefore be of a very significant size in relation to the Danish GDP. As a consequence, it is also very unlikely that a Danish UEFA Championship under these conditions, would bare the risk of harming the Danish economy by over-stimulating it, thus leading to inflation, as for instance Lyck (2006, p. 3) argues can happen under the right conditions. There would, undoubtedly be other projects (opportunity costs) that would yield a higher return on investment, but the fact that 86.1 % of the questioned sample of the Danish population support the bid, and that the project at least at present moment seems to provide a positive return, should count in favor of a Danish/Swedish UEFA Championship bid. However, both of the scenarios have their respective strengths and weaknesses.

6.1 Advantages/disadvantages of the scenarios

The advantage for the combined Danish/Swedish bid can be found in the bottom-line welfare increase for society. Especially the fact that only very little stadium investments would be required could be an advantage as the risk of ending up with expensive "white-elephants" would be minimized. Further, the scenario holds the highest degree of support by the population, and trust in organizational capabilities. Advantages would probably also lie in the fact that it would be more likely to win a combined bid, and the former hosts of Sweden could contribute with valuable knowledge. For both scenarios it is in common that intangible impacts play a significant role, and that no benefits are to be expected in terms of infrastructure. Disadvantages in the DK/Sweden scenario lie especially in the lack of potential future benefits accruing from the hosting, as the scenario relies heavily upon minimum investments. Denmark alone has the advantage of larger future potential benefits from newly built stadiums (which might also be a risk), and would attract more visitors. On the other hand it holds lower support by the population, would create more crowding-out due to lacking hotel capacity, require more preparational activities,

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[63] According to the World Factbook (CIA).

and in general be less beneficial to host in economic terms. It would be beneficial to know who actually receives the largest share of the benefits from the scenarios, and who pays the costs. However, a detailed description of such would require an economic impact analysis, and is thus beyond the scope of this paper. Without going into details, it is nevertheless well-known that some of the biggest winners from MSEs (besides UEFA/FIFA/IOC etc.) often are the catering, accommodation, and travel businesses while the taxpayers end up paying for most of it through public funding, which would most likely would also happen in both these scenarios (Oldenboom et al., 2002, p. 185). Having uncovered that the Danish/Swedish bid might actually prove to be feasible, and superior to the purely Danish, it should be remembered that the prospects of hosting reach far beyond economic considerations.

6.2 Prospects and desirability

The choice of host nation is to a high degree a political process that involves both strategy and lobbyism (Lotti, 2008, p. 19). It is important to remember that from UEFA's point-of-view, their product must be protected and enhanced by the choice of host country, so it is questionable whether a limited scenario, such as the one presented in this analysis, would be considered attractive enough to win the bid, or if they would instead prefer a country/countries that already have bigger and better facilities in place, and/or whom wishes to invest heavily in relation to the tournament in hope to achieve long-term effects such as for instance Poland/Ukraine have done. However, in oppose to the combined Nordic bid for the 2008 tournament, the recommended alternative in this analysis only consists of two countries, which have earlier proved successful in contrast to the four nations bid. Further, UEFA seems to have a wish to rotate the hosting of the tournament between as many parts of the European continent as possible, and Scandinavia have not hosted since 1992 in Sweden. Especially the 2008 Austria/Switzerland UEFA Championship seems to provide indications that a Danish/Swedish bid is not totally unrealistic neither in terms of win-ability nor in terms of feasibility as earlier accounted for.

Desirability of the UEFA Championship, or of MSEs in general, is more controversial and is not explicitly accounted for here. However, it is for certain that Denmark has bid for the tournament previously, and has since then showed their capability, and interest, in hosting large sporting events for instance in relation to the 2011 UCI Road World Championships. Future large events are also coming up making the debate whether to host such events very likely soon to develop again. This analysis contributes with a clear answer to that debate in terms of feasibility and the public opinion – we should and could go for it.

However, as well as other ex-ante research, this analysis have its strength and weaknesses which might have affected the results, and future research will be beneficial in order to strengthen and validate them.

6.3 Empirical contribution and future research

The strength of the contribution is that the analysis, to the best of my knowledge, is the first publicly available ex-ante CBA focusing on a MSE in a Danish setting which quantifies both tangible and intangible impacts, as well as applying a detailed approach towards tourism; thereby contributing to empirical research. The weakness of the analysis is to be found in exactly the same as in other ex-ante CBA´s. The data is highly dependent on empirical data from previous editions, and would benefit from more specialized assessments by experts in their field especially for stadium construction, infrastructure, and security/safety. Furthermore, some factors like for instance the amount of crowding-out can be nearly impossible to precisely account for ex-ante. In addition, other researchers might not choose to include the same costs and benefits, which might easily affect the results. Future empirical research would be very beneficial in terms of validating and updating the assumptions and calculations applied in the analysis. Especially the elements that incorporates a lot of uncertainty like for instance the crowding-out effects, stadium investments, LOC expenditure, security/safety, and the consumption patterns/tourism movements of the visitors. Future research would furthermore be required in order to extent the analysis on prospects and desirability of hosting the EURO2024 to more political and strategic areas as well.

7. Conclusion

Denmark has never before hosted one of the MSEs. Hosting such has become an expensive piece of effort for the host country in recent years, as heavy investments are usually required in terms of infrastructure, stadium investments, and security/safety etc., while most of the direct income from ticket-sales, broadcasting rights etc. flows directly to the governing body of the MSE (e.g. UEFA/FIFA/IOC etc.). Therefore, it is relevant to ask which cost and benefits would actually develop from hosting the EURO2024, and if the benefits outweigh the costs, so that it would be realistic in economic terms for the Danish society (perhaps in co-operation with Sweden) to take on the responsibility of hosting such an MSE; or if it has simply grown to become too big.

The analysis provides an answer based upon the current state-of-the art knowledge concerning theoretical effects of MSEs, and thus carefully addresses both the relevant tangible and intangible impacts through the method of CBA. The results show that a EURO2024 in Denmark alone will cost a discounted amount of DKK 4.0 billion (applying a 4 % social discount factor), and generate DKK 3.4 billion in tangible benefits. The main cost item are the investment in new stadium seating, split between three newly build stadiums, and six expanded ones, at a total cost of DKK 2.7 billion. The second main cost item is security/safety at a price of DKK 492.0 million. Costs of preparation and operational activities for the government (DKK 306.1 million), as well as bidding/promotional costs (DKK 222.3 million) together with tax exemptions for UEFA (DKK 117.5 million) also provide for considerable costs. In addition, minor costs are expected for event related infrastructure (DKK 50.6 million) and media facilities (DKK 70.8 million). Investments in general infrastructure are not considered as a requirement in neither scenario 1 nor scenario 2. Further, investments in hotel capacity is not estimated due to the private character of such investments, providing for the condition that they are only expected to be built if costs at least outweigh benefits. The main benefits are expected to occur from expenditures by the LOC and UEFA officials (DKK 1.2 billion), and from benefits from tourism. Even with an expected crowding-out of 50 %, and by excluding groups representing re-distributed money, the revenue is expected to reach a level of DKK 865.8 million. Further, income is expected from national team lodging (DKK 454.1 million), media lodging (DKK 430.2 million), and additional expenditures by VIP´s and sponsors (DKK 465.4 million). In total, a purely Danish hosting would show a deficit of DKK -518.6 million excluding intangible impacts.

A Danish/Swedish hosting will have the same main items of costs and benefits, while at a smaller scale. Stadium investments reach a level of DKK 660.4 million for four expanded stadiums, security/safety will reach an amount of DKK 246.0 million, while costs of preparation/operational costs amount to DKK 153.1 million, bidding/promotional costs to DKK 134.4 million, and the tax exemption to DKK 58.8 million. In total, Denmark would encounter costs of DKK 1.3 billion. The main benefits reach DKK 730.8 million in LOC and UEFA official´s expenditures, DKK 488.2 million in tourism revenue, DKK 227.0 million from team lodging, DKK 186.1 million from VIP and sponsor lodging, and DKK 118.3 million from media lodging. In total, an amount of DKK 1.8 billion resulting in a NPV of DKK 437.1 million.

The findings suggest that each Danish citizen in theory would be required to pay DKK 116 under scenario 1 for the project to be feasible, while it would provide DKK 97 of welfare gain for each citizen under scenario 2. However, including the intangible impacts, as quantified by a CVM-based survey of 309 respondents, indicates an aggregated WTP for the EURO2024 intangible impacts of DKK 587.1 million in scenario 1 and DKK 479.0 million in scenario 2, thereby altering scenario 1 to a NPV of DKK 69.0 million, and scenario 2 to a NPV of DKK 916.0 million. Consequently, it would improve welfare for the Danish society to host the UEFA Championship. In terms of the intangible impacts, it is especially the uniting of the nation/feel-good factor/national pride, cultural and social events as well as motivation/inspiration for people to participate in sport that seem to provide an increase in social well-being as a result of the UEFA Championship. Contrary, increased safety risks, excessive media coverage, and transport delays seem to be concerns. However, in total the support for both a Danish bid (67 %), and a Danish/Swedish bid (86 %) is strong. Applying the NPV-rule reveals that a Danish/Swedish alternative is to be preferred to a purely Danish alternative. Further, a sensitivity analysis reveals that a Danish/Swedish hosting is much more robust towards changes in the primary costs/benefit drivers in terms of showing a surplus than a purely Danish hosting. On that basis the Danish/Swedish alternative is the recommended one.

By being the first ex-ante CBA on a Danish MSE that include both tangible and intangible impacts as well as applying a detailed approach towards tourism, the study has contributed to empirical research on feasibility of MSEs. The prospects of actually hosting the UEFA Championship are subject to discussion, as for instance a limited edition, like the one presented in this analysis, would probably not be preferred. However, from a CBA perspective it is definitely realistic, under the scenario presented, to host a MSE (i.e. the EURO2024) in co-operation with Sweden, despite of the still increasing growth in size and expenses of the championship. Especially when considering that a conservative approach has

been applied throughout the analysis, making it likely that the increase in welfare may in fact be even higher had more optimistic assumptions been made.

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List of appendices

Appendix

Appendix A

Accounting year for tangible costs and benefits

All benefits are expected to occur in 2024 while costs are more spread out. This can be seen in table A.1.

Table A.1: Accounting year for tangible CBA account items

Costs	Year
Stadium investments	2021-2025*
General Infrastructure	-
Event related infrastructure	2024
Media facilities	2024
Security and safety	2023-2024
Investments in hotel capacity	-
Costs of preparation and operational costs for the government	2018-2025
Bidding and promotional costs	2016-2024
Tax exemption for UEFA	2024
Benefits	**Year**
Tourism revenue	2024
Expenditure by LOC and UEFA officials	2024
Proceeds from national team lodging	2024
Proceeds from media lodging	2024
Proceeds from lodging and additional expenditure by sponsors	2024

* Discounted from the years 2021-2023 in scenario 2, as there are no re-configurations to be made.

Questionnaire

Denne undersøgelse omhandler Deres holdninger til et EM i fodbold for herrer i år 2024 på dansk grund.

Spørgeskemaet er opdelt i fire dele. Der er i alt 17 spørgsmål, som tager ca. 10 min. at besvare.

Såfremt De er i tvivl om hvad de svarede på tidligere spørgsmål, eller ønsker at ændre noget, kan de blot klikke tilbage. Deres svar gemmes undervejs.

Hvad sker der med Deres besvarelse?

Deres besvarelse er anonym, og Deres svar indgår i en samlet rapport, der afleveres i form af et speciale til Syddansk Universitet.

Spørgsmål til undersøgelsen kan rettes til Mads Sørensen, på e-mail Madss07@student.sdu.dk eller telefon 29 72 99 65.

Tak fordi De vil deltage i undersøgelsen.

Kort om Europamesterskaberne i fodbold:

Europamesterskaberne i fodbold (EM) er ofte benævnt som den tredjestørste sportsbegivenhed i verden efter de Olympiske Lege og VM i fodbold. Mesterskaberne afholdes typisk i juni måned hvert fjerde år, og har en varighed af 3-4 uger. I 2024 vil 24 hold deltage. Det ledende organ for mesterskaberne er UEFA, som udvælger et eller flere værtslande. Der er typisk stor kamp om at blive værtsland, da mesterskaberne er kendt for blandt andet at tiltrække massiv mediedækning, prestige og store mængder turister med sig. Til gengæld er værtslandet ansvarlige for dele af mesterskaberne såsom tilstrækkelig infrastruktur, stadions og sikkerhed.

Denne undersøgelse:

Undersøgelsen søger at afdække muligheden for to forskellige situationer, hvilke De bedes forholde Dem til i løbet af spørgeskemaet:

1) Danmark afholder som eneste land EM i fodbold i 2024.
2) Danmark og Sverige afholder EM i fodbold 2024 i fællesskab.

DEL 1/4: Deres holdinger til og erfaring med fodboldarrangementer

Disse spørgsmål omhandler Deres erfaring og interesse i fodboldarrangementer, samt Deres interesse i et EM i 2024 i Danmark (Danmark/Sverige).

Spørgsmål 1: Hvilket udsagn beskriver bedst Deres forhold til fodbold på TV eller stadion? (Vælg én mulighed).

- ❑ Jeg er fan af flere hold, og går ofte på stadion eller ser fodbold i TV.
- ❑ Jeg er fan af ét bestemt hold, og går ofte på stadion eller ser fodbold i TV.
- ❑ Jeg er ikke fan af et hold, men ser ofte fodbold på enten stadion eller i TV.
- ❑ Jeg er ikke fan af et hold, men ser engang i mellem fodbold på enten stadion eller i TV.
- ❑ Jeg er ikke fan af et hold, og ser aldrig fodbold på hverken stadion eller i TV.
- ❑ Ved ikke

Spørgsmål 2: Hvor mange kampe vil De vurdere De så ved det netop overståede EM 2012 i Polen/Ukraine på TV eller på stadion? (Vælg én mulighed)

- ❑ Stort set alle kampe
- ❑ De fleste kampe
- ❑ Mange kampe
- ❑ Nogle kampe
- ❑ Få kampe
- ❑ Ingen kampe
- ❑ Ved ikke

Spørgsmål 3: Ville De være for eller imod at EM i fodbold kom til Danmark (eller Danmark/Sverige) i år 2024? (Vælg én mulighed i hvert scenarie)

EM i Danmark og Sverige
- ❑ For ❑ Imod ❑ Ved ikke

EM i Danmark alene
❑ For ❑ Imod ❑ Ved ikke

Spørgsmål 4: Tror De, at Danmark (eller Danmark/Sverige) organisatorisk ville være i stand til at afholde et succesfuldt EM i fodbold i år 2024? (Vælg én mulighed i hvert scenarie)

EM i Danmark og Sverige

- ☐ Ja ☐ Nej ☐ Ved ikke

EM i Danmark alene

☐ Ja ☐ Nej ☐ Ved ikke

Spørgsmål 5: Hvor mange kampe ville De tage på stadion for at se, såfremt EM kom til Danmark (eller Danmark/Sverige) i 2024? (Vælg én mulighed i hvert scenarie)

EM i Danmark og Sverige

- ☐ Så mange kampe som muligt
- ☐ Et par kampe
- ☐ Få kampe
- ☐ Ingen kampe
- ☐ Ved ikke

EM i Danmark alene

- ☐ Så mange kampe som muligt
- ☐ Et par kampe
- ☐ Få kampe
- ☐ Ingen kampe
- ☐ Ved ikke

Spørgsmål 6: Under EM bliver der etableret såkaldte "Fan Zones", hvor tilskuere fra de forskellige lande samles for at følge deres landes kampe på storskærme og nyde stemningen udenfor stadion. Hvor mange gange ville De besøge disse, såfremt EM kom til Danmark i 2024? (Vælg én mulighed i hvert scenarie)

EM i Danmark og Sverige

- ☐ Så meget som muligt, hvis jeg ikke kan få billetter til stadion
- ☐ Så meget som muligt
- ☐ Et par gange
- ☐ En enkelt gang
- ☐ Slet ikke
- ☐ Ved ikke

EM i Danmark alene

- ☐ Så meget som muligt, hvis jeg ikke kan få billetter til stadion
- ☐ Så meget som muligt
- ☐ Et par gange
- ☐ En enkelt gang
- ☐ Slet ikke
- ☐ Ved ikke

Del 2/4: Vurdering af scenarier

Disse næste par spørgsmål præsenterer Dem for to forskellige scenarier, som De bedes forholde Dem til.

Scenarie 1:

Forestil Dem at Danmark er blevet valgt som værtsnation for EM i 2024, og at 51 kampe skal spilles i løbet af 29 dage i juni måned i henholdsvis København, Brøndby, Odense, Esbjerg, Århus og Aalborg. Efter at have forberedt mesterskaberne i noget tid sker der imidlertid det, at omkostningerne overstiger det oprindelige budget, og ingen er villige til eller har mulighed for at dække den manglende finansiering. Derfor overvejer UEFA nu at flytte mesterskabet til Schweiz, som i 2008 var medvært for mesterskaberne. Der er stadigvæk en chance for at mesterskabet afholdes i Danmark, men kun hvis en række dyre sikkerhedstiltag og stadionforbedringer bliver gennemført. Disse ikke-budgetterede tiltag kan dog kun gennemføres, hvis de bliver finansieret gennem et direkte øjeblikkeligt bidrag fra den danske befolkning. Bidraget vil være ens for alle i Danmark, og skal betales via skatten i løbet af ét år. Ville De personligt være villig til at bidrage med nogle af Deres egne penge, for at sikre at EM blev afholdt i Danmark? (Vælg én mulighed)

☐ Ja ☐ Nej ☐ Ved ikke

Spørgsmål 7: Hvor meget ville De være villig til at betale? (Vælg én mulighed)

☐ 950-999 kr. ☐ 800-849 kr. ☐ 300-349 kr. ☐ 350-399 kr. ☐ 600-649 kr. ☐ 250-299 kr. ☐ 500-549 kr. ☐ 150-199 kr. ☐ 50-99 kr. ☐ 850-899 kr. ☐ 900-949 kr. ☐ 200-249 kr. ☐ 650-699 kr. ☐ 750-799 kr. ☐ 450-499 kr. ☐ 400-449 kr. ☐ 550-599 kr. ☐ Mere end 999 kr. ☐ 0 kr. ☐ 1-49 kr. ☐ 700-749 kr. ☐ 100-149 kr. ☐ Ved ikke

Såfremt de valgte netop muligheden 0 kr. Ville De endda være villig til at betale et beløb for at undgå et EM i Danmark i 2024, og i så fald hvor meget? (Vælg én mulighed)

☐ Ja (specificer hvor meget) ☐ Nej ☐ Ved ikke

Scenarie 2:

Forestil Dem denne gang at Danmark er blevet valgt som værtsnation sammen med Sverige for EM i 2024, og at 25 kampe er blevet fastlagt til at skulle spilles i løbet af 29 dage i juni måned i henholdsvis København, Brøndby, Århus og Odense. På samme måde som i scenarie 1 er der dog pludselig en række ikke-budgetterede tiltag, der kun kan gennemføres, hvis de bliver finansieret gennem et direkte øjeblikkeligt bidrag fra den danske og svenske befolkning. Ville De personligt være villig til at bidrage med nogle af Deres egne penge, for at sikre at EM blev afholdt i Danmark og Sverige? (Vælg én mulighed)

☐ Ja ☐ Nej ☐ Ved ikke

Spørgsmål 8: Hvor meget ville De være villig til at betale? (Vælg én mulighed)

☐ 250-299 kr. ☐ 0 kr. ☐ 350-399 kr. ☐ 850-899 kr. ☐ 100-149 kr. ☐ Mere end 999 kr. ☐ 1-49 kr. ☐ 550-599 kr. ☐ 600-649 kr. ☐ 150-199 kr. ☐ 50-99 kr. ☐ 500-549 kr. ☐ 400-449 kr. ☐ 800-849 kr. ☐ 300-349 kr. ☐ 950-999 kr. ☐ 450-499 kr. ☐ 700-749 kr. ☐ 900-949 kr. ☐ 750-799 kr. ☐ 650-699 kr. ☐ 200-249 kr. ☐ Ved ikke

Såfremt de netop valgte muligheden 0 kr. Ville De endda være villig til at betale et beløb for at undgå et EM i Danmark/Sverige i 2024 og i så fald hvor meget? (Vælg én mulighed)

☐ Ja (specificer hvor meget) ☐ Nej ☐ Ved ikke

Del 3/4: Afledte effekter af et EM i fodbold

De næste par spørgsmål vedrører såkaldte "afledte effekter" af EM i fodbold.

Afledte effekter af EM i fodbold

Nedenfor findes en oversigt over andre effekter end de direkte økonomiske (indtægter fra billetsalg, øget turisme, omkostninger til sikkerhed, stadions osv.), som EM potentielt fører med sig.

I det følgende bedes De forholde Dem til disse. Alle spørgsmål er på den samme side, således at De kan drage hjælp af nedenstående figur.

Potentielle negative effekter	Beskrivelse
"Crowding"	Øgede folkemængder på gaderne, i den offentlige transport og på veje og cykelstier før og under mesterskaberne.
Øget risiko for små-tyverier	Lommetyve, trick-tyve, tasketyverier osv.
Øget sikkerhedsrisiko	En øget sikkerhedsrisiko fra blandt andet terrorisme og hooligans.
Lokal forstyrrelse på grund af byggeprojekter	Larm og snavs omkring EM byggepladser og transportveje.
Transport forsinkelser	Længere rejsetider som følge af mesterskaberne.
Overdreven mediedækning	Opfattelse af overdreven mediedækning i nyheder og tv programmer.
Potentielle positive effekter	**Beskrivelse**
Forening af folket/national stolthed	Forventningen til at afholde et stort mesterskab på dansk grund, der fremmer nationens moral, image, stolthed og sammenhold. Dertil spændingen og glæden
Motivation og inspiration for folk til at deltage aktivt i sport	Inspiration børn og voksne til at spille fodbold samt rollemodeller for børn at se op til.
Fremtidig brug af sports facilliter	Oplevelsen af nybyggede og opgraderede stadions efter EM.
Miljømæssige forbedringer	Oplevelsen af øget fokus på miljømæssige tiltag på grund af kampagner og initiativer ifbm. EM.
Promovering af sund livstil	Promovering af sund kost og motion.
Kulturelle og sociale begivenheder	Glæden ved en række sociale og kulturelle begivenheder overalt i landet som følge af mesterskabet.
Sportslige fordele	Garanteret deltagelse for det danske landshold samt hjemmebanefordel, ligesom det på sigt kan bane vejen for andre store sportsbegivenheder.
Øget fokus på racisme og diskrimination	Oplevelsen af EM-relaterede kampagner, som sætter fokus på racisme og diskrimination.
Humanitært fokus	Oplevelsen af EM-relaterede kampagner, som sætter fokus på humanitære formål.

Spørgsmål 9: Vil De vurdere, at disse effekter er vigtige i forbindelse med afholdelsen af et EM? (Vælg én mulighed)

◯ Ja
◯ Nej
◯ Ved ikke

Spørgsmål 10: Hvor stor betydning vil De vurdere disse afledte effekter har som følge af et EM i fodbold? (Vælg én mulighed for hver effekt)

	0 Meget lidt betydning	1	2	3	4	5	6	7	8	9	10 Rigtig meget betydning	Ved ikke / ikke relevant
Øget fokus på racisme og diskrimination	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Forening af folket/national stolthed	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Humanitært fokus	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Kulturelle og sociale begivenheder	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Lokal forstyrrelse på grund af byggeprojekter	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Overdreven mediedækning	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Øget sikkerhedsrisiko	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Miljømæssige forbedringer	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Fremtidig brug af sportsfaciliteter	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Transport forsinkelser	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Forbedret folkesundhed	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Øget risiko for små-tyverier	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Sportslige fordele	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Motivation og inspiration for børn og voksne til at deltage aktivt i sport	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
"Crowding"	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

Spørgsmål 11: Hvor stor en samlet betydning har disse afledte effekter for Dem i forhold til afholdelsen af EM 2024? (Vælg det udsagn, som beskriver deres holdning bedst i de to scenarier)

EM i Danmark og Sverige	EM i Danmark alene
☐ De betyder samlet set, at jeg gerne vil betale et beløb for at undgå EM kommer til Danmark	☐ De betyder samlet set, at jeg gerne vil betale et beløb for at undgå EM kommer til Danmark
☐ De betyder samlet set, at jeg ikke har lyst til at betale noget for et EM	☐ De betyder samlet set, at jeg ikke har lyst til at betale noget for et EM
☐ De udgør intet af min villighed til at betale for et EM	☐ De udgør intet af min villighed til at betale for et EM

for et EM
- ❏ De udgør 10 % af min villighed til at betale for et EM
- ❏ De udgør 20 % af min villighed til at betale for et EM
- ❏ De udgør 30 % af min villighed til at betale for et EM
- ❏ De udgør 40 % af min villighed til at betale for et EM
- ❏ De udgør 50 % af min villighed til at betale for et EM
- ❏ De udgør 60 % af min villighed til at betale for et EM
- ❏ De udgør 70 % af min villighed til at betale for et EM
- ❏ De udgør 80 % af min villighed til at betale for et EM
- ❏ De udgør 90 % af min villighed til at betale for et EM
- ❏ De betyder alt for min villighed til at betale for et EM
- ❏ Ved ikke

for et EM
- ❏ De udgør 10 % af min villighed til at betale for et EM
- ❏ De udgør 20 % af min villighed til at betale for et EM
- ❏ De udgør 30 % af min villighed til at betale for et EM
- ❏ De udgør 40 % af min villighed til at betale for et EM
- ❏ De udgør 50 % af min villighed til at betale for et EM
- ❏ De udgør 60 % af min villighed til at betale for et EM
- ❏ De udgør 70 % af min villighed til at betale for et EM
- ❏ De udgør 80 % af min villighed til at betale for et EM
- ❏ De udgør 90 % af min villighed til at betale for et EM
- ❏ De betyder alt for min villighed til at betale for et EM
- ❏ Ved ikke

Spørgsmål 12: Forestil Dem, at de ikke ville have mulighed for at deltage aktivt på stadion eller i "Fan-Zones" ved et EM i 2024, og at De ser bort fra de indtægter og udgifter, der er forbundet med afholdelsen. I stedet skal De udelukkende forholde Dem til de afledte effekter, som De mener, har betydning fra et EM. Hvor meget ville De da være villig til at betale, for at EM kom til Danmark?* (Vælg én mulighed i hvert scenarie)

*Beløbet ville endnu engang skulle betales øjeblikkeligt gennem skatten, i løbet af ét år, som et ligeligt delt beløb mellem befolkningen.

EM i Danmark og Sverige	EM i Danmark alene
☐ 400-449 kr.	☐ 250-299 kr.
☐ 1-49 kr.	☐ 150-199 kr.
☐ Jeg vil gerne betale et beløb for at undgå EM på grund af de potentielle negative effekter	☐ 300-349 kr.
☐ 50-99 kr.	☐ 0 kr.
☐ 200-249 kr.	☐ 950-999 kr.
☐ 850-899 kr.	☐ 550-599 kr.
☐ Mere end 999 kr.	☐ 750-799 kr.
☐ 300-349 kr.	☐ 1-49 kr.
☐ 650-699 kr.	☐ 850-899 kr.
☐ 950-999 kr.	☐ 400-449 kr.
☐ 350-399 kr.	☐ 600-649 kr.
☐ 500-549 kr.	☐ 200-249 kr.
☐ 900-949 kr.	☐ 800-849 kr.
☐ 250-299 kr.	☐ 450-499 kr.
☐ 700-749 kr.	☐ 700-749 kr.
☐ 550-599 kr.	☐ 50-99 kr.
☐ 100-149 kr.	☐ 650-699 kr.
☐ 150-199 kr.	☐ 500-549 kr.
☐ 800-849 kr.	☐ 900-949 kr.
☐ 450-499 kr.	☐ Mere end 999 kr.
☐ 750-799 kr.	☐ 350-399 kr.
☐ 600-649 kr.	☐ Jeg vil gerne betale et beløb for at undgå EM på grund af de potentielle negative effekter
☐ 0 kr.	☐ 100-149 kr.
☐ Ved ikke	☐ Ved ikke

Del 4/4: Baggrundsinformation

Spørgsmål 13: Hvad er Deres alder? (Vælg én mulighed)

- ☐ Under 18 år
- ☐ 18-25 år
- ☐ 26-35 år
- ☐ 36-45 år
- ☐ 46-55 år
- ☐ 56-65 år
- ☐ Over 65 år
- ☐ Ønsker ikke at oplyse

Spørgsmål 14: Højest fuldførte uddannelse? (Vælg én mulighed)

- ❏ Grundskole
- ❏ Almengymnasial uddannelse
- ❏ Erhversgymnasial uddannelse
- ❏ Erhvervsuddannelse
- ❏ Kortere videregående
- ❏ Mellemlang videregående
- ❏ Lang videregående
- ❏ Forsker
- ❏ Andet
- ❏ Ønsker ikke at oplyse

Spørgsmål 15: Hvad er husstandens årlige bruttoindkomst? (Vælg én mulighed)

- ❏ Under 200.000 kr.
- ❏ 200.000-299.999 kr.
- ❏ 300.000-399.999 kr.
- ❏ 400.000-499.999 kr.
- ❏ 500.000-599.999 kr.
- ❏ 600.000 kr. og derover
- ❏ Ønsker ikke at oplyse

Spørgsmål 16: I hvilket postnummer bor De?

_____

Spørgsmål 17: Hvilket køn er De? (Vælg én mulighed)

❏ Mand ❏ Kvinde

Har De afsluttende kommentarer vedrørende EM i fodbold 2024 i Danmark eller til dette spørgeskema?

Tournament structure

Figure C.1: EURO2016 tournament structure
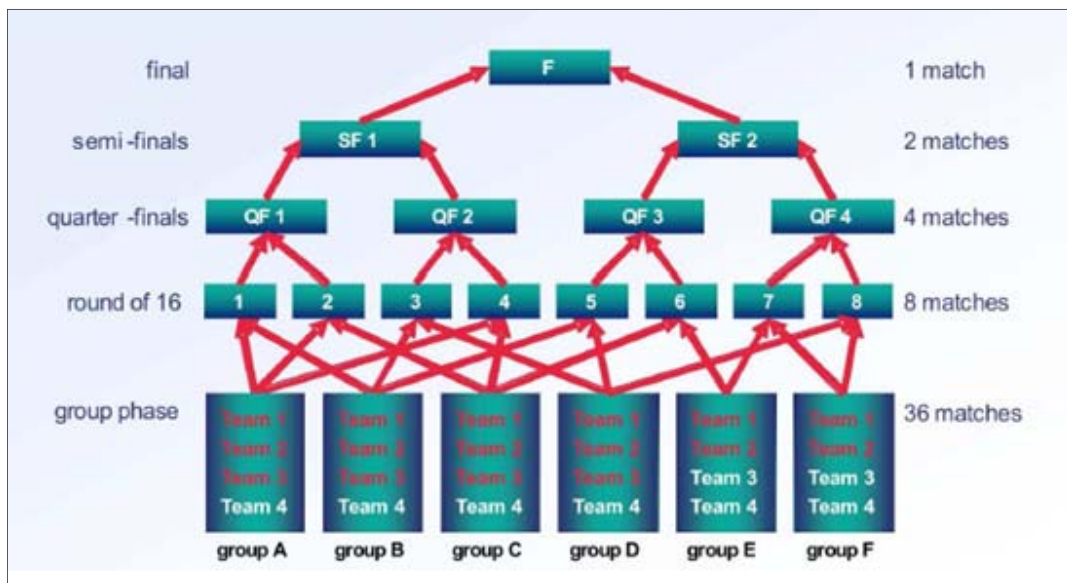
Source: (UEFA, 2009, p. 4 in sector 3)

Inflation and exchange rates

For the sake of simplicity of the analysis it is assumed that each of the financial items from previous comparable editions (i.e. EURO2000, or FIFA World Cup 2006) used for the estimations would have been spend or gained in the same quantity had the event been in Denmark allowing for the Danish inflation rate to be applied when converting to real prices. Table D.1 below shows the average Danish inflation rate applied in the analysis:

Table D.1: Harmonized index of consumer prices (HICP) in Denmark, annual data

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average
Annual Inflation Rate DK	2.7	2.3	2.4	2.0	0.9	1.7	1.9	1.7	3.6	1.1	2.2	2.7	2.6	2.1

Source: Epp.eurostat.ec.europa.eu

Most of the data from previous editions of the FIFA World Cup, UEFA Championship etc. are expressed in EURO, Dollar or Swiss Franc. These are converted based on an average of annual exchange rates from historic data ranging from 1999 in the case of €, 1979 for US $, and 1981 for Swiss Francs until 2011. See table D.2 below

Table D.2: Exchange rates

Exhange rates (DKK per 100 units of foreign currency)	
EURO	745.0529
US Dollars	536.2177
Swiss Francs	605.7382
UK Pounds Sterling	859.0544
Australian Dollars	552.8152

Source: Danmarks Nationalbank: Nationalbankens Statbank.

PV´s are as a result of discounting all expressed in 2012 real prices, which make inflation adjustments for future costs and benefits avoidable.

Average stadium construction costs in Northern Europe

Table E.1: Average stadium construction costs pr. seat in Northern Europe

Stadium	Place	Capacity	Price pr. seat (kr.)
Coventry City	England	32.000	20.700
Allianz Arena	Germany	66.000	29.300
FIFA World Cup Stadium (Frankfurt)	Germany	45.442	16.000
Arena AufSchalke	Germany	48.426	29.600
Parken	Denmark	42.305	15.850
Amsterdam Arena	Nederlands	52.000	22.500
Stade De France	France	76.000	30.600
Friends Arena	Sweden	50.000	45.000
Average			**26.194**

Source: Adapted from Rambøll Management (2006b, p. 32).

Development costs pr. seat in recently built European stadiums

Figure F.1: Development costs pr. seat in recently built stadia.
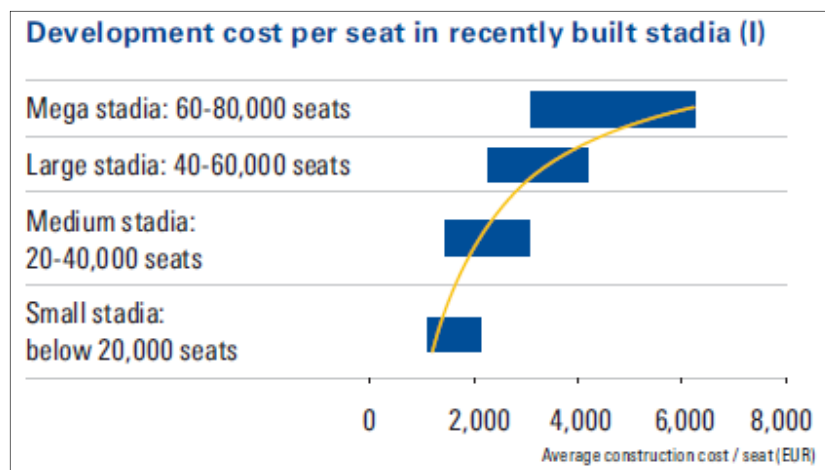
Source: (Sartori, 2011, p. 19)

Hotel room requirements by UEFA and occupancy rates in Denmark

Table G.1: Hotel room requirements for the UEFA delegation and key target group

- One five-star hotel with at least 400 bedrooms in the city that hosts the championship throughout the duration of the championship (UEFA headquarter).
- One five-star hotel with at least 40 beds within a 45 minute drive from all cities that hosts matches (UEFA mini-headquarters).
- A five-star hotel for the referees nearby the stadiums.
- A five-star hotel "in the countryside" with at least 20 rooms for the doping control doctors.
- 24 hotels, four or five-star, one for each of the participating teams.
- Two team-transfer hotels in each host city of minimum four-star ratings.
- Between 1,000 and 5,000 beds in four and five-star rated hotels for UEFA´s "commercial partners".

Source: (UEFA, 2009, p. 4 sector 11)

Table G.2: Hotel room occupancy rates in Denmark (June 2010)

	JAN	FEB	MAR	APR	MAJ	JUN	JUL	AUG	SEP	OKT	NOV	DEC	HELE 2010
København By	40	48	49	53	72	77	76	83	73	72	65	55	64
Københavns Omegn	41	39	55	44	54	63	57	71	64	53	59	41	54
Nordsjælland	34	34	44	41	47	48	46	55	55	45	47	27	44
Bornholm	14	12	11	16	38	49	73	63	42	20	16	15	43
Østsjælland	25	27	38	33	42	49	43	49	54	44	43	27	39
Vest- og Sydsjælland	26	31	35	34	38	42	53	46	40	41	36	22	37
Fyn	30	29	42	39	46	43	48	50	53	44	50	24	42
Sydjylland	32	37	42	41	49	55	68	56	51	51	46	27	47
Østjylland	35	37	42	41	47	54	51	55	58	50	54	34	47
Vestjylland	27	33	36	29	33	42	42	44	41	37	44	27	36
Nordjylland	22	31	35	34	40	47	67	51	45	40	35	24	40
Hele landet	33	38	43	42	52	57	63	62	56	53	51	36	49

*Source***:** Horesta.dk

Appendix H

Intangible impacts as presented to respondents

Table H.1: Expected intangible impacts of the EURO2024

Intangible cost	Definition
"Crowding"	Increased congestion in streets, in public transport and on roads before and during the championship.
Increased risk of petty theft	Pickpockets, purse-snatching and so on.
Increased safety risk	The perception of heightened risks from terrorism and other safety and vandalism risks.
Local disruption during construction	The noise and dirt around the championship construction sites and along transport routes.
Transport delays	Longer travel times because of the championship.
Excessive media coverage	Perceived over-coverage of the championship events in the media and news.
Intangible benefit	**Definition**
Uniting people/feel-good factor/national pride	The anticipation towards hosting a major event on Danish territory; boosting the nation´s morale, image, pride and unity. Likewise the excitement and enjoyment during the championship.
Motivation and inspiration for people to participate in sports	Inspiring kids and adults to play football, and providing kids with football players as role models.
Future usage of sports facilities	The experience of new/upgraded modern stadiums after the championship.
Environmental improvements	The experience of increased awareness on environmental issues due to campaigns and initiatives during the championship.
Promotion of healthy living	The promotion of healthy diet and nutrition, and the benefits of sports and outdoor activities.
Cultural and social events	The anticipation towards a series of cultural and social festivals across the country to accompany the championship.
Sporting benefits	The excitement of guaranteed championship participation and home advantage for the Danish national team, as well as increased future opportunities for hosting major events.
Increased focus on racism and discrimination	The experience of the championship related campaigns that focus on eliminating racism and discrimination.
Promotion of humanitarian causes	The experience of the championship related campaigns that focus on humanitarian causes.

Source: Adapted from Atkinson et al. (2008, pp. 426-27)

Note: Definitions may differ slightly from the Danish as translations have been made.

Tourism movement

Table I.1: Percentage share of tourism movement

(%)	FIFA WC 2006	UEFA EURO 2008 (Austria)	FIFA WC 2010	Average
Residents	38	27	23	29
Home stayers	7	5	1	4
Changers	9	2	2	4
Event tourists	27	37	33	32
Casuals	8	23	12	14
Time switchers	11	6	29	15
n=	4355	8093	5205	-

Source: Created from (Feddersen A. , 2011, slide 38)*,* (Kurscheidt et al., 2007, slide 12), and (Preuss, 2011, p. 372).

List of variables and frequencies of WTP by clusters

Table J.1: List of variables

Variable number	Variable definition
v1.0Levels	Level of football interest
v7.1	WTP scenario 1
v9.1	WTP scenario 2
v11.0	Promotion of healthy living
v11.1	Uniting the nation/"feel-good"factor/national pride
v11.2	Environmental improvements
v11.3	Sporting benefits
v11.4	Increased risk of petty theft
v11.5	Excessive media coverage
v11.6	Increased focus on racism and discrimination
v11.7	Cultural and social events
v11.8	Local disruption due to building projects
v11.9	Increased safety risk
v11.10	Future usage of sports facilities
v11.11	Humanitarian focus
v11.12	Transport delays
v11.13	Crowding
v11.14	Motivation and inspiration for people to play sports
v13.0	WTP for intangible effects only for scenario 2
v13.1	WTP for intangible effects only for scenario 1
v14.0	Age of the respondents
v18.0	Sex

Table J.2: WTP mean of small cluster

Statistics

		v7.1	v.9.1	v13.0	v13.1	v14.0	v18.0	V1.0Levels
N	Valid	46	46	46	46	46	46	46
	Missing	0	0	0	0	0	0	0
Mean		15,13	13,74	12,46	14,61	3,70	1,33	1,54
Median		13,00	12,00	12,00	13,00	3,50	1,00	1,50

Table J.3: WTP mean of large cluster

Statistics

		v7.1	v.9.1	v13.0	v13.1	v14.0	v18.0	V1.0Levels
N	Valid	178	178	178	178	178	178	176
	Missing	0	0	0	0	0	0	2
Mean		2,31	2,06	2,08	2,22	3,32	1,52	1,93
Median		1,00	1,00	1,00	1,00	3,00	2,00	2,00

Means of low-, medium- and high football interested groups

Table K.1.: Mean of high football interest

Statistics

		v7.1	v.9.1	v13.0	v13.1
N	Valid	80	78	76	76
	Missing	7	9	11	11
Mean		6,98	6,05	5,34	6,22
Median		2,50	2,00	2,00	3,50

By which 81.6 % are men, 18.4 % women, and the average age is 30.1 years.

Table K.2: Mean of medium football interest

Statistics

		v7.1	v.9.1	v13.0	v13.1
N	Valid	140	131	132	130
	Missing	8	17	16	18
Mean		4,19	4,02	4,08	4,56
Median		1,00	1,00	1,00	2,00

By which 37.8 % are men, 62.2 % are women, and the average age is 34.6 years.

Table K.3: Mean of low football interest

Statistics

		v7.1	v.9.1	v13.0	v13.1
N	Valid	35	35	34	34
	Missing	1	1	2	2
Mean		2,26	1,89	1,94	2,24
Median		1,00	1,00	1,00	1,00

By which 27.8 % are men, 72.2 % women, and the average age 35.9 years.

"One-Way ANOVA" test on differences in WTP between the three levels (groups) of football interest

Hypothesis for each of the four WTP variables:

$$H_0 : \mu_{Low\ interest} = \mu_{Medium\ interest} = \mu_{High\ interest}$$

$$H_1 : \mu_{Low\ interest} \neq \mu_{Medium\ interest} \neq \mu_{High\ interest}$$

The conditions for applying the "One-Way ANOVA" test are that there must only be one dependent interval-scaled variable, and the independent has to be nominal or ordinal-scaled. These conditions are fulfilled. In addition, the groups in the independent variable (level of football interest) have to contain minimum 30 cases in each, or be normally distributed (Jensen & Knudsen, 2006, pp. 114-17). The Kolmogorov-Smirnov test (see table L.1) reveals that the condition of normal distribution is not fulfilled ($P < 0.001$).

Table L.1: Normal distribution test (Kolmogorov-Smirnov)

One-Sample Kolmogorov-Smirnov Test

		v7.1	v.9.1	v13.0	v13.1
N		257	246	244	242
Normal Parameters[a,b]	Mean	4,77	4,34	4,15	4,73
	Std. Deviation	6,110	5,648	5,240	5,932
Most Extreme Differences	Absolute	,323	,308	,275	,268
	Positive	,323	,308	,275	,268
	Negative	-,269	-,277	-,274	-,265
Kolmogorov-Smirnov Z		5,176	4,832	4,302	4,172
Asymp. Sig. (2-tailed)		,000	,000	,000	,000

a. Test distribution is Normal.
b. Calculated from data.

However, there are at least 30 cases in each group, which is seen in table L.2:

Table L.2: Number in each group of football interest

V1.0Levels

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	87	31,9	32,1	32,1
	2	148	54,2	54,6	86,7
	3	36	13,2	13,3	100,0
	Total	271	99,3	100,0	
Missing	9	2	,7		
Total		273	100,0		

Thus, the conditions for carrying out ANOVA is fulfilled.

The ANOVA-table below shows that F-values are significant at the 95 % confidence level, thus H0 is rejected, and there are therefore differences between the groups. A "Post-hoc Tukey-test" reveals between which groups the differences are found. The results are displayed below, and have already been mentioned in the analysis.

Table L.3: ANOVA table

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
v7.1	Between Groups	656,371	2	328,186	9,323	,000
	Within Groups	8870,429	252	35,200		
	Total	9526,800	254			
v.9.1	Between Groups	452,268	2	226,134	7,425	,001
	Within Groups	7340,269	241	30,458		
	Total	7792,537	243			
v13.0	Between Groups	274,289	2	137,144	5,138	,007
	Within Groups	6379,071	239	26,691		
	Total	6653,360	241			
v13.1	Between Groups	384,661	2	192,330	5,650	,004
	Within Groups	8067,323	237	34,039		
	Total	8451,983	239			

Table L.4: "Post-Hoc Tukey-test"

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) V1.0Levels	(J) V1.0Levels	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
v7.1	1	2	2,782*	,832	,003	,82	4,74
		3	4,718*	1,202	,000	1,88	7,55
	2	1	-2,782*	,832	,003	-4,74	-,82
		3	1,936	1,121	,197	-,71	4,58
	3	1	-4,718*	1,202	,000	-7,55	-1,88
		2	-1,936	1,121	,197	-4,58	,71
v.9.1	1	2	2,028*	,789	,029	,17	3,89
		3	4,166*	1,123	,001	1,52	6,81
	2	1	-2,028*	,789	,029	-3,89	-,17
		3	2,137	1,050	,106	-,34	4,61
	3	1	-4,166*	1,123	,001	-6,81	-1,52
		2	-2,137	1,050	,106	-4,61	,34
v13.0	1	2	1,259	,744	,210	-,50	3,01
		3	3,401*	1,066	,005	,89	5,91
	2	1	-1,259	,744	,210	-3,01	,50
		3	2,142	,994	,081	-,20	4,49
	3	1	-3,401*	1,066	,005	-5,91	-,89
		2	-2,142	,994	,081	-4,49	,20
v13.1	1	2	1,662	,842	,121	-,32	3,65
		3	3,988*	1,204	,003	1,15	6,83
	2	1	-1,662	,842	,121	-3,65	,32
		3	2,326	1,124	,098	-,32	4,98
	3	1	-3,988*	1,204	,003	-6,83	-1,15
		2	-2,326	1,124	,098	-4,98	,32

"One-Sample T-Test" on importance of intangible impacts

The test is robust at samples above 60, so the only condition is that the test is done upon interval-scaled variables, which is fulfilled (Jensen & Knudsen, 2006, pp. 96-97).

Rating of >5 means that the variable are important to the respondents. Test values thus equals 5 to check if mean values are above or below this point. The hypothesis goes:

$$H_0 = C_i \leq 5 = 11.1, 11.2 \ldots \ldots 11.14$$

$$H_1 = C_i > 5 = 11.1, 11.2 \ldots \ldots 11.14$$

The test statistics reveals the following:

Table M.1: "One-Sample T-Test"

One-Sample Test

	Test Value = 5					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
v11.0	-3,742	260	,000	-,682	-1,04	-,32
v11.1	16,832	267	,000	2,455	2,17	2,74
v11.2	-2,400	261	,017	-,405	-,74	-,07
v11.3	13,539	265	,000	2,056	1,76	2,36
v11.4	5,185	267	,000	,910	,56	1,26
v11.5	8,278	266	,000	1,446	1,10	1,79
v11.6	1,960	265	,051	,353	,00	,71
v11.7	15,361	271	,000	2,147	1,87	2,42
v11.8	,976	267	,330	,168	-,17	,51
v11.9	9,372	267	,000	1,470	1,16	1,78
v11.10	13,346	267	,000	2,004	1,71	2,30
v11.11	,533	260	,594	,092	-,25	,43
v11.12	6,171	266	,000	1,064	,72	1,40
v11.13	4,201	264	,000	,725	,38	1,06
v11.14	13,042	270	,000	2,107	1,79	2,43

This means that variables: 11.1, 11.3, 11.4, 11.5, 11.7, 11.9, 11.10, 11.12, 11.14, have a test value above 5 (H0 rejected). All of them also have an acceptable p-value ($P < 0.05$)

The following elements are therefore perceived as important:

- Uniting the nation (v11.1)

- Sporting benefits (v11.3)

- Increased risk of petty theft (v11.4)

- Excessive media coverage (v11.5)

- Cultural and social events (v11.7)

- Increased safety risk (v11.9)

- Future usage of sports facilities (v11.10)

- Transport delays (v11.12)

- Motivation and inspiration for people to play sports (v11.14)

Appendix N

"Independent Sample T-Tests" on age and education

"Independent Sample T-Test" for age

The same conditions must be fulfilled as in the "One-Sample T-Test", which they are.

The hypothesis goes as follows:

$$H_0: \mu_{Below\ average} - \mu_{Above\ average} = 0$$

$$H_1: \mu_{Below\ average} - \mu_{Above\ average} \neq 0$$

And the test statistics shows the following:

Table N.1: Age grouped statistics and independent samples test for the four WTP variables

Group Statistics

	V14.ny	N	Mean	Std. Deviation	Std. Error Mean
v7.1	1	155	4,64	5,626	,452
	2	101	5,01	6,826	,679
v.9.1	1	147	3,96	4,927	,406
	2	99	4,90	6,561	,659
v13.0	1	145	3,41	3,856	,320
	2	98	5,29	6,670	,674
v13.1	1	143	4,22	5,040	,421
	2	98	5,50	7,008	,708

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
v7.1	Equal variances assumed	4,190	,042	-,474	254	,636	-,371	,783	-1,914	1,172
	Equal variances not assumed			-,455	184,629	,650	-,371	,816	-1,981	1,238
v.9.1	Equal variances assumed	10,981	,001	-1,282	244	,201	-,940	,733	-2,384	,505
	Equal variances not assumed			-1,213	170,091	,227	-,940	,775	-2,469	,589
v13.0	Equal variances assumed	37,394	,000	-2,776	241	,006	-1,879	,677	-3,212	-,545
	Equal variances not assumed			-2,518	140,919	,013	-1,879	,746	-3,354	-,404
v13.1	Equal variances assumed	15,011	,000	-1,644	239	,101	-1,276	,776	-2,805	,253
	Equal variances not assumed			-1,549	163,875	,123	-1,276	,824	-2,903	,351

H0 is thus rejected due to the significance level of the Levene´s test in all variables. There are therefore differences among the two age groups.

"Independent Sample T-Test" for education

Once again conditions are fulfilled (i.e. sample above 60).

Hypothesis goes:

$$H_0: \mu_{Primary\ school\ or\ vocational\ training} - \mu_{All\ other\ education} = 0$$

$$H_1: \mu_{Primary\ school\ or\ vocational\ training} - \mu_{All\ other\ education} \neq 0$$

Test statistics:

Table N.2: Education grouped statistics and independent samples test for the four WTP variables

Group Statistics

	v15.ny	N	Mean	Std. Deviation	Std. Error Mean
v7.1	1	197	4,94	6,189	,441
	2	57	4,11	5,921	,784
v.9.1	1	188	4,46	5,837	,426
	2	55	3,82	5,034	,679
v13.0	1	185	4,17	5,231	,385
	2	56	3,82	4,977	,665
v13.1	1	184	4,66	5,779	,426
	2	55	4,45	5,906	,796

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
v7.1	Equal variances assumed	,795	,373	,910	252	,364	,839	,922	-,977	2,655
	Equal variances not assumed			,932	94,301	,354	,839	,900	-,947	2,625
v.9.1	Equal variances assumed	1,617	,205	,742	241	,459	,645	,869	-1,067	2,356
	Equal variances not assumed			,805	100,356	,423	,645	,801	-,945	2,234
v13.0	Equal variances assumed	,239	,626	,439	239	,661	,346	,789	-1,208	1,901
	Equal variances not assumed			,451	94,778	,653	,346	,768	-1,179	1,871
v13.1	Equal variances assumed	,026	,872	,234	237	,816	,208	,893	-1,550	1,967
	Equal variances not			,231	87,220	,818	,208	,903	-1,587	2,004

H0 is accepted for all of the variables due to the insignificance level in Levene´s test. There are therefore no differences among the two groups of educations.

Nominal values of the EURO2024

Table O.1: Total CBA account of cost and benefits for the EURO2024 in nominal values

(Nominal values, DKK million)	Scenario 1 (DK)	Scenario 2 (DK/Sweden)
Tangible costs		
Stadium investments	4,021.5	977.1
General Infrastructure	0	0
Event related infrastructure	81.0	40.5
Media facilities	113.3	56.6
Security and safety	772.2	386.1
Investments in hotel capacity	0	0
Costs of preparation and operational costs for the government	478.4	239.2
Bidding and promotional costs	306.0	181.3
Tax exemption for UEFA	188.2	94.1
Total of tangible costs	5,960.5	1,974.9
Tangible benefits		
Increased tourism	1,386.1	781.6
Expenditure by LOC and UEFA officials	1,960.0	1,170.0
Proceeds from national team lodging	727.0	363.5
Proceeds from media lodging	688.8	189.4
Proceeds from lodging and additional expenditure by sponsors	745.1	298.0
Total of tangible benefits	5,507.0	2,802.5
Nominal value of EURO2024	**DKK -453.5 million**	**DKK 827.6 million**