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## ***Economic Impacts of the Helsinki 2005 World Championships in Athletics***



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KIHU - Research Institute for Olympic Sports  
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# ECONOMIC IMPACTS OF THE HELSINKI 2005 WORLD CHAMPIONSHIPS IN ATHLETICS\*

By

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## Preface

This report is originally based on the study carried out by the authors on the economic impacts of the Helsinki 2005 World Championship in athletics. The project was financed by the Ministry of Education and the report (Laakso et al., 2006) was published in Finnish by KIHU – Research Institute for Olympic Sports.

The principal author of this English report is Heikki A. Loikkanen, who was nominated by the Minister of Education to act as an advisor of the initial project. This report is mainly a shorter version of the original report, but the argumentation especially in section 3 has been somewhat revised. The main conclusions are the same as before, but here more attention is paid to the evaluation of WC2005 from the view-point of its profitability for the private sector.

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Authors

# 1 Introduction

Cities, regions and even nations compete for mega events. Such events are expected to boost their economies in addition to offering consumer benefits for local spectators and visibility benefits in international media. Mega events include World exhibitions, cultural city of Europe type events, political meetings (e.g. related to EU's Presidency), Olympics, World Championships and other major sporting events. During the application phase competing local organizations as well as cities and regions tend to stress the manifold positive effects of such events. Applications are often accompanied by event related or event-sponsored studies, which usually highlight the positive economic impacts to be expected from mega events for the local economy and region or even the whole country. In many cases (but not always) mega events require big investments, which imply that both costs and benefits may spread over a long period of time. From this perspective, a short mega event and an "ordinary" public investment like a stadium or a cultural building (museum, concert hall etc.) pose a rather similar challenge for the evaluation of economic impacts.

The first question, which can be made concerning mega events or investment projects, is whether an ex-ante evaluation of economic effects is undertaken at all. It is not unusual that no serious assessment is undertaken. Instead, the lobbyists use such rhetoric that money used for such good purposes can never be lost, or that the positive external (or multiplier) effects are so big (although not measured) that they rationalize such projects presumably irrespective of their size. When ex-ante analyses are made, the validity of economic impact studies has often been challenged. For instance in the case of sporting events Lee (2001) claims that that league and event-sponsored studies exaggerate the economic impact of large sporting events on local communities. Finally, mega events or investments are often viewed as matters of national pride by politicians, and ex-ante evaluations play a marginal role, anyhow.

As for ex-post economic impact studies of mega events, their number has grown over time. In the area of sporting events, for instance effects of several Olympic Games have been evaluated. In some cases, it has also been possible to compare the ex-ante and ex-post impact studies.

The purpose of this paper is to study the regional economic impacts of Helsinki 2005 World Championships in Athletics (WC2005 in the sequel). The event lasted for nine days during August 6-14, 2005 at the Helsinki Olympic Stadium, and it was the biggest ever sporting event arranged in Finland. About 1 800 athletes from 192 countries participated in various competitions. In all 370 000 tickets were sold to WC2005 sports events and 120 000-130 000 people came to see the events. There were 2700 representatives of the media.

Originally, in 1999 IAAF had decided to give WC2005 to London. In December 2001 London gave up the project because the plan to build a new stadium was cancelled. In the second round of competition, the Helsinki application signed by SUL (Finnish Athletics) and

the Republic of Finland was submitted to IAAF on 28 February, 2002. In April 2002 IAAF board meeting chose Helsinki to be the site of WC2005. Other applicants were Rome, Berlin, Budapest and Moscow.

Besides the application and related documents, there was no serious ex-ante evaluation of economic impacts of WC2005. However, once Helsinki won the competition, the Ministry of Education decided that WC2005 should be evaluated from a number of viewpoints, including its economic impact, and financed a related project. This paper is predominantly based on results of that project (see Laakso et al. 2006). It aims at evaluating the economic impacts from several perspectives. First, its regional and national macro economic effects on value added and employment. Secondly, it looks at WC2005 economic impacts from the viewpoint of local organizers, the State, the City of Helsinki and its neighbouring cities (Espoo and Vantaa) and business firms, and in the end makes a summary evaluation. Note that increases in value added and employment as outcomes of the games do not imply that the project was necessarily good (worth accepting) since unprofitable use of money may also increase the values of these indicators.

In our analysis, we use various forms of data such as official statistics, specially compiled statistics, visitor and business surveys, expert evaluations and information on WC2005 finance and outlays received from local organizers, cities and the state. Furthermore, this report utilizes some results from other studies on WC2005.

This paper is organized as follows. Section 2 provides some basic information of WC2005. Section 3 discusses the challenge of evaluating the economic impact of mega events and describes the approach to be taken in this study. Section 4 includes a short review of studies on the economics of mega sports events and some previous impact studies of Finnish mega events. In section 5, we look at the stakeholders of WC2005 and related money, commodity and investment flows. Next (section 6), we examine how the audience of WC2005 affected these flows, and how the business sector was influenced by the games. These results are based both on interviews and statistical information which was gathered specially for this purpose with collaboration with Statistics Finland. In section 7 we look at the impact of WC2005 on the business sector. One key purpose of sections 5-7 is to find out exogenous demand effects generated by the games, which can be used subsequently in a regional input-output model to figure out multiplier and total effects of WC2005. Section 8 summarizes the results of an input-output model application where the exogenous demand effects of WC2005 are used as basis to evaluate regional and national economic effects on value added, employment and profits of the private sector. Section 9 looks at WC2005 from the viewpoint of the cities and the state, which besides financing the event also benefited from an increase in tax revenue. Section 10 uses business survey data to evaluate how firms and especially sponsor firms of WC2005 saw this mega event from national and international marketing perspective. Section 11 summarizes our findings.

## 2 Basic information on WC2005 in Helsinki

In April 2002 IAAF board meeting chose Helsinki to be the site of WC2005. Thus, the games were organized in Helsinki 6.-14.8.2005. During the nine days three world records and nine continental records were made. An unexpected feature of the games was rainy weather. Average rain during this time is 20 milliliters but now the meter next to Olympic Stadium showed 103 milliliters. Week 32 was as rainy 45 years ago. Despite this, 370 000 tickets were sold. The number of accredited guests was 19 300, representing 205 nationalities. 7 000 of them were foreigners. Accredited guests included media people, athletes, local organizers (LO) and their guests, volunteers, IAAF personnel and its 359 congress representatives.

Preparatory work for the games started in May 2002 and since September 2003 local organizing committee (LO) led by Mr. Antti Pihlakoski took responsibility of arrangements. There were 33 members in LO and 18 working groups responsible for different tasks. As required by IAAF, also the State of Finland and the City of Helsinki participated in LO and WC2005 arrangements. In all fifty people were employed by LO full-time in arranging the games. Furthermore, there were about 3000 volunteers who were trained for their tasks. In addition to Helsinki, also the cities of Espoo and Vantaa participated in WC2005, and also Finnish Broadcasting Company (YLE) was an essential organizer. YLE was responsible for TV broadcasting around the world together with Dentsu, a company to which IAAF had transferred the management of TV contracts. Official cooperating firms of IAAF in WC2005 were Epson, Eurovision, Mizuno, Seiko, TDK, Toyota and TBS and Mondo companies. LO had more than 30 cooperating firms.

The Olympic Stadium in Helsinki has 40 000 seats and 25 000 of them were made available for the public. There were 4 000 tickets per event for international sale. The share of domestic market was 15 000 tickets per event and 6 000 tickets were reserved for sponsors, other firms, and Finnish and foreign sports clubs. The remaining 15 000 tickets per event were reserved for media, IAAF, athletes, referees, officials and LO.

Media was represented by 2734 representatives coming from 71 countries. The media centre of WC2005 was in Kisahalli, a sports hall, next to the Olympic Stadium, and also other venues were available for media. A market of the games was built between Kisahalli and the Stadium including an EXPO area where 30 cooperating firms of WC2005 had their booths. Near the Stadium, there were also four hospitality areas for firms and their guests.

The investment component in arranging WC2005 was small. The Stadium got a new shelter on the east side and there were quite a few other smaller investment and renovation projects related to the games. These included construction of student dormitories in Espoo, where most of the 2703 team members coming from 192 countries resided and trained in near by sports centre.

Besides WC2005, supplementary events were organized around these games. They included Finland Junior Games 1.-5.8.2005 and Helsinki City Marathon 5.8.2005. During the games Veterans' (over 35-year old) GP-competition was arranged (10.-13.8.2006) such that their finals were held on 13.8.2005 at Olympic Stadium. Finally, after WC2005 Para European Championships in Athletics were arranged at Olympic Stadium 22.-27.8.2005.

## 2.1 A comparison to some earlier mega events

In order to compare the Helsinki WC2005 to some earlier mega events, we have gathered information on them from final reports and other sources and exchanged the monetary values to euros (exchange rates as of 3.4.2006). The figures in table 2.1 are not very comparable due to different forms and contents of support items. However, they give some idea of the size of various events and WC2005. Note that the first WC in Athletics were also arranged in Helsinki 1983 and then the budget of the games was about 9,6 million € in 2005 euros. This is one third of the WC2005 budget. In 1983 an additional stand was built to the Olympic Stadium. The average ticket sale per day in 1983 was 40 300 and in 2005 it was 37 630 tickets. In 1983 LO made a profit of 0,6 million €. This outcome was affected by the fact that IAAF gave part of its sponsor revenue to LO. After the Gothenburg games in 1995 this practice was terminated and IAAF ceased to finance the games.

The Helsinki WC2005 budget was small relative to the same games in Paris and Edmonton. On the other hand, Olympics have had about 30 to 70 times greater budgets than WC's in Athletics. For the sake of comparison, in addition to sporting events, table 2.1 also includes the number of visitors in some cultural events arranged in Helsinki. The profit/loss figures refer to local organizers' outcomes.

Table 2.1

*Basic information on some mega events\**

EVENT	TIME	BUDGET million €	TICKET SALE million €	No. of SOLD TICKETS *) spectators	DIRECT PUBLIC SUPPORT million €	PROFIT/ LOSS million €
<b>WC-GAMES</b>						
Helsinki 1983	7.-14.8.1983	5,2	3,3	322 402		0,6
Gothenburg 1995 (unofficial figures)	5.-13.8.1995	39,8	19,5			
Sevilla 1999	20.-29.8.1999	17,2	3,5	497 484	5	0,2
Edmonton 2001	3.-12.8.2001	55	8,8	400 866	28	1,7
Paris 2003	23.-31.8.2003	44,8	15,2	550 132	18	7,8
Helsinki 2005	6.-14.8.2005	27,5	17	338 671	2,2	0,4
<b>OLYMPICS</b>						
Los Angeles 1984	28.7-2.8.1984	381	124	674 000		214
Soul 1988	17.9.-10.1984	454	217	3 306 000		269
Barcelona 1992	25.7-9.8.1992	916	56,7	3 812 000		2,1
Atlanta 1996	19.7-4.8.1996	1360	374	8 600 000		0
Sydney 2000	15.9.-10.2000	1432	318	7 000 000		0
Athens 2004 (unofficial figures)	13.-29.8.2004		183			
<b>OTHER EVENTS IN HELSINKI</b>						
ITC-RACES	7.-9.6.1995			123 000*)		
WC-GAMES Ice-hockey	26.4.-5.1997	17	12,4	526 000 *)		7,2
MICHAEL JACKSON's concert	24.8.1997			50 000*)		
AIDA -opera	14.-18.5.1998			39 000*)		
PAAVO NURMI opera	11.-12.8.2000			22 000*)		
WC-GAMES Ice-hockey	26.4-1.5.2003	18,5	14,4	454 000*)		5,6

\* The monetary figures are non-deflated sums, which have been transformed to euros using exchange rates as of 3.4.2006. In case of Barcelona, pesetas have been transformed to euros using the exchange rate applied when Euro was adopted in Spain

### 3 On the economic impacts of mega events

The economic impacts of mega events can be viewed from different actors' perspectives and evaluated in various ways. The purpose of this section is to highlight how mega events like WC2005 can be viewed and analyzed, and how it is done in this study. The main point is that in principle the games should be seen as a joint project of the local organizer (LO) and private sector and evaluated using cost benefit analysis in order to find out whether it creates joint social net benefit or loss. In actual fact, WC2005 was organized by LO, the State and host cities, and in addition the games have an impact on the private sector. In this setting, there is a need to evaluate the games from all stakeholders view-point separately and to make an overall summary, too.

Cost-benefit analysis aims at answering whether the mega event is socially profitable project or not. Another common question is whether mega events boost regional or even national growth by increasing value added, employment and so on either temporarily or for a longer period of time. These questions are related by a positive growth effect does not imply that the project is worth undertaking (socially profitable). Anyhow, there is also a need to highlight the growth effect of mega events.

#### 3.1 Local and international aspects of WC2005

A mega event is something, which typically offers a service flow (recreation etc.) to consumers, who may either participate in the event as spectator where it takes place or follow the event via media (TV, radio, newspapers). Consumers' willingness to pay for "event services" is the primus motor of economic effects. Without consumers interest and willingness to pay there will normally be no events. On the other hand, the value of benefits of viable events must cover respective costs unless subsidies are available.

In the case of World Championships in Athletics, one might ask whether arranging such mega events by is a good project relative to not arranging them. In the case of arranging such games, consumer benefits of the event spread around the world via media and in addition, there are local benefits from organizing and visiting the games in host cities (regions, countries). On the cost side, there are costs of the international organizer, IAAF, which has the monopoly for arranging such games, and costs of local organizers and host cities (regions, countries) chosen by IAAF. Our aim is not to make such a "global" evaluation of the games, which would cover all related world wide benefits and costs of the event, in order to answer whether such games should be arranged or not. Rather, we take as given the fact that World Championships in Athletics are arranged, and study the regional and national macro economic effects of WC2005 in Helsinki. Our ex-post analysis also aims at answering whether WC2005 was a good project from economic perspective to various local stakeholders and from different view-points.

The special role of IAAF in connection of WC2005 implies that its economy has almost no role at all in our assessment of regional and national impacts. Namely, IAAF (via Dentsu

company) uses its monopoly power to collect the maximum revenue from the games by auctioning related TV contracts to international broadcasting companies and making sponsor agreements with other firms. The TV contract and sponsor revenue received by IAAF is about 75 % of the cost of arranging WC2005. It reflects the great international willingness of consumers to pay for the visibility of this mega event. However, the revenue received by IAAF does not flow to the economy of the organizing city or country. IAAF set requirements for the games and races applicants to choose the host, but otherwise the economic links between IAAF and the chosen host are very limited. The host has its own costs and revenues sources related to arranging WC2005 and these are essential for our regional and national economic evaluation of the games.

### 3.2 How should WC2005 be evaluated – basic principles

How should a mega event like WC2005 be evaluated from a local (host's) perspective? In the following, we look at the games as a project and discuss criteria, which should be appropriate to determine whether such a project is a good one to undertake or not. Here, we do not make a difference between ex ante or ex post analysis, since the principles do not depend on this choice.

Consider a project like WC2005. If the organizer of the games is a **private** firm, WC2005 is a good project if the net present value of annual private costs and private benefits is positive. Here, the annual costs and benefits (sale revenues) are discounted by the market interest rate, which represents the opportunity cost of invested funds. If all inputs and outputs related to WC2005 are accounted for and there are no external effects, the use of market prices (and interest rate) to derive net present value is correct, there is no need to make a separate social cost-benefit analysis (CBA).

If the project is regarded as a **public project**, which aims at and also has wider costs and benefits than are accounted for in private project analysis, then CBA is the basic tool to be applied in evaluation.

If the games are not outsourced to the private sector, then the key agent is the **local organizing committee (LO)**. It has typically representatives of sports organizations, the state and host cities. LO is the practical organizer of the games and it has its own revenues and costs. In the case of WC2005, it can be regarded as a quasi-private agent, or a non-profit organization. It aims at avoiding loss, or rather making a profit which can be used in the interest of sports organizations. The costs and revenues of LO can be used like in the case of private firm to derive net present value of WC2005 from LO's perspective. However, this does not represent a social CBA, because revenues include subsidies, some costs are borne by outsiders, LO uses besides paid workers also unpaid volunteers and so on. None the less net present value of WC2005 from LO's perspective is important information, because the State's loss guarantee given to the games is based on LO's loss/profit. In our empirical analysis of WC2005, we regard LO as one stakeholder, whose economy, its revenues and expenditure figures are based on the financial statement of this body.

Suppose that there is just a single public agent (like **the State**, acting also as LO), which considers WC2005 as a project to be financed from public sources. If the state has a fixed budget and it aims at keeping balanced budget, a new project can only be financed by giving up alternative one(s). In this setting WC2005 is worth undertaking if it is a better project than the one cancelled because of the games. If the project costs more than can be obtained by cancelling "old" projects, the additional investment must also be worth undertaking. In evaluating these alternatives the state typically has two different view-points: a narrow (cameralistic) and a broad (social) view-point. The **narrow** approach evaluates the alternatives' impacts on public revenues and costs (and budget balance).

The **broader** one is typically a cost-benefit analysis of the alternatives. Instead of a private net present value, a social CBA is needed because of two basic reasons. Firstly, the mega event may create external benefits or costs, which are not (properly) included in the private net present value if a firm is the organizer, or in the cameralistic balances of the State. If WC2005 brings more (less) tourists to Finland than it crowds out there, the games will increase (decrease) economic activity and profits in tourist related sectors. From this perspective WC2005 should be evaluated like a joint-venture of the games and other activities, which can create a surplus or a loss in terms of social CBA covering all stakeholders involved in the joint project. Examples of external costs include besides crowding out effects, also possible negative environmental and congestion costs resulting from the games. Secondly, some of the inputs or outputs related to the event do not have a market price and must be attached value (shadow prices) anyhow. An example of this type of a problem is related to the use of volunteers in WC2005. Do they cause a social cost although they are not paid?

Besides the state, **host cities** may be partly or fully responsible for local organizing of the games and want to evaluate the project. Here, regional or local effects of WC2005 are decisive, and it would be natural to make a regional social CBA of the project. This is a relevant alternative even if the games are organized in collaboration with the State and the cities, both being represented in LO. In addition to social CBA, the host cities are interested on the more narrow municipal economy effects of the project, which affect both local expenditure and revenues. Note that the narrow public sector evaluations (public deficit or surplus) do not necessarily tell whether the project in broader CBA sense is beneficial. Neither does social CBA at national or local level necessarily imply that the project creates a public surplus or deficit for central government or for the host cities.

The basic message of the preceding discussion is that the theoretically proper way to evaluate WC2005 is to conduct a social cost-benefit analysis of the games. This should be done in such a way that the project is evaluated taking into account not only the games, but also the impacts on economic activities (especially tourist related sectors) for which the mega event causes positive or negative impulses. From an efficiency view-point, a social CBA at national level tells whether the discounted value social benefits exceed (are less than) the respective social costs of WC2005 and they are (not) worth arranging in Finland.

When there are several stakeholders as in case of WC2005, both national and regional CBAs, as well as cameralistic analyses of WC2005 on the balances of LO and the host cities are well motivated assuming that eventual efficiency gains or losses are not redistributed among stakeholders. Furthermore, as mentioned at the beginning of this section, there is a need to consider the growth and employment effects of the games.

If ex ante national and regional CBAs imply positive net present values, and also the effects for public balances at central and local government level are positive (negative), and LO at least avoids (makes) a loss, then it is natural that the games are (not) applied for. All stakeholders can agree about that. In the case of WC2005 no explicit comprehensive economic impact analysis of the games was conducted. Of course, there were rough calculations of costs involved, but there was no comprehensive project analysis of expected economic effects. One may say that the games were applied for in "good faith" of its positive economic impacts. However, the Ministry of Education commissioned several ex post studies about WC2005. This study reports findings of the economic impact analysis. The motivation was to get relevant information on economic impacts of Finnish events for preparing a national mega event strategy for the future. Thus, the challenge here is to conduct an ex post analysis also for these purposes.

### 3.3 Economic impact study of WC2005 in practice

Although the above basic principles of conducting a projects project analysis of WC2005 are rather clear, there are a lot of difficulties in fulfilling them in empirical work. This is true not only for ex ante evaluations, but also for ex post impact studies. Our literature survey of previous studies (section 4) also indicates that there are many problems in empirical work. None the less, we aim at finding out effects of WC2005. The overall evaluation consists of its net impacts on the organizers economy (surplus or deficit) and on the private sectors' profits. The economic impacts of the games on main stakeholders' (LO, the State and host cities) economy will also be evaluated separately. Besides surplus/deficit measures, various other indicators are used to evaluate national and regional impacts of the games. In our empirical analysis, we have made some critical choices.

In case of really big projects (like Olympics) the investment component is great and it is absolutely necessary to consider economic effects over a longer period of time and consider present values of costs and benefits. In our case, the investment component in WC2005 is quantitatively very small, and thus the need to evaluate the project over time is not absolutely necessary. We try to figure out the impacts of WC2005 during the year 2005 (and also especially in August 2005). Thus, we avoid discounting problems and related choice of interest rate. At the same time our choice we disregard the (in our view small) future impacts in the future in our calculations. To compensate for this, we have business interview results, which tell what impact the games may have in the future for tourist related sectors. A practical reason for concentrating on effects in 2005 was also the fact that the deadline for the study (report in Finnish, see Laakso et. al 2006), which started as late as in March 2005, was May 2006. Data beyond 2005 was not even available.

The actual stakeholders in WC2005 were the State, host cities (Helsinki, Espoo and Vantaa) and Local Organizing Committee (LO), where the former were also represented in addition to sports organizations and some other partners. As for the LO's economy, its evaluation will be based on the revenues and expenditure figures in the financial statement of this body. As for effects of WC2005 on the public balances (in cameralistic sense), we first consider the direct expenditure and revenue (including transfers) effects of the games for the State and the host cities. But in addition to the direct effect, the WC2005 can affect economic activity via multiplier effects of an increase in investments and other expenditure. Furthermore, if the games increase (or decrease) tourism, this will also have multiplier effects which affect public balances. In case of the State, revenue from VAT, as well as personal and corporate income taxes will change. Host cities will experience changes in local income tax revenue and their share of corporate income tax revenue.

The above analyses provide information on the effects of WC2005 from the stakeholder's narrow view. However, with the exception of LO's economy, to find out the impacts on the State and host cities, all direct net effects must be evaluated. Thereafter, a regional input-output model can be used to find out total effects (direct + multiplier effects), and the effects on different types of tax revenue at national and local (host city) level. Thus, the results on the effects of WC2005 on public stakeholders' economy (section 9) can be reported only after quite a few other analyses. At that stage, we can say who gained or lost from WC2005 as for (direct and multiplier) effects on public balances.

The assessment of multiplier effects of WC2005 requires that first the direct (net) effects of the games on LO, public bodies, and the private sector are determined. The last item consists mainly from the effect of the games on tourism related sectors. The magnitude of this effect is studied by results of visitor surveys, business surveys and specially compiled statistics on turnover, payroll and employment in the Helsinki Region and Finland.

The main aim of these analyses is to find out the net change in tourists' consumption relative to the "no games" alternative. By using all direct effects coming from public and private stakeholders' side in a regional input-output model, the multiplier and total effects of WC2005 on value added, employment, tax revenue during the year 2005 are found.

The impact studies on tourists' consumption, businesses' turnover, payroll and employment are interesting and necessary in order to find out direct effects of WC2005, which are then used in regional input-output analysis. They make possible the evaluation of multiplier and total effects and related public finance impacts of the games for the State and the host cities. Looking at LO and the State and host cities as public joint organizers of the project, we can use the results of analyses to judge whether the project was a good one or not for public joint organizers as a whole. However, WC2005 must in addition be evaluated from the business sectors perspective to get an overall picture. If there are no externalities and use of market prices (and wages) is correct, the proper criterion is to figure out the impact of the games on profits of the business sector. In addition to being asked in business interviews, the effect of the games on private sector profits is obtained from the input-output analysis, and it is also used in calculating the effect on corporate income tax revenue.

The above analyses allow us to evaluate WC2005 as a joint project of LO and public bodies and the private sector and determine whether they made a profit or loss in 2005 as a result of the games. This is as close as we can get to a CBA of WC2005. Furthermore, the empirical results will also provide information on the growth effect of WC2005. The results on the games impact on value added and employment at regional and national level in 2005 will tell to what extent WC2005 was a booster of growth.

Before going to the details of this study, we present a selective survey of previous studies analyzing the economic impacts of mega events. We concentrate on key indicators, data and methods used, and we also point out how these studies have solved the problem of finding out net effects and related problems.

## 4 Economic effects of mega sports events – a selective survey of previous studies

There are quite a few studies of the economic effects of mega events. In sporting, the emphasis has been in the evaluation of Olympics. One of the key questions has been the regional and national economic growth impact of Olympics related investments and visitors. Also, the profitability of mega events has been evaluated from stakeholders' perspective. Explicit (social) cost-benefit analyses are evaluating mega events as projects are rare, although relevant aspects are included in several studies. In the sequel studies on Olympics, some other mega events and Gothenburg's WC1995 in Athletics are summarized. Thereafter, we survey studies on some Finnish mega events and conclude with some general comments and findings of economic impact studies of mega events.

### 4.1 Economic impact of Olympics

Kasimati (2003) presents a survey of studies on economic effects of summer Olympics. She compares methods used both in ex-ante and ex-post studies, which include input-output and computable general equilibrium model applications, and presents their results. According to Kasimati, positive economic impacts of ex-ante evaluations are rarely confirmed by ex-post studies.

Barton's (2004) considers economic impact studies of earlier Summer Olympics in order to do an ex-ante evaluation of Athens Olympics in 2004. The article surveys previous studies, their methods and results concerning Olympics in Los Angeles (1984), Soul (1988), Barcelona (1992), Atlanta (1996) and Sydney (2000). He also compares economic indicators of these cases in order to find out whether there is an economic bust after the Olympics. In some cases this seems to be the case. Barton makes an ex-ante evaluation of forthcoming Athens Olympics on the basis of earlier studies and the investments made in Greece. The estimated costs of arranging the Olympics is 2 000 million €, whereas the total cost estimate is about 10 000 million €.

Baade and Matheson (2003) make a critical assessment of the economic effects of Los Angeles (1984) and Atlanta (1996) Olympics. According to their results, the ex-post effects are more modest and shorter than the lobbyists' ex-ante evaluations. Their approach is based on studying employment effects of Olympics relative to what would have happened without Olympics. They use regression models and metropolitan data in their ex-post evaluations and conclude that Olympics can only have long lasting economic impacts if new infrastructure built for Olympics can be utilized efficiently also afterwards. Olympic investments can otherwise slow growth relative to alternative investments of similar amount.

Brunet (1995) makes an ex-post evaluation of Barcelona Summer Olympics, where he considers the organization, finance, investments, costs and economic impacts of the games both to Barcelona and Spain. According to Brunet's results the Olympics increased

employment during 1987-1992 on average by 59 000 people per year and managed to create 20 000 permanent jobs. The total net effect (on value added?) of Barcelona Olympics was 26,5 million dollars.

Price Waterhouse Coopers' (2001) report "Business and economic benefits of the Sydney 2000 Olympics: a collation of evidence" studies the effects of Sydney 2000 summer Olympics during 1993-2001. According to their results, the business sector benefited from a 3 000 million dollar additional demand. Tourism increased and as a result tourism induced consumption increased by 6 000 million dollars in 2001. Also, Australia's brand as a tourist attraction benefited from Olympics according to the evaluation.

The same games were also analyzed in the study "Spotlight on Sydney" (2000), published by the Australian State Chamber of Commerce. Here, the composition of audience, its attitude towards the games and its consumption was studied by surveys. Also, the impact of the Olympic Games on business firms (retail trade) was assessed by Vox Pop Surveys. Half of the game audience was foreign and half was Australian. Most guests lived with relatives or friends (52 %) whereas the share of hotels and motels was 16 %. Tourism to Australia increased by 50 000 persons from the previous year and most of them planned to stay in the country more than 4 weeks. More than two-thirds of firms in the tourist area of Sydney indicated in surveys that their businesses had benefited from the Olympics, but still 87 % of the firms had expected bigger sales than came through. Shops in the economic centre of Sydney and other centers not close to Olympic sites actually did rather badly during the games. Shops which benefited from Olympics included camera shops, gift shops and fashion stores. Most take away food stores, cafes and restaurants reported a decline in turnover. As for local residents, 91 % planned to stay home during the Olympics.

Ioannides (2002) considers the expected effects of Athens Olympics to the Greek economy. The economic impacts result mainly from direct costs of hosting the games (1,8 billion \$), infrastructure investment costs and public services provided by the state (1-2 billion \$). According to Ioannides the consumption effect of visitors to the games is negligible due to displacement effects as the number of other tourists reduces due to Olympics. In his view the future possibility to utilize the built infrastructure and other facilities after the games is decisive for positive economic impacts of the Olympics, and he suspects that in the Athens case the prospects are not very good due to deficient planning and too big spatial concentration of facilities.

Spilling (1999) writes about economics of mega events and makes an ex-post evaluation of Lillehammer Winter Olympics 1994. The economic impacts are predominantly temporary and the long run effects are marginal relative to the volume of regional economy. A mega event can, however, act as a catalyst to improve infrastructure and competences which may have long run effects. Lillehammer managed to make itself known as an interesting location for events, and it has succeeded to become organizer of several smaller events later. The Winter Olympics increased tourism in Lillehammer until 1997. Despite of creating positive effects, the Olympics did not correspond to the initially set economic conditions of the organizers.

## 4.2 The economic impact of Gothenburg WC1995 in athletics

The purpose of this paper is to evaluate the economic impact of the Helsinki WC2005 in athletics, organized by IAAF. These games are the third biggest event after Olympics and football World Cup. Despite of this, the World Championships in athletics are much smaller events than the two biggest ones. This partly explains why there are no (published) economic impact studies of the athletics games. There is, however, a study commissioned by the City of Gothenburg, which hosted the 1995 WC in athletics (GWC1995 in sequel). This study (Göteborg & Co: de turistiska effekterna av VM) is not public, and despite efforts, it was unavailable to us. Only a summary (slides of a presentation) of economic impacts was given to us by Ossian Stiernstrand, who was one of the authors. The study evaluates the magnitude of the regional consumption demand effect of GWC1995. Presumably, the initial demand effect includes consumption of visitors and the money flows of local organizers, which together are used to calculate regional multiplier effects. Investments and special maintenance expenditure related to GWC1995 are not included in the (initial) demand shock estimate.

The consumption demand estimates are based on survey information from visitors to GWC1995 (and other tourists) and business firms in the Gothenburg region. According to the study, there were in all 75 000 visitors in the games of which 18 000 were foreigners. At the same time, there were about the same amount of other tourists in the area. On average the game visitors stayed in the area for 5,6 days and used 136 € per day. The estimated total amount of money used by the game visitors was 54,6 M€. Non-game tourists who were somehow linked to the games, used in all 16,4 M€. Business firms used 49,1 M€, but the summary obtained does not tell the type of firms and forms on sums. Thus we do not know whether it includes the money flows of the local organizers (LO), collaborating firms, sponsors, municipalities etc. The estimated total direct effect of GWC1995 is 120,1 M€ (without effects of investment expenditure) presumably without multiplier effects, which however seem to be analyzed, but not reported. Increase in municipal and state tax revenue resulting from the consumption demand impulse of GWC1995 is said to be significant, but no figures are presented in the summary.

What is interesting from our point of view is that the GWC1995 ex-post results are used to estimate ex-ante the respective economic impact of (then) forthcoming Helsinki WC2005. The study ends up with a total (initial) consumption effect of 111,1 M€. This is based on an assumption that Helsinki will get 64 000 game visitors (of which 15 000 foreign) and that the length of stay and spending of visitors would be the same as in Gothenburg. Already at this stage, we can say that the length of stay and spending estimates are rather similar in magnitude as those to be reported in this study. An essential difference to us, however, is the fact that the GWC1995 study does not take into account displacement effects. This defect is criticized in another study of GWC1995 by Hultkrantz (1999). He uses time series analysis to show that the number of ordinary tourists decreased by the amount of game visitors during the games. This explains why, despite the popularity of the games, they caused a massive loss to local organizers. He also concludes, contrary to the study commissioned by City of Gothenburg, that the games did not generate a surplus in tax revenue.

### 4.3 Economic impact studies of other mega sporting events

Baade and Matheson (B&M) have, in addition to Olympics, studied the economic impact of several other mega sporting events. In B&M (2000) they assess the economic impact of the American football championship, the Super Bowl, on 23 host communities (2000) during 1973-1999. The economic impacts derived by B&M are about one tenth of what the ex-ante studies commissioned by the National Football League report. Organizing Super Bowl usually means that a new stadium needs to be built, which is a big investment. B&M challenge the view that organizing Super Bowl is an economically profitable investment. Instead, such mega events only move resources from one area to another without creating new economic activity. B&M's regression results imply that during 1973-1999 the Super Bowl created on average 540 jobs in host cities and increased economic activity by 32 M\$ per game, whereas NFL commissioned estimates were several hundred million dollars per game.

B&M (2000) assess the economic impact of the football World Cup 1994 held in the U.S. According to the results, the economic impact was negative on average for the host cities and for the U.S economy despite the fact that the organizers profited from the games. This outcome is due to the fact that the games caused a greater decrease in consumption than the benefits were from the games. Ex-ante assessments predicted a benefit of 4 000 million dollars, whereas the estimated loss turned out to be 5500-9300 million dollars. This kind of discrepancy is not unusual as Matheson's (2002, 2004a) studies show when he compares lobbyists' ex-ante evaluations and economists' impact analyses. The former tend to assess gross effects and neglect substitution and displacement effects and the fact that part of the money flows go outside the host city/regions e.g. due to the fact that some organizers and for instance hotels involved are national or international chains. In Matheson (2004b), the author discusses the research finding according to which ex-ante impact studies of small events correspond better to ex-post evaluation results as compared to respective assessments of mega events. His explanations include smaller congestion effects, lower costs and higher multiplier effects of small events. Also small events create smaller incentives for lobbyists to generate manipulated figures. On these grounds cities should prefer hosting small rather than mega events.

Rugby World Cup is the fourth biggest sporting event in the world and its economic impact was studied in relation to the games in Wales 1999 (SQE & System three 2000). There was data collection both before the games in October-November 1998 and during the games in 1999. The study included several types of surveys, one of which was an audience survey. The cup gathered 331 000 people of which 66 % were Welsh, 13 % British and 21 % foreigners. It was estimated that the games caused 480 000 nights in hotels etc. and brought over 80 % of the visitors in the area. The spending by Welch was £64,21/day, British £123,88/day and foreigners £177,45/day. The average spending was £92,93/person/day. According to a survey directed to tourism related businesses like hotels, restaurants and catering, accommodation firms and retail firms, the games had a positive regional effect on two-thirds of accommodation firms and on more than half of firms in catering business. However, for over half of retail firms the economic impact was negative. The games also diminished business related tourism.

There are numerous British studies, which use surveys directed to visitors and firms to evaluate economic impacts of sporting events. They include studies of IAAF World Half Marathon and BUPA Bristol Half Marathon arranged in Bristol, UK an UK Sport's (2005a) study "Measuring Success 2 – The Economic Impact of Major Sports Events" where the economic impacts of 16 different sporting events in Great Britain during 1997-2003 are analyzed. Also, inside World Championships in Athletics in Bristol (UK) 2003, have been studied by UK Sports (2005b). A study which concentrates on shopping behavior of local residents and visitors in Cardiff has been done by Cardiff Research Centre (2002).

The most extensive study in UK on the economic impacts of sporting events has been done by Cambridge Econometrics (2003). It aims at evaluating the importance of sports sector for East-England's economy. Big and high profile sporting events attract annually about 220 000 overnight visitors to East-England, where the sporting sector offers employment to 40 800 people.

#### 4.4 Finnish Economic Impact studies

In Finland the ex-post economic impact of Jyväskylä Rally has been studied by Salo et al. (1996) by surveys directed to visitors and local firms. Ticket sale was in all 110 500 and in addition there were 7 900 tickets for firms. The visitor amount was 43 000 – 53 000, of which 70 % came from outside the municipalities where the rally was organized. There were about 1 400 foreign spectators and in addition about 1 300 persons of media representatives, team members etc. The spectators used on average 155 € for travel, accommodation, food and drinks and souvenirs (range 0 – 3 400 €). Foreigners brought over 400 000 € to the area. Visitors used in all 7,5 M€, of which 5,3 M€ was due to visitors coming from outside the rally area. The event employed directly 80 people for a year, and including indirect effects the estimate was 200 man-years employment effect. Three out of four firms answering the survey regarded the economic impact of the Rally positive or very positive. Extra sales revenue due to the Rally was estimated to be 3,7M€ more during the two weeks of the event than during respective ordinary two week's period.

When Nordic countries applied for European Cup in Football 2008, an ex-ante evaluation of its economic impact was done on the basis of what was known about tourism and related consumption effects in previous cups in 1996 and 2000. According to a minimum scenario, Helsinki and Tampere would get in all 207 000 cup spectators of which 112 000 foreigners. They would use in all 63,1 M€, of which the Cup induced consumption would be 45,5 M€. Restaurants would get 20,4 M€ and hotels 10,4 M€ increase in revenue.

A study by Cantell (1999) summarizes several studies on the effects of five mega events arranged in Helsinki since 1996. They include studies on ITC-car racing, Ice Hockey World Championships, Michael Jackson's concert at Olympic Stadium and Aida Opera at Hartwall Arena. The results were based on surveys of visitors either during the event (ICT-racing) or after the events. Also business firms in Helsinki (inside Ring I) were interviewed including hotels, restaurants, museums, centrally located specialized shops and depart-

ment stores. All businesses benefited from the events at least to some extent in the form of increased sale. About half of visitors to these events come outside Helsinki Metropolitan Area, and less than one-third come from Helsinki. Consumption by visitors varied in the events: Aida 165 FIM/person, Michael Jackson's concert 307 FIM/person and ICT-race 628 FIM/person. The total effects for businesses in Helsinki were also estimated to vary as follows. The ICT-race brought 37,1 million FIM to the businesses surveyed, and for the whole economy in Helsinki 44 million FIM (visitor survey). Respectively, Ice Hockey WC brought to businesses 10-12 million FIM, Michael Jackson's concert 14 million FIM, and Aida Opera 6,4 million FIM to the Helsinki economy. According to the report, the events brought to Helsinki a lot of visitors who would not have come there otherwise, at least during the events.

Cantell and Schulman (eds., 2001) includes 15 articles which study Helsinki as the Cultural Capital of Europe in 2000. For our purposes the most interesting article is by Susiluoto, who studies the economic impact of the event by a regional input-output model. According to Susiluoto's results the Cultural Capital City caused a total employment effect of about 1500 man-years, of which two-thirds in the Province of Uusimaa (surrounding Helsinki). The total value added effect was about 400 million FIM (67 M€), of which two-thirds realized in Uusimaa.

In addition to mega events, the visitors and economic impact of the Helsinki Fair Centre during the year 2001 has been studied by Cantell and Virkola (2003). The consumption effect of the Fair Centre's turnover plus the consumption of visitors and businesses participating in the Fairs in 2001 was about 145 M€.

As a summary of Finnish studies, their main interest is in demand (growth) effects of mega events. There are no explicit project analyses using cost benefit analysis even as a starting point, although relevant aspects of CBA are included in many studies. Studies of Finnish events often recognize the problem of displacement effects, but they do not, however, study and try to measure such of effects in order to measure net effects of the events. Explicit profitability analyses from various stakeholders' view-point are rare, too.

#### **4.5 Some remarks on the basis of literature review.**

The main macro economic impacts of one-time mega events result from related investments and possible increase in consumption. The latter component depends heavily on the net effect of the event on tourist related sectors. Part of the initial (direct) effects are local or regional, partly they spread to the host country and beyond. The same is true for multiplier effects, which together with initial impact determine to what extent the mega event affects macro economic variables such as value added and employment. Most international and Finnish impact studies are interested in such effects. The theoretical frameworks, empirical methods and data used vary a lot in the literature.

For determining the initial (direct) demand effects, besides net investments, also information of change of consumption due to increase in spending by visitors and organizers rela-

tive to no-event case is needed. Here, the key issue is how to figure out not only the gross, but especially the net effects. In many studies the problem is recognized but impacts reported are not net effects. Lobbyists of mega events tend to neglect this aspect altogether. The importance of this issue is, however, highlighted by several authors. For instance, in his ex-ante assessment of Athens' Olympics, Ioannides (2002) expected that the net effect of Olympics visitors will remain small because they will crowd out normal tourists, who regularly arrive to Greece at the same time of the year. Instead, in Stiernstrand's summary of the Gothenburg WC2001 in Athletics, which was also used in estimating impacts for respective Helsinki games, crowding out effects were not assessed. This neglect was heavily criticized in the Hultkrantz (1999) study.

Another problem of growth impact analyses is related to the future use of mega event related investments. Do they boost growth also in the future? This depends heavily on the future use of new infrastructure after the event. In one extreme, the investments are so specific that they are torn down after the event. In another extreme, the investments increase provision of useful services and enhance future growth. In our case of WC2005 the investments directly related to the event were very small. The "old" Olympic Stadium was repaired to some modest extent and only a new permanent cover to the eastern side and another temporary cover for media during the games, was built. Other investment and repair items will be discussed in the sequel, but they were not very big anyhow. Furthermore, part of the investments and repairs were done within annual budgets by redirecting the use of money. We assume that these changes did not affect efficiency to the extent that they should be considered. Only net changes in investments and repairs will be taken into account.

Besides the regional and national growth effects of mega events, there is an obvious need to evaluate mega events as projects as discussed in section 3. The revenues and costs as well as profits or losses to organizers, businesses etc. have been analyzed in quite a few studies. Thus, part of the literature answers questions concerning the profitability of the mega event, but explicit cost-benefit analysis is not usually undertaken for obvious reasons. Especially social cost-benefits analysis, which pays proper attention to externalities, uses shadow prices for non-market inputs and outputs and solves quite a few other problems of implementation, is difficult when such elements are essential in the application. In our case we aim at studying the regional and national macro economic impacts of WC2005 using various data sources (financial statements, specially compiled statistics, surveys, interviews) and methods (trend deviations, input-output analysis). In addition, we use this information to look at the profitability of the event from various stakeholders' view-point and as a whole to the extent that this is possible.

## 5 The actors of WC2005 and their economic links

In this section we provide basic information on economic actors (or stakeholders) of WC2005 and related money and service flows. The basic aim is to find out not only gross flows of investments, purchases of goods and services, tickets and so on, but especially to figure out direct (first round) net effects which were "caused" by WC2005. This is done by considering each actor and all main expenditure items separately. The outcomes of this exercise will later be used (in section 8) as first round or direct effects in regional input-output analysis to find out multiplier (or total) effects of WC2005 on value added and employment. Looking at the items as revenues and costs makes it possible to use the information in evaluating the "profitability" of WC2005 for various stakeholders.

### 5.1 Actors of WC2005 and related money and service flows

The most important actors and their interconnections (money and service flows) are described in Figure 5.1. They include the spectators (consumers) of sporting events (via media or as visitors to event), IAAF, local organizers, owners of infrastructure, the business sector, municipalities and the state.

The key driving force and international organizer of WC2005 was *IAAF*, which chose Helsinki to be the site for the games in February 2002. It was also the greatest beneficiary of the games, because it has the monopoly to make related media and sponsor contracts. IAAF has outsourced these activities to Japanese Dentsu company. All information on the economy of IAAF is concealed. However, on the basis of various sources (like FST TV-document "Vem vann VM?" (Who won in WC?) August 30, 2006) it has been estimated that IAAF received from main partners as sponsor income and media contract income in all about 20 million €. This income can be regarded in economic terms as monopoly rents. Note that IAAF did not participate in financing the games. The local organizers and the Government of Finland were responsible for all the risks of the event, and LO paid for the costs of most athletes and accredited guests in Helsinki during the games. IAAF was responsible for some services (timekeeping and result services) related to running the games and it financed the medals. Furthermore, IAAF made a contract with Toyota such that LO got 200 Toyota cars during the games available for transportation, and another sponsor contract with Mizuno brought clothes to volunteers. The local organizers estimated that these contributions (excl. prizes) by IAAF are worth about 1,2 million €.

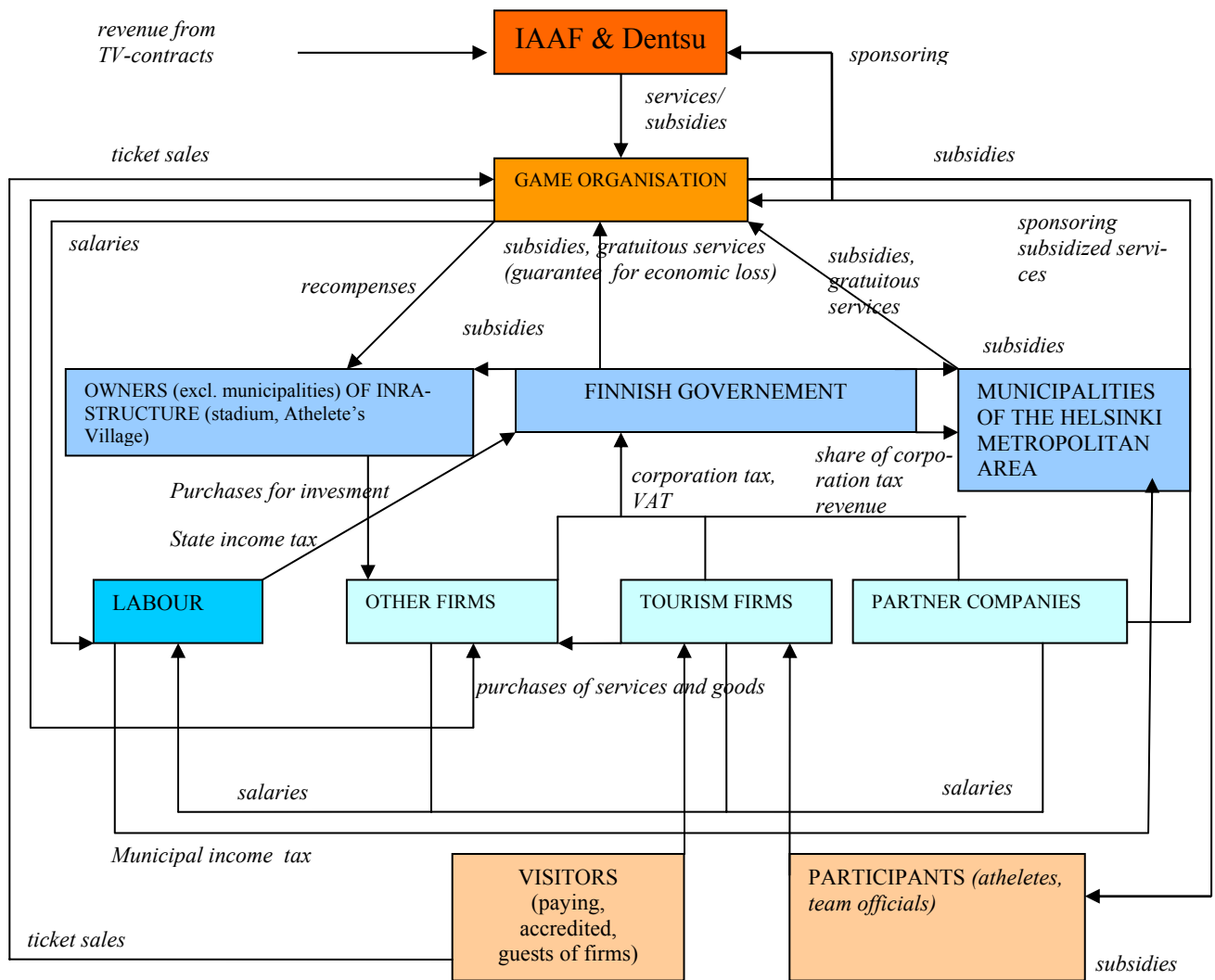


Figure 5.1. Main actors of the games and financial flows between them

*The local WC2005 game organization (LO)* was the most important actor of the event. There is a chart of organizers in Appendix A. LO's expenditure was about 27,5 million € which is about the same amount as IAAF was able to get as "rents" from sponsors and media. LO employed paid people and volunteers. Wages (and related social security payments) to employees amounted to 2,5 million €. Leases and charges related to using the Olympic Stadium, other sites of competition and the game village, a new student dormitory at Helsinki University of Technology in Espoo, cost about 7 million €. The remaining 18 million € was used to buy different kinds of services from businesses, financing partly travel expenses of participating teams and other game related expenses. On the revenue side of LO, ticket sale was the biggest item, about 17 million €. In addition LO received support from local (Finnish) sponsors worth about 5 million €. Half of this was in cash and half in kind without charge or with price below market level.

*The Finnish government (The State)* supported WC2005 by 1,75 million €, part of which was earmarked money for certain purposes. In addition the state provided security services by increasing resources in border control and police forces and its equipments at sites of the games and the game village. Furthermore, the Finnish Army participated to some extent in the games (draftees and regulars). These types of support was 7,3 million €. The state also made a guarantee to cover eventual losses of LO, required by IAAF, up to 2,5 million €. On the revenue side, the State received value added taxes and corporate income taxes from firms which sold goods and services to the game visitors, LO and owners of event related infrastructure. The State also received income tax revenue from the increase in wages resulting from the activities of LO and increased wage will of the business sector

*The City of Helsinki* donated 250 000 € to LO and the *City of Espoo* 200 000 €. Helsinki, Espoo and *City of Vantaa* provided different kinds of services related to WC2005 worth in all 0,5 million €. Helsinki and Espoo also financed themselves (worth several million euro) investments and renovations of training sites for track and field in Espoo (Lepävaara) and Helsinki (Eläintarha) and at several other sites around the Olympic Stadium and around the city. These investments etc. were made partly by contracting out and partly as internal work. The cities did not charge LO for the use of these training sites, public spaces or other facilities etc.

The *owners of games related infrastructure – Stadium Foundation* (Olympic Stadium) and the *Student Union at Helsinki University of Technology* (owner of WC2005 village and dormitories) – received rents or compensation from LO. In carrying out the investments, the owners bought services from construction firms.

The business sector is divided into three groups, according to their role. **The official cooperation firms** of IAAF and those of LO form one group. IAAF has a sponsor contract with Dentsu. Also LO's cooperation firms had to make a contract and pay for it to Dentsu in order to get an official cooperation firm status. Part of the latter group firms also supported the games separately either financially or in terms of free or subsidized delivery of goods and services.

*Travel industry firms* including hotels, restaurants, transport firms and shops form the second group. The third category, *other firms* affected by the games include for instance construction firms and several other types of firms, which sold goods and services to LO, cooperating firms or the two other types of firms.

LO hired both *paid employees and volunteers*. Then there were the *athletes* and other members of national teams, and IAAF representatives. Finally, and most importantly, the WC2005 *spectators*, who consisted of local (Helsinki) and Metropolitan area residents, and people from other parts of Finland, as well as foreign visitors.

## 5.2 WC2005 infrastructure and related investments

By the infrastructure of WC2005, we mean sports venues, buildings and spaces serving the games, and the game village (in Espoo), where the athletes had accommodation and training fields, and other facilities. Investments into this infrastructure and renovation of old facilities are an important element for economic impacts of the games, and their eventual longer term effects. The following information is based on surveys of infrastructure owners, and information delivered by them in other forms.

### *Olympic stadium*

To fulfil the requirements of IAAF an investment and renovation program was undertaken such that the total investment was 10 million € (incl. VAT) and consisted of the following items:

- |                                               |                |
|-----------------------------------------------|----------------|
| - additional shelter on east side stand       | 6,5 million €  |
| - upgrading the tracks and field              | 1,0 million €  |
| - loudspeakers, lighting and entrance control | 1,2 million €  |
| - construction costs (as developer)           | 1,3 million €. |

The investment program was financed jointly by the State 4,2 million €, City of Helsinki 4,2 million € and the Stadium Foundation 1,6 million €. In addition, the temporary media-stand and its shelter was financed by LO and Finnish Broadcasting Company (YLE).

The normal annual turnover of the Stadium Foundation is about 2 million €. Related to the games Stadium Foundation received rental income 900 000 €, and its running expenses were 700 000 €, leaving a surplus of 200 000 €. On the other hand, U2's concert and some smaller events had to be cancelled because of WC2005. The net loss of rental and other income due to these cancellations was about 150 000 €.

There has been a long time need to renovate the Olympic Stadium and construct a shelter to the east side, but there have not been resources for this. Without WC2005 and related financial arrangements the investments would not have come true. The ordinary revenue flows are not sufficient for such investments. This is partly understandable by the fact that unlike elsewhere, this stadium is not used for football or other regular sports events with big audiences and revenues. Only the national football team uses the Olympic Stadium every now and then.

After WC2005 investments, the Olympic Stadium fulfils FIFA requirements for football and it is also more suitable for track and field competitions and concerts. According to Stadium Foundation, the investments carried out will have a positive but not so big effect on turnover in the future years. From the viewpoint of assessing the regional impact of WC2005, the infrastructure investments of the Olympic Stadium (10 million €) can be regarded as something that was due to the games. Furthermore, its financing did not crowd out alternative investment projects.

### *Otaniemi game village*

The game village, where WC2005 athletes had accommodation and other services, was located in Otaniemi, Espoo. Student Union of Helsinki University of Technology (SU of HUT) owned student dormitories (for 2600 people) were used in addition to neighbouring Radisson SAS hotel (for 400 people) in Espoo. Dipoli, a multi-purpose conference center served meals and acted as a center for the police.

Before the games SU of HUT built six new dormitories (for 400 people) in addition to earlier ones in Otaniemi. Despite a long-lasting need to expand student housing supply in Otaniemi, disagreements with the Ministry of Education and other bottlenecks meant that new projects could have been realized earliest 6-7 years later. WC2005 made it possible to link the housing project to the games, and thus the project was carried out during 2002-2005 and it cost 19,8 million € (incl. VAT). The Housing Fund of Finland (ARA) financed 95 % with so called ARAVA-loans, 4 % grant was received from the State and SU of HUT financed the remaining part. The plots where the dormitories are located are owned by a State property company (Senaatti-kiinteistö), which leases them to SU of HUT.

Before the games in Spring 2005, the old dormitories with 1 100 students were emptied and renovated with 190 000 €. After the games in August 2005, old dormitories were returned to students and newly built ones were also made available for students of HUT. SU of HUT received a lump-sum compensation of 1 million € for the whole dormitory project. The new dormitories made it subsequently possible that all students coming from outside the Helsinki Metropolitan Area could now have accommodation in Otaniemi, where HUT is located.

The dormitory project can be regarded as an investment caused by WC2005, since this project would otherwise have realized only 6-7 years later. The project did not crowd out alternative investments which could have been financed by ARA.

### *Infrastructure in the City of Helsinki*

The City of Helsinki renovated the Eläintarha track and field centre (worn up place for athletes connected by renovated tunnel to the Olympic Stadium) as well as several types of venues close to the games, in city centre and along the marathon route.

Eläintarha project, carried out during 2004-2005, cost 1,3 million € (without VAT, which the City would get back). Ministry of Education gave a 230 000 € grant for the project. The renovation would have been carried out anyhow, but later and with somewhat lower standards. The renovation enables the use of Eläintarha in national track and field competitions in addition to improved ordinary training use by athletes.

Within the City of Helsinki, the Sports Department renovated a number of sporting and other sites using 735 000 € (without VAT) for these purposes in 2005. The Public Works Department renovated public places near game venues, marathon route and hotels using

in all 1,6 million €, of which the City of Helsinki paid 1,4 million € and LO about 0,2 million €.

The City of Helsinki used in all 3,6 million € (without VAT) to the above investments of which the Ministry of Finance grant and a grant from Football Association of Finland covered together 260 000 €. Most of the investments would have been carried out anyhow with ordinary budget finance of the City, but WC2005 advanced their realization. Thus these investments crowded out other projects. In this study only the renovation of Eläintarha track and field centre (1,3 million €) is regarded as an investment, which was caused by the games and had a net economic impact.

### *Infrastructure in the City of Espoo*

The City of Espoo renovated the Leppävaara track and field centre in Otaniemi to a working training site for athletes (1 117 000 € during 2004 - 2005) and a state grant of 110 000 € was obtained for this purpose. The centre was later used as the site of PARA WC2005 in Espoo. Also, renovation of Otaniemi track and field centre (230 000 €), and other public works (2 132 000 €) were carried out by the City of Espoo. In all these investments amounted to 2,02 million €.

Like in Helsinki, there was a need to carry out most of these projects even without WC2005, and they were predominantly financed by normal city budgets. In this study only the renovation of Leppävaara and Otaniemi track and field centres (1,3 million €) is regarded as an investment, which was caused by the games and had a net economic impact.

### *Summary*

In all WC2005 related investments and renovation projects were worth 35,7 million € which corresponds to 30,3 million €, when VAT was excluded from prices. A summary of all items involved is presented in Table 5.1. The biggest investment, SU of HUT dormitory buildings in Espoo were financed mainly by loans from the Housing Fund of Finland, which will be paid back over time in rents paid by students. LO had made small investments and IAAF had no role in investments besides setting certain requirements.

Table 5.1  
*WC2005 induced investments by actor and financing institution (1000 €, cities without VAT, others with VAT)*

<i>Financing by</i>	<i>Actor</i>				
	Stadium Found.	HUT	City of Helsinki	City of Espoo	In all
State (grant)	4 200	800	230	110	5 340
Housing Fund (loans)		18 800			18 800
Stadium Foundation	1 600				1 600
SU of HUT		400			400
Local organizer (LO)			200		200

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City of Helsinki	4 200		3 170		7 370
City of Espoo				2 020	2 020
In all	10 000	20 000	3 600	2 130	35 730

The time profile of these investments spread over three years. About 60 % were carried out in 2005, 25 % in 2004 and 15 % in 2003.

In the Helsinki Region<sup>1</sup> the value of investments (gross capital formation) was in all 27 billion € (on average 9 billion € annually) during 2003 – 2005. Most of it consisted of construction investment. WC2005 related investments were 30,3 million € (without VAT) and as such they are about 0,1 % of all investments in the Helsinki Region during the period 2003 – 2005. From a regional perspective the WC2005 investments were marginal for the local economy.

Note that the costs of Stadium Foundation and SU of HUT included VAT worth 5,4 million €. This is about the same sum by which the state gave grants to WC2005 projects. VAT paid by cities of Helsinki and Espoo to private contractors was excluded because municipalities get these taxes refunded.

Out of our estimate of WC2005 related total investments 30,3 million € during 2003-2005, Cities of Helsinki and Espoo would have carried out 3,1 million € investments anyhow. This gives us a net figure of 27,2 million € (without VAT) during 2003 – 2005. Here our criterion is that the projects included would not have been carried out without WC2005 during next three years, and they did not crowd out alternative projects. The effects of these investments on value added and employment including related multiplier effects are studied in section 8.

### 5.3 The economy of local organizers and cooperating firms

The local organizers (LO) of WC2006 have an economic impact as they buy goods and services from firms and employ people. Also the cooperating firms can buy goods and services for WC2005, but their main impact comes from eventual increase in their own employment or extra work (hours) done by permanent staff in their own activities.

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<sup>1</sup> Helsinki Region in this study covers Helsinki, Espoo, Kauniainen and Vantaa, and 12 other municipalities surrounding them.

### *LO's purchases and personnel*

LO's expenditure was 28,7 million € and it covered items presented in Table 5.2.

Table 5.2  
*Local organizer's expenditure*

<i>Item</i>	<i>1000 €</i>
Wages and related expenses	2 513
General organizing expenses	3 900
Leases of game venues (stadium, game village etc), other payments related to preparations for the games	8 600
Transportation	2 900
Accommodation and meals	3 400
Marketing	1 900
Security	2 400
Other costs (anti-doping, program, protocol etc.)	1 915
<b>In all</b>	<b>27 528</b>

In this study these items are interpreted in such a way that excluding wages and related social security contributions (2,5 million €), the expenditure is related to purchase of goods and services from firms and other organizations. Thus, in all LO has created additional demand of 25 million € in the Helsinki Region and beyond. The more exact types of purchased goods and services and their sector distribution are documented in a separate memo. This information will be used in section 8, where input-output model is used to study multiplier effects.

The value added created by LO consists of the value created by the LO personnel measured by wages and related payments, which are in all about 2,5 million €.

Finally, we note that according to LO's financial statement, its revenue exceeded expenditure such that it made a 400 000 € surplus.

**Volunteers' work:** There were 3000 unpaid volunteers in WC2005 working in all for 420 000 hours (about 45 000 days). LO has attached the value of 5 million € to volunteers' work. Relative to previous World Championships in Athletics, the magnitude of volunteer work was exceptionally great in WC2005. However, it does not have similarly important economic impact, when the value of work is measured by the compensation received in terms of money. It is comparable to housework, which is valuable and necessary work, but does not show in (regional) economic accounts.

Some volunteers were off from other work (on vacation or non-paid break) and for some others the alternative would have been paid summer job. Probably, part of the workload of "missing" volunteers has been done by hired extra workers or extended working hours. The extent of this phenomenon has not been studied in this work.

The volunteers' role can also be viewed from another angle: if their work would not have been available more workers would have been employed or goods and services bought. Using LO's value of volunteers' work, which is about 5 million €, the same amount of revenue would have been needed to organize the games and cover related costs. One may say that without volunteers arranging the games, WC2005 in Helsinki would not have been possible without a new financing structure and greater resources.

### *WC2005 related municipal services and their financing*

*Helsinki City Transport (HKL)* increased supply of services in trams, buses and metro, and stopped ticket checks during the games. The main parking lot at the Helsinki Fair Centre, offered to visitors travelling by car by LO, was free of charge as well as HKL buses from there to the Olympic Stadium. These traffic arrangements caused to HKL an additional cost of 210 000 €, a sum which can be regarded as the value of additional services provided due to the games. On the other hand, the games increased ticket sales by 160 000 €, and thus the loss of HKL due to the games was about 50 000 €. Here, no value is attached to the positive publicity HKL presumably received during the games.

As mentioned above, additional revenues from parking traffic received by HKL were paid by LO, and fares of public transportation use are part of visitors' consumption. To avoid double counting additional revenue of HKL due to the games is not taken into account separately when economic impacts are evaluated later.

*Helsinki Sports Department (Liv)* gave Töölö sports centre free of charge to the games to be a media centre as well as the Eläintarha track and field centre. Some rental expenses were lost, but as the loss to Liv is small due to low fees, it is neglected here. However, the value of service flow in the venues offered free of charge by Liv is estimated to be 50 000 €.

*The City of Helsinki* produced and bought communication and marketing related services to WC2005 by 300 000 €, but we estimate that this happened within normal budget, and thus did not have any additional economic impact.

*The City of Espoo Sports Department* gave the Leppävaara and Otaniemi sports facilities free of charge and produced communication and marketing services. In all, these are estimated to be worth 50 000 €.

*The City of Vantaa* arranged cultural etc. program at the Helsinki-Vantaa Airport and other places and invested in marketing. The programs were volunteers' work, and marketing did not cause additions to City budget. Although the programs were amusing to WC2005 (and other) visitors, we do not count any effect to the economy from these activities.

### *The State*

The Border Guards increased their activities during the games by extra work of its personnel and rescheduling summer holidays. In the State budget additional 770 000 € was received to cover related costs. Also the Police increased its activities by moving forces to

Helsinki, extra work, and rescheduling summer holidays. In all the cost was 6 million €, which was financed afterwards in state budget.

### *The Finnish Broadcasting Company (YLE)*

YLE was responsible for TV broadcasting to domestic and foreign channels, in all to 187 countries. The estimated TV coverage was 6,5 billion spectators (frequency of watching the games). The additional cost of WC2005 to YLE was 7 million € of which international host role caused 5,7 million € and domestic broadcasting services 1,3 million €. Most of the extra cost was personnel costs and rents of equipment. The costs were financed from YLE budget and EBU's (European Broadcasting Union) support and the sale of services and venues for broadcasting companies. The revenue stream for these activities has not been published but relative to costs, they were not very significant.

YLE had a good reputation in international broadcasting of sporting events and presumably that view got support in WC2005. In addition to sports, YLE gave foreign broadcasting companies before the games specially produced material of Helsinki & Finland and WC2005 sites. The media visibility of Helsinki Region and Finland are important, but hard to evaluate in our regional impact assessment. YLE financed most of WC2005 expenses from its normal budget and the economic impact results mainly from leasing of extra equipment needed in broadcasting the games. As such information is not published by YLE, we estimate that the value of extra work in YLE is 5 million € and purchase of goods and services 2 million €.

### *Summary*

In all LO and its public sector partners produced or bought goods and services related to WC2005 with 42 million € (Table 5.3). LO's share was 67 %. Also the contribution of the Police and YLE was great.

Table 5.3  
*Additional goods and services produced or bought by LO and its public sector partners (1000 €, bought items VAT included)*

<i>Actor</i>	<i>Value of items</i>		
	Own work	Outsourcing	In all
Local organizers (LO)	2 513	25 015	27 528
HKL	210		210
City of Helsinki	350		350
City of Espoo	50		50
City of Vantaa	100		100
Border Guards	770		770
Police	6 000		6 000
YLE	5 000	2 000	7 000
<b>In all</b>	<b>14 993</b>	<b>27 015</b>	<b>42 008</b>

LO's expenditure included 4 million € of value added taxes and for YLE VAT was 360 000 €. Most of all these activities and expenditures realized during the year 2005. The total amount above, 42 million € (37,6 million € without VAT) is about 0,1 % of total value added produced in the Helsinki Region during 2005. All items above follow solely from WC2005. Work done or bought by YLE or the cities involved are financed by their normal budgets by changing priorities, as well as losses from supplying facilities without charging, are taken as expenditure (in all 5,5 million €), which had no additional economic impacts.

In this study we end up with an estimate of 37,7 million € (33,3 million € without VAT) as the direct net increase in economic activity due to arranging WC2005, which took mostly place in 2005. The multiplier effects of this direct effect on value added and employment are studied in section 8.

## 6 WC2005 visitors and their spending

In this section we summarize results concerning the number of visitors to WC2005 from various directions, their characteristics, duration of stay and spending during their trip. These results are based on information on ticket sale, two visitor surveys done during WC2005 and traveller surveys done at borders by Statistics Finland. The aim is first to derive and estimate the gross increase in spending (consumption demand). In order to get respective net effect, one has to consider crowding out effects. This is the main topic of section 7, where surveys of firms and special statistics will be used for this purpose.

### 6.1 Ticket sale

Ticket sale (packages only first) started in July 2004. Sale of single non-packaged tickets started later, May 29, 2005. In all 393 036 tickets were sold or delivered otherwise bringing LO 17 million €. Domestic cooperating firms received tickets as (partial) compensation for their supply of goods and services, which is not included in the ticket revenue. The number of this kind of free tickets is not known exactly.

Table 6.1

*Ticket sale to different groups (no. of tickets and 1000 €)*

	SOLD TICKETS	FREE TICKETS	1000 €
<b>SPECTATORS:</b>			
Ticket packages	166 433	13 827	7 215
Day tickets	6 867	4 453	842
Single event tickets	88 008	41 244	5 156
SPORTS CLUBS (packages+single)	12 204		522
HOSPITALITY	14 000		1 820
Event Travel Finland	24 000		1 592
<b>IN ALL</b>	<b>311 512</b>	<b>59 524</b>	<b>17 148</b>
COOPERATING FIRMS (packages + single)		about 22 000	1 281

Source: Helsinki MM2005 final report (by LO) and Arto Kuusisto, financial director of LO.

Most of tickets were sold to Finns (85 %). As for foreigners, the biggest numbers of visitors came from Great-Britain, USA, Sweden, France and Germany (Figure 6.1). Within Finland over half of domestic tickets were bought by people living in Helsinki Region. After them, most tickets were bought by residents of Turku & Pori Region and then Hämeenlinna & Lahti and Forssa & Tampere Regions followed.

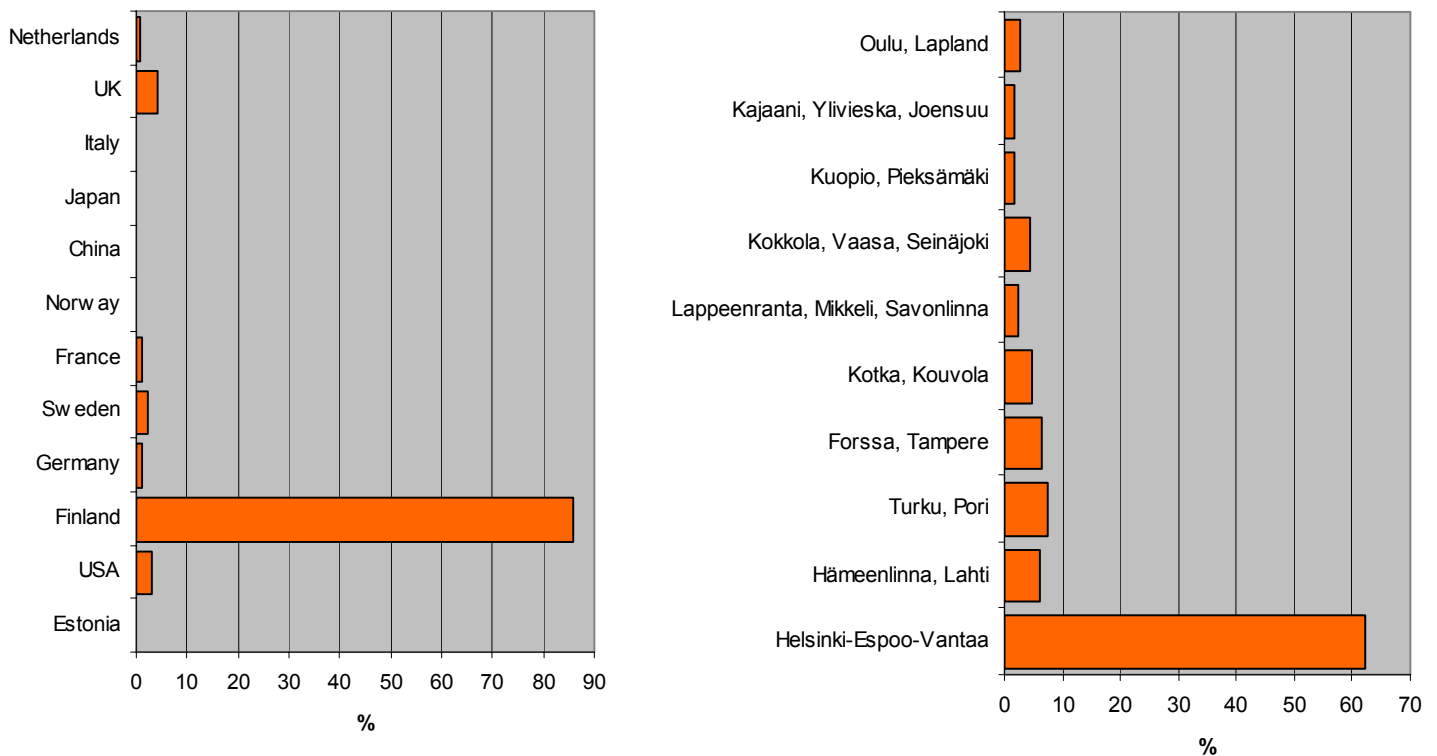


Figure 6.1. Tickets sold by country (left) and to domestic audience (right), percentage shares. (Source: Helsinki 2005 final report, draft, LO)

## 6.2 Survey results concerning visitors and their spending

Two independent surveys of visitors to WC2005 were done: one by Laurea University of Applied Sciences and another by Swedish Tourism Research Institute (*Turismens Utrednings Institut, TUI*).

### Laurea survey results

The Laurea survey of visitors during the games gave basic information concerning the number of visitors from various directions, their characteristics and duration of stay, and spending during their trip. The survey was done during 6.8.- 12.8.2006 at the market of the games during afternoons and evenings by students from Laurea University of Applied Sciences. The total number of surveys was 267 of which 20 were foreign.

The surveys gave information on background of visitors including origin, age, gender and income (class). Furthermore, the survey included information on WC2005 tickets (type and manner of buying), length of stay, accommodation and total spending and by type. Detailed information on all these variables and their distributions is given in Laakso et al. (2006). Here we only summarize some main results of the Laurea survey.

Domestic visitors to WC2005 stayed on average 3,8 days, whereas foreign 4,3 days. The visitors used money for other purposes than accommodation and tickets on average 81 euro/day. Helsinki Region residents spent less (57 €/day) than all other visitors (107 €/day). Foreigners spent the most (129 €/day) of all visitors.

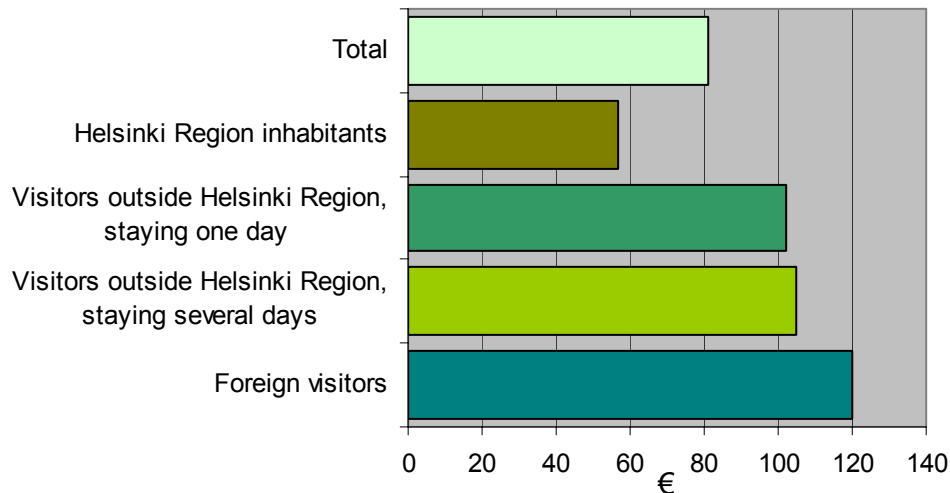


Figure 6.2.1. Consumption (excl. accommodation and tickets) of visitors, €/day.

### *TUI survey results*

Swedish Tourism Research Institute (TUI) interviewed 306 visitors (17 % foreign) of WC2005 during 12.-14.8.2006. Here we introduce the main results relevant for our purposes. One third of audience from outside Helsinki Region (36 %) made a single or several daily trips to WC2005. On the other hand, most visitors who stayed overnight (52 %) got accommodation at friends and relatives homes and only one third in hotels. The WC2005 tourists spent on average 123 € per day including tickets, local transportation, accommodation, restaurants, cafeterias and shopping. Tickets were 33 €, shopping 25 € and accommodation 19€ on average per day including all visitors (local and outside).

## 6.3 Results of border interviews by MEK

Finnish Tourist Board (MEK) has since 1998 done border interviews to find out the total amount of foreign visitors (country, purpose of visit, duration, accommodation, former visits to Finland, spending, activities, planning of visit and experiences of visit). The following results are based on interviews made during 6.-28.8.2005 in Helsinki-Vantaa airport, Turku harbour, Helsinki harbour, Hanko harbour, border points with Russia (both road and train). The number of foreign visitors was 32 000 and 92 % of them knew of WC2005. Thus they can be regarded as game tourists, most of who came from Sweden, Russia, Es-

tonia and Germany. About 60 % lived in hotels or motels and one fifth with relatives or friends. On average they stayed in Finland for 5,7 days.

On average the daily spending was 92 € (food and drinks 26 €, accommodation 23, shopping 17 €, see Figure 6.2.1). During their whole visit they spent on average 500€, which means that their total consumption was 16 million €.

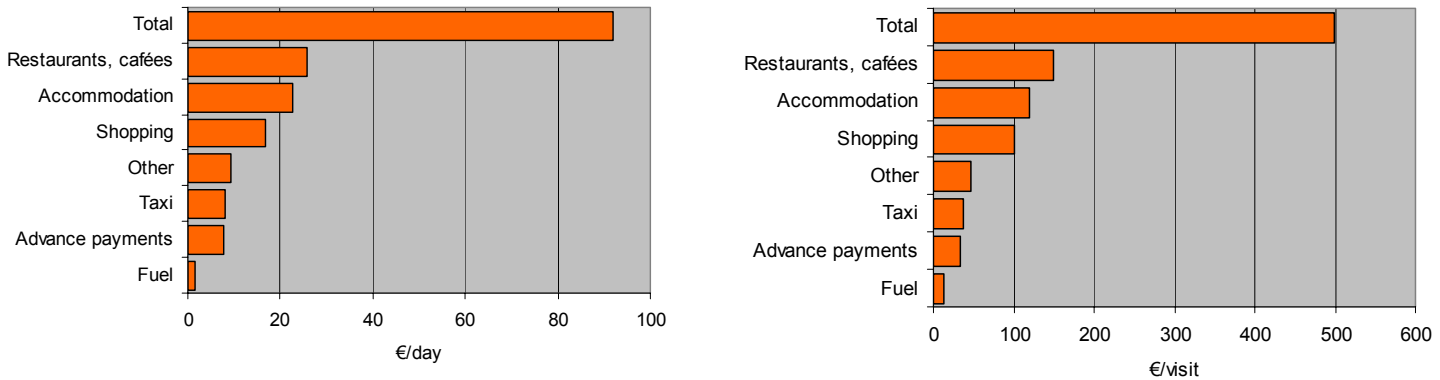


Figure 6.3.3. Consumption of game tourists, €/day and €/visit

## 6.4 Estimating the number of WC2005 visitors and their consumption

In order to estimate the total economic impact of visitors, their number, length of stay and spending information is needed. In the following we describe what sources were used for these calculations and present the final results.

### *WC2005 visitors*

By a WC2005 visitor we mean a person who participated to at least one (non-free) event at Olympic Stadium. In all 311 500 tickets were sold to the games and in addition 59 500 complimentary free tickets were given. Furthermore, cooperating firms received free single event and package tickets for their guests (22 000). Especially during rainy WC2005 days all tickets were not used. In this study we estimate that the total number of visitors (used tickets) is 330 000 – 350 000.

According to the TUI survey results visitors who had bought WC2005 tickets participated on average in 2,7 separate events. By dividing the estimate of used tickets with 2,7 we get an estimate of total number of visitors to be 120 000 – 130 000 people. In the sequel the exact number 125 000 visitors will be used. In addition to them, there were 19 000 accredited guests, of who 5 000 foreign including media people, IAAF representatives and the athletics team members.

### *The spending of visitors*

The number of observations and especially the number of foreign visitors was low (hard to get interviews on rainy days) in both Laurea and TUI surveys. Thus the number of foreign

visitors is estimated on the basis of border interviews done by MEK. According to this source, there were 33 000 foreign visitors to WC2005. After deducting the accredited guests, we end up with 28 000. There are reasons to suspect that all respondents who said they would visit the game events at Olympic Stadium, actually did not. The true number of foreign visitors is estimated to be in the range 20 000 – 25 000.

The number of domestic WC2005 visitors is 100 000 – 105 000 (=125 000 minus 20 000-25 000 accredited). On the basis of surveys 43 % of domestic visitors came outside and 57 % inside the Helsinki Region.

Also the spending of foreign visitors can be more reliably estimated by border interview information than the two surveys done at the WC2005 marketplace next to the Stadium. This gives us an estimate of consumption during their visit to be on average 499 €/visitor<sup>2</sup>. It implies that total consumption of all foreign WC2005 visitors was about 16,5 million euros (ordinary visitors 14,0 million € and accredited guests 2,5 million €).

On the basis of interviews we estimate that the consumption of domestic visitors from outside Helsinki Region was 418 €/whole visit (without tickets) giving a total of 17,6 million €. As for accredited domestic guests, we assume that half of them came from Helsinki Region and half outside. The consumption of the latter group was estimated using the survey average which leads to 4,2 million. The consumption of ordinary and accredited visitors who came from the Helsinki region is not assumed to create any additional consumption effects due to WC2005.

The results of consumption estimates for all groups are presented in table 6.4.1. The total 36,2 million €, of which 16,5 million € (46 %) due to foreigners, represents the gross consumption effects of WC2005 visitors to the regional economy without taking into account crowding out effects. This addition to gross consumption generated 6,4 million € of VAT revenue. These estimates still give a too optimistic view of the consumption effects and VAT revenue, because WC2005 crowded out alternative tourists from Helsinki Region. The size of this effect will be derived in the following section by considering the turnover (and its trend deviation) of tourism related industries and comparing the outcome to the gross consumption effect of visitors derived in this section.

Table 6.4.1  
*Estimates of visitors and their consumption (excluding tickets)*

Visitor group	Number	Additional*Consumption In Helsinki Region (1000 €)
Domestic, non-local	42 000	17 600
Domestic, local	55 000	0
Domestic accredited, non-local	7 000	2 100
Domestic accredited, local	7 000	0
<i>Domestic in all</i>	<i>111 000</i>	<i>19 700</i>

<sup>2</sup> Because the foreign visitors bought their tickets mainly in advance, we assume that tickets' role in consumption was quantitatively marginal.

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Foreign ordinary visitors	28 000	14 000
Foreign accredited	5 000	2 500
<i>Foreign in all</i>	<i>33 000</i>	<i>16 500</i>
<b>All visitors</b>	<b>144 000</b>	<b>36 200</b>

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\* Local visitors' effect on consumption is assumed to be zero. Crowding out effects are not taken into account.

## 7 The impact of WC2005 on the business sector

In sections 5 and 6 we have considered the impact of WC2005 from the viewpoint of public stakeholders (investors), organizers (LO) and the visitors. Here we look at the impacts from firms' viewpoint by utilizing specially constructed business sector indicators and surveys of tourism related businesses and cooperating firms. Impacts on the construction industry are not considered, as there was very little construction besides the new shelter to east side of the Olympic Stadium. The main aim of analysis is to determine the impact of WC2005 of tourism related industries. These results are then also used, together with visitors' consumption estimates (from section 6), to figure out crowding out effects in tourism and related consumption during August 2005.

### 7.1 Business indicators for tourism related firms

Statistics Finland produced for our purposes monthly series of turnover, payroll and employment of tourism related sectors in the Helsinki Region (four cities plus 8 surrounding municipalities). They give an objective picture of what happened since both crowding out effects and boosting effects are shown in these series.

Our tourism related **sub-sectors** include accommodation, catering, passenger traffic (buses, taxis) and car hire, other passenger traffic (rail, flight, ship), travel agencies and related services, recreation and cultural services, and specialized retail trade. In 2004 turnover of tourism related sectors was 9 300 million €, payroll was 1 400 million € and they employed 59 000 people. One third (35 %) of Finland's tourism related employment is in the Helsinki Region. Respectively, the employment share of tourism related sectors in the Helsinki Region is about 10 % of all employment.

Our **business indicators** measure turnover, payroll and employment relative to the level of the year 2000 on a monthly basis. Exact definitions of these variables and the way the series were constructed at Statistics Finland can be found from Laakso et al. (2006).

WC2005 took place during 6-14 August, 2005. Thus, the demand effects of visitors should be seen in the first half of August 2005. However, quite a few visitors came somewhat in advance and stayed after WC2005 in the Helsinki Region. Furthermore, some tourists not interested in WC2005 wanted to avoid the games and either came earlier or later to Finland. Anyhow, looking at the business indicators for the whole August seems a proper solution. This month includes the period of Para Athletics' European Championships in Espoo during 22.-27.8.2005, which also brought visitors to Helsinki Region.

By the net effect of WC2005 on each business indicator, we mean its deviation in August 2005 from the normal state of affairs, when no games were arranged. Because there is a lot of systematic seasonal variation in tourism related business activities, we have first used time series analysis to derive seasonally filtered monthly time series of business indicators. Then we calculate monthly trends, which represent "normal" activity. The deviation of actual values of business indicators in August 2005 from their calculated trend represents in our analysis the impact of WC2005.

In addition to the deviation from trend approach, we have also considered changes of business indicators from August 2004 to August 2005, and compared it to respective average changes during 1-7/2005 and 1-7/2004. The latter approaches are sensitive to random effects. Furthermore, August 2004 was a relatively bad month for tourism relative to preceding years.

The results of our calculations for turnover, payroll, and employment in the Helsinki Region are presented in figures 7.1.1 - 7.1.3. The greatest effect in turnover, in terms of trend deviation and change from previous year's August, was in accommodation, over 9 percentage points<sup>3</sup>. In the other sectors, the effect of WC2005 was much weaker and in some cases negative.

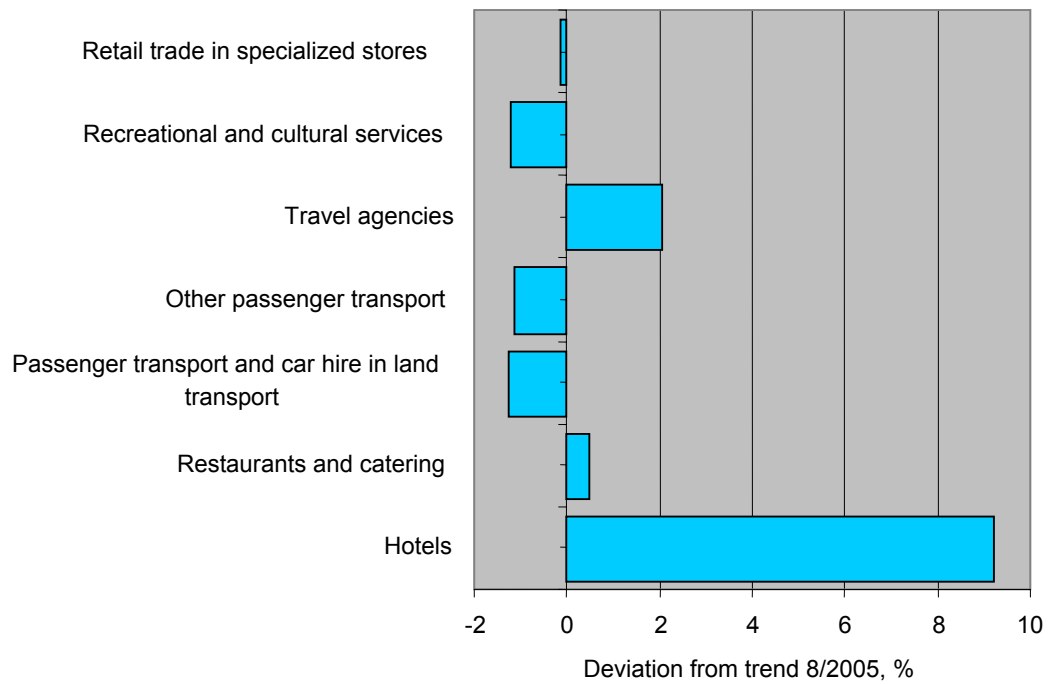
As for payroll, there is no WC2005 effect that can be noticed as a deviation from trend in any sector, except the fact that in travel agencies and "other passenger traffic" the effect was negative. When we consider changes in payroll from previous August to August 2005, the change is, however, greater than similar change calculated for average month during 1-7/2004 and 1-7/2005. In this comparison, payroll in catering, passenger traffic, and recreation and cultural services grew more in August 2005 from previous year than from 1-7/2004 to 1-7/2005.

The deviation from trend in employment in August 2005 was over 2 percentage points in accommodation and positive also in recreation and cultural services, travel agencies and passenger traffic. Changes from previous year indicators give a similar picture for employment effects of WC2005.

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<sup>3</sup> Business indicators are monthly indices such that their average value for 2000 is 100. In the figures we have deviations of these indices in terms of percentages.

(a) Deviation of seasonally adjusted turnover from trend in August 2005 (% points)



(b) Change of turnover from previous year (%), August and January-July 2005.

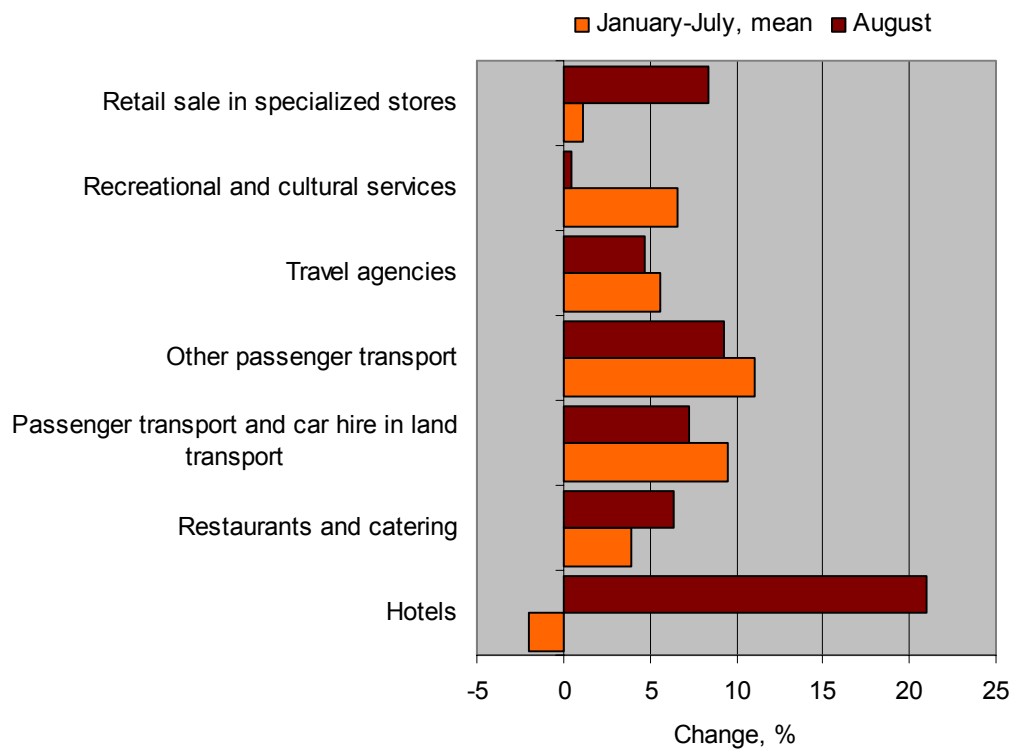
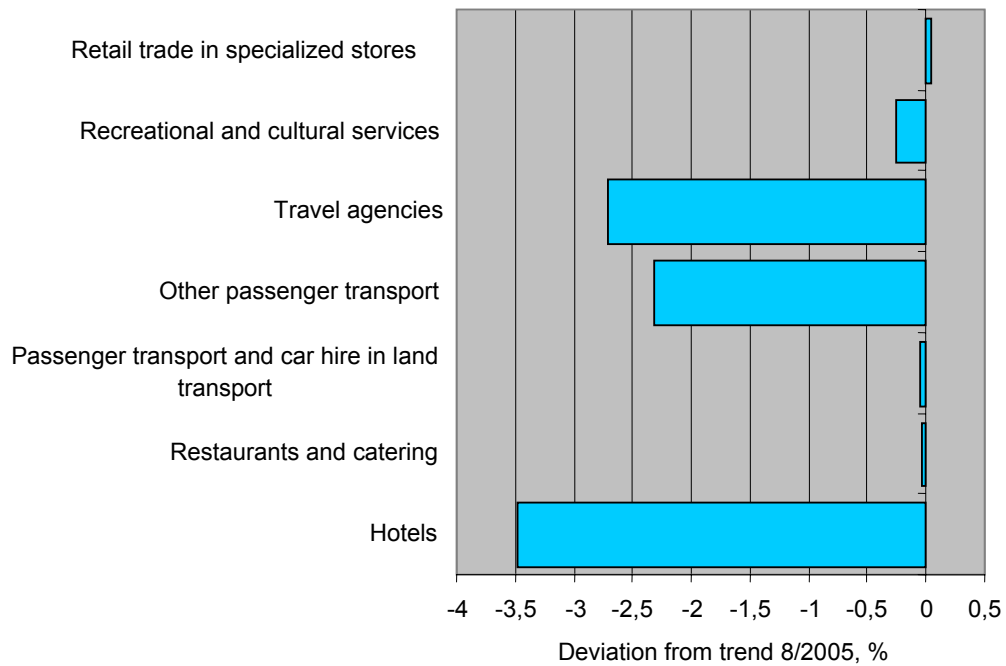


Figure 7.1.1. Deviation from trend and change in turnover of tourism related sectors in the Helsinki Region 2005

(a) Deviation of seasonally adjusted payroll from trend in August 2005 (% points)

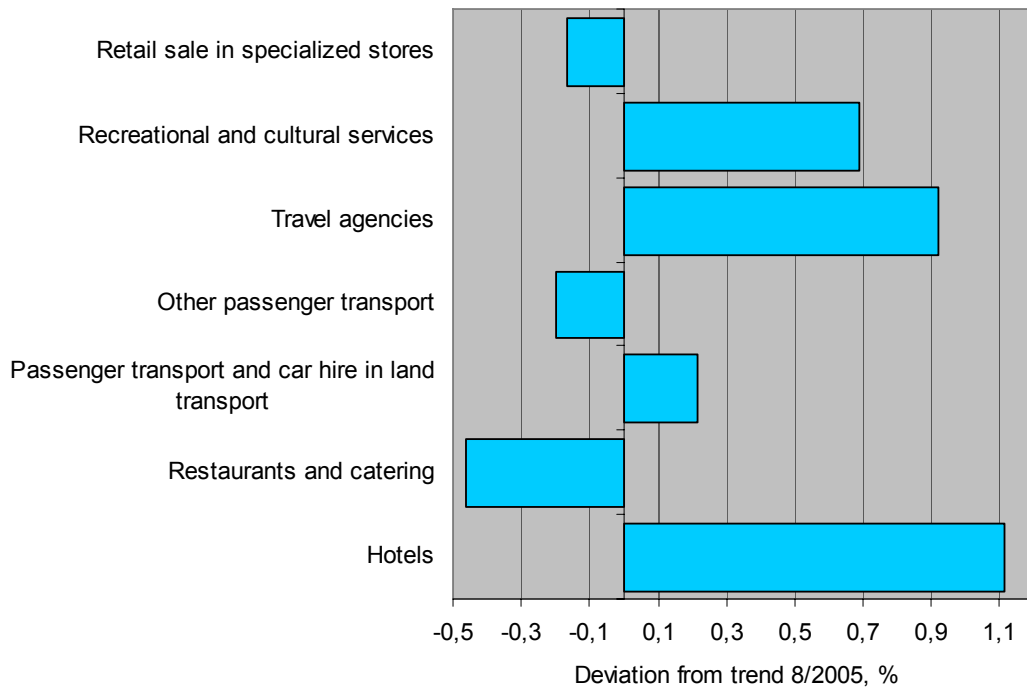


(b) Change of payroll (%) from previous year, August and January-July 2005



Figure 7.1.2. Deviation from trend and change in payroll of tourism related sectors in the Helsinki Region 2005

(a) Deviation of seasonally employment from trend in August 2005 (% points)



(b) Change of employment (%) from previous year, August and January-July 2005

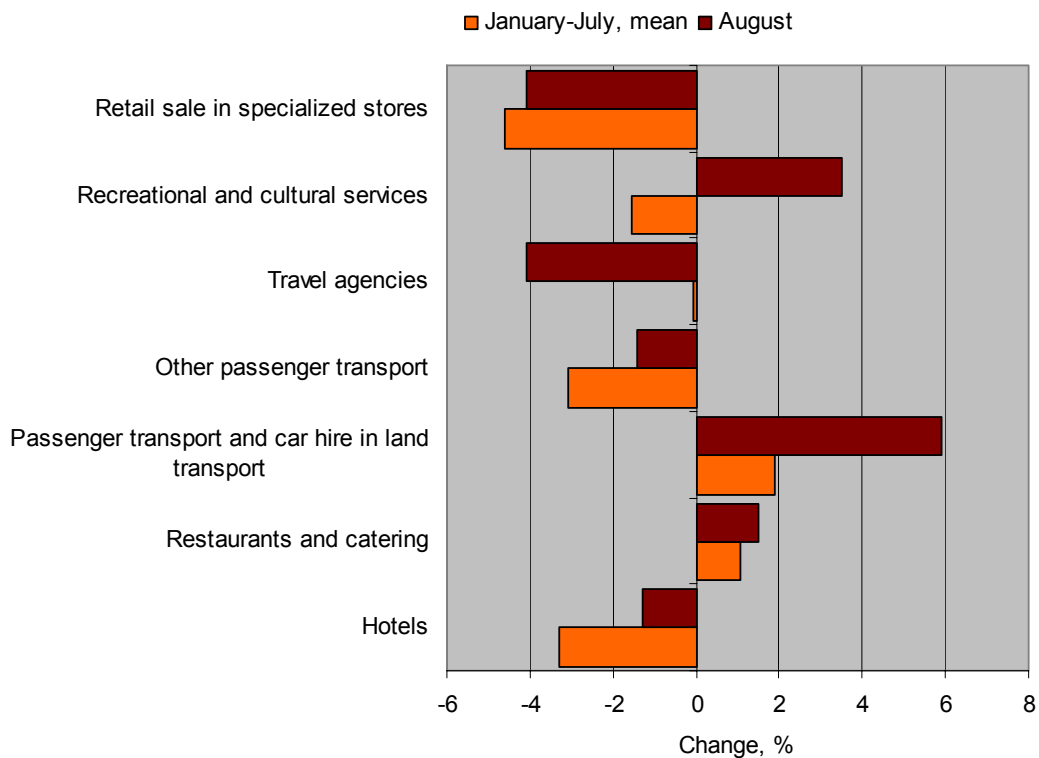


Figure 7.1.3. Deviation from trend and change in employment of tourism related sectors in the Helsinki Region 2005

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*Conclusions from business indicator analyses on net impacts and crowding out effects in tourism related consumption*

According to our results based on trend deviations, WC2005 had a significant net effect on turnover, payroll and employment in accommodation. There was a smaller positive effect also in travel agencies and other tourism related activities in terms of turnover and employment but not in payroll. A small effect in turnover for catering could also be detected. In other tourism related sectors the effects were nonexistent or negative.

On the basis of changes in the three sectors which experienced a positive effect of WC2005, the total net change in turnover in all tourism related sectors in August 2005 was about 6 million € without VAT<sup>4</sup>. This is 1 % of turnover and most of the effect comes from accommodation (3 million € without VAT). In the previous section we ended up with an estimate that domestic (non-local) and foreign visitors and accredited participants of WC2005 caused a gross consumption effect of 30 million € (without VAT), which was mainly used for purchases from our tourism related sectors in the Helsinki Region. This means that **the crowding out effect of WC2005 has been 24 million € (= 30-6)**. To put it differently, relying in the gross effect, even after neglecting consumption of local visitors, one would overestimate the net effect in turnover of tourism related industries fivefold.

The crowding out effect is due to the fact that other than WC2005 tourists did not come in August 2005 to Helsinki Region because of the games. Accommodation in hotels increased from the previous August by 7 000 night (2,5 %) but given the total amount of foreign WC2005 visitors (33 000), this was modest. All forms of accommodation increased by 19 000 (4,5 %), but there was only a small positive deviation from trend.

Exceptionally rainy days during WC2005 affected the size of spectators at Olympic Stadium and decisions to travel to Helsinki especially within Finland. According to Turismens Utrednings Institut surveys 39 % of WC2005 visitors told that they had decided about going to see the games within less than a week before they started. Quite a few visitors did not come because of rain. The size of this effect is impossible to estimate as the WC2005 and the thunderstorm and rain was so exceptional. On the basis of what is known previously is that turnover of specialized retail trade, restaurants and other services suffer from bad weather and this is what the businesses told in our surveys.

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<sup>4</sup> Negative deviations from trend experienced by some sectors were not included in these calculations, which mean that no effect of WC2005 was assumed.

## 7.2 Economic impact of WC2005 on tourism related firms. Summary of business survey results.

In addition to business indicators, representatives of 300 firms in tourism related sectors were interviewed by phone<sup>5</sup> concerning the impact of WC2005 on their activity. Most of the respondents (80 %) were CEOs, heads of departments or entrepreneurs. The answers to a list of questions were weighted by the number of employees in the firm and by sampling weights, when this was appropriate to do. The questions concerned the impact (positive, no impact or negative) of WC2005 on turnover, profits, number of customers, prices and the number of employees. The firms were also asked how they prepared for the games and how WC2005 affected marketing, and whether the games made the firm and its brand better known. Furthermore, there were questions about general attitude towards the games and the usefulness of WC2005 from the viewpoint of firms. Firms reported both benefits and drawbacks caused by the games to their activities.

Detailed results of the business interviews of tourism related firms are in Laakso et al. (2006). Here we shall only summarize the results relating them also to the picture received on the basis of business indicators in the previous section. Because the impact of WC2005 varied in different tourism related sectors, we consider them separately. The most important indicator, namely effects on profits is discussed separately at the end of this section.

WC2005 had a very positive impact on **accommodation** firms not only in the Helsinki Regions, but also outside its borders. The number of accommodation nights did not increase from normal, but prices and turnover increased. There was a slight effect on employment but mainly the firms managed with permanent personnel. In hotels WC2005 visitors crowded out to some extent business guests and domestic tourists.

**In restaurants**, the effects of WC2005 were limited to the centre of Helsinki and around the Olympic Stadium. Many restaurants prepared to the games by employing additional workers and special products. Quite a few of them increased turnover but negative effects were also rather usual. On average the business surveys gave a slightly positive impact of WC2005 on turnover and clear positive impact on employment of restaurants. On the basis of business indicators, however, turnover and employment of restaurants did not deviate from normal (seasonally adjusted trend) in August 2005.

**In personnel traffic and related businesses** the impacts of WC2005 were felt in the whole Helsinki Region and also beyond. The firms' interviews indicated a clear positive impact on employment and turnover. However, the business indicators based on statistics showed only a minor positive deviation from trend. In airline and ship business the number of passengers in August 2005 did not deviate from normal (trend) values at the same time of the year.

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<sup>5</sup> The telephone interviews were made by Tietoykkönen from Jyväskylä.

In case of **specialized shops and other tourism related services** the impact of WC2005 was restricted to the centre of Helsinki and near the Olympic Stadium. For most firms even in these areas, the games had no impact on activity and for some the impact was negative. Presumably, part of this outcome was due to rainy days during the games. Neither did the business indicator series show any impact in turnover or employment in these sectors of the Helsinki Region.

One third of interviewed accommodation firms, within 100 km radius from Helsinki, answered that WC2005 had increased their visibility and improved their image. In the other sectors such effects were very small. Two thirds of the firms evaluated that WC2005 increased the attraction of Helsinki and the whole region as organizer of events. Especially accommodation firms had this view. Only one tenth of firms answered that WC2005 decreased the attraction of the Helsinki Region as location of events. Two out of three firms wanted to see more events in this area, whereas one fourth of them hoped to have the same number as before.

So called cooperating firms of WC2005 were of course a special subset of the business sector. We asked LO to list the most important ones, which then included 32 firms, most of them in the Helsinki Regions. Eight of them were interviewed personally and 24 firms by phone<sup>6</sup>. The purpose of these surveys was to find out how the investments and purchases of goods and services affected the turnover of cooperating firms and how they evaluated their special role and whether it was successful or not. The range of firms was from size class 1-4 persons to over 100 person firms, the majority (57 %) being in the last class.

For one third of firms, the WC2005 related cooperation contract with LO included sponsoring, either in form of providing goods and services with reduced price or in addition to this giving cash grant to LO. According to the answers, cooperation did not crowd out other businesses or customer relations, neither did it affect sponsoring of other activities negatively. For 81 % of firms this was part of long term activity.

Over 60 % of firms felt that they had improved their network and social contacts. As for visibility and image effects, the target was especially domestic (not international!) and more than 50 % viewed that WC2005 had much or very much positive effect.

On average the turnover of cooperating firms increased by 11 % and employment by 58 % in August 2005. Furthermore, 76 % of cooperating firms used their special status in marketing, campaigns and customer relations, and 95 % of them wanted to participate also in future mega sporting or other events. The firms were also asked to evaluate their success as a cooperating firm on scale 4-10 (used in Finnish schools) from different viewpoints. The average of all answers was 9. Their mark for success of WC2005 as a whole was 8.

A key indicator of WC2005 for the business sector is the **impact of the games on profits**. Almost half of all interviewed tourism related firms answered that profits in August 2005

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<sup>6</sup> Telephone interviews were made by Tietoykkönen from Jyväskylä during weeks 7 and 8 of 2005. The response rate was 88 %.

had increased as a result of the games. Among personnel traffic firms 65 % (one fifth), accommodation firms 39 %, restaurants one third (16 %) and specialized shops 24 % (18 %) answered that profits increased (decreased) in August 2004. Quite a few firms did not answer the question on profitability and also because of this reason the results are only indicative. There were also question on how much profits increased or decreased which are not reported here. As a qualitative conclusion, we note that there were more winners than losers in tourism related firms.

When WC2005 is evaluated from the private sector view-point, its impact not only on profits of tourism related industries in August 2005, but on all sectors' profits during 2006 is needed. Our estimate of this effect will come from the input-output model application in section 8 and it shows a positive impact on profits.

## 8 Economic multiplier effects

In this section we present an estimate of the indirect (multiplier) and total (direct + multiplier) effects of WC2005 in 2005 using a regional input-output model in which the Finnish economy is divided into two parts: the Province of Uusimaa<sup>7</sup> and the rest of Finland. Here, the idea is that WC2005 caused an exogenous increase in consumption and investment, which spreads to the two regions of the economy generating income and additional demand beyond the initial (direct) net effect. In previous sections, turnover was used as output indicator of firms, but here value added (= turnover minus value of purchases) is used.

Total economic impact of WC2005 results from direct (net) effects and additional multiplier effects. The direct effects consist of

- 1) investments and renovations by LO (section 5.2)
- 2) payroll and purchase of goods and services by LO (section 5.3), and
- 3) net effect of WC2005 visitors on purchase of goods and services.

The third item was estimated by using the positive trend deviations derived in section 7.1, and by transforming the turnover figures into valued added figures applying relevant transformation coefficients. On average value added is half of turnover. In addition to direct output effects, also employment effects (direct and multiplier) were estimated for the Province of Uusimaa and the rest of Finland by main sectors. A basic assumption for these input-output calculations is that there are unused resources in the region/economy which can be employed to get the output and employment effects. The unemployment rate in the Helsinki Region was 6,9 % in the 1<sup>st</sup> and 2<sup>nd</sup> quarter of 2005, and it decreased to 5,9 % in the 3<sup>rd</sup> quarter. At national level the respective unemployment rates were 9,6 % (1<sup>st</sup> q.), 9,1 % (2<sup>nd</sup> q.) and 7,2 % (3<sup>rd</sup> q.). Thus, assuming available labor resources around and at the time of the games is not unreasonable as unemployment rate decreased in 3<sup>rd</sup> quarter.

Input-output analyses have a relatively long history in Finland (see Forssell 1985 for the method and applications). Also regional applications have been done since the seventies by Hirvonen (1970), Nenonen (1981), Eskelinen (1985), Saurio (1990), Susiluoto (1996) and latest ones by Vatanen (2001), Haukka (2002) and Knuutila (2004). The input-output model used here, is based on a special study (Tilastokeskus 2000). The original coefficients from 1995 have been updated with newer information. There are 77 sectors in the model.

Instead of presenting the basic idea and mathematical form of input-output models and our own application (presented in more detail in Laakso et al. 2006), we only give the results of calculations concerning the impacts of WC2005. In table 8.1 we have the results on output (value added) effects and in table 8.2 results on employment effects.

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<sup>7</sup> The share of Helsinki Region out of value added of the Province of Uusimaa is about 95 %.

Table 8.1

*The impact of WC2005 on value added in the Province of Uusimaa (POU), the rest of Finland (ROF) and the whole country (FIN), million €<sup>8</sup>*

	Direct effects			Multiplier effects			Total effect		
	POU	ROF	FIN	POU	ROF	FIN	POU	ROF	FIN
Investment	9,9	-	9,9	9,8	9,9	19,7	19,7	9,9	29,6
Local organizers	17,1	-	17,1	14,8	7,4	22,2	31,9	7,4	39,3
Visitors	3,3	-	3,3	3,5	2,2	5,7	6,8	2,2	9,0
In all	30,3	-	30,3	28,1	19,5	47,6	58,4	19,5	77,9

About half of the total value added effects are impacts of LO and cooperating firms' current expenditure and two fifths resulted from investment expenditure. The effect of WC2005 visitors is small, only about 10 % of total effects. The respective shares of employment effects are half (LO & Co-op firms), one third (Investment) and about 15 % (visitors).

Table 8.2

*The impact of WC2005 on employment in the Province of Uusimaa (POU), the rest of Finland (ROF) and the whole country (FIN), person years*

	Direct effects			Multiplier effects			Total effect		
	POU	ROF	FIN	POU	ROF	FIN	POU	ROF	FIN
Investment	210	-	210	169	183	352	379	183	562
Local organizers	283	-	283	263	138	401	546	138	684
Visitors	105	-	105	52	41	93	157	41	198
In all	598	-	598	484	362	846	1082	362	1444

The estimated total effects of WC2005 on employment in Province of Uusimaa (1082 man-years) are about 0,015 % of its annual employment, and the value added effects (58,4 million €) are slightly smaller than this. The contribution of WC2005 was about 4-5 % to the annual growth in employment and value added.

At national level the impact of WC2005 on employment (1444 man-years) and value added (77,9 million €) are less than 0,1 % of respective annual figures. The total value added effects were 1,6 times the direct effect and the total employment effects were 1,4 times the direct effect, respectively.

Two thirds of total impacts are felt in Uusimaa. About 30 % of the value added and employment effects in Uusimaa were felt in business services and financial services. As figure 8.1 indicates, the respective share of shops, accommodation and restaurants together was about 15. The impact on industrial activity was small.

<sup>8</sup> The effect figures in Tables 8.1 and 8.2 take into account the trade of intermediate goods and services between firms and the multiplier effects due to "initial" increase in consumption and investment. As for the "initial" demand effect from consumption of visitors, they are based on positive trend deviations of business indicators in tourism related sectors. Here, we neglected the negative trend deviations assuming them to be zero rather than the result of WC2005.

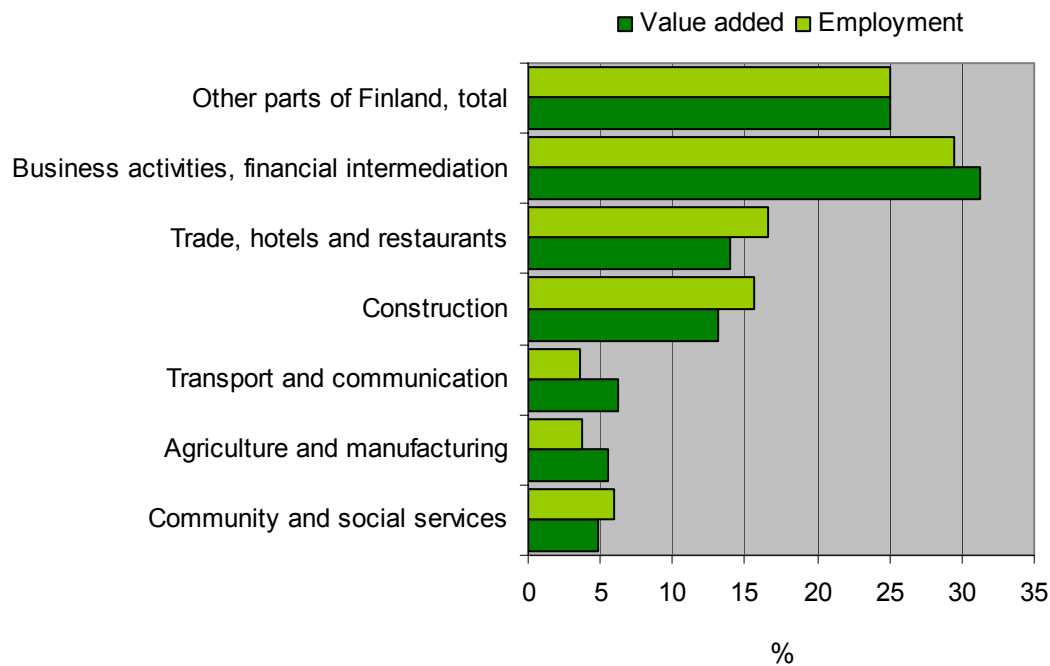


Figure 8.1. The distribution of the value added and employment impact of WC2005 in the Province of Uusimaa to its sub-sectors, and to the Rest of Finland, %.

On the basis of input-output analysis we can summarize the results by saying that the investments and consumption outlays generated by WC2005 caused a total value added effect of 80 million € in the whole country and about 60 million € in the Helsinki Region<sup>9</sup>. In these calculations, we have taken into account direct and indirect (multiplier) effects, and eliminated crowding out effects. The respective employment effects in the whole country were about 1 500 man-years, and about 1 100 man-years in the Helsinki Region. In case of both value added and employment effects, 40 % was due to investments, 50 % on consumption effects related to arranging the games (LO) and only 10 % on the (net) effect of visitors. As a unique and short event the economic impact of WC2005 was small relative to the size of the economy in the Helsinki Region, it was only 0,15 % of the region's value added in 2005.

The above results are quantitative estimates of the regional and national output and employment effects of WC2005 in 2005. As such they are interesting, but they cannot be used to evaluate the successfulness of the games especially from the viewpoint of the business sector. As discussed in section 3, the key question is whether WC2005, seen as a joint project of LO and public sector agents and the private sector, generated a social surplus. As for the latter, output and employment effects do not necessarily tell anything about how private sector profits were affected by the games. Our input-output model, however, also gives estimates on this matter, although based on a simplifying assumption. It assumes that the change in private sector (firms) profits is proportional to value added. This leads to the result that when direct and multiplier effects are taken into account **profits**

<sup>9</sup> Here, the effects for the Helsinki Region are the ones estimated for the Province of Uusimaa.

**increased by about 4 million € in 2005.** This result is used in section 8, where the impact of WC2005 on corporate income tax revenue is considered alongside other tax revenue effects.

On the basis of input-output results WC2005 was on average a profitable project for the business sector. Statistical information on actual profits in 2005 is not available yet and does not contain regional information. Annual results by sector will shed some light on tourism related sectors' profitability relative to previous years when the statistics are available.

## 9 WC2005 from the viewpoint of host cities and the State

The Cities of Espoo, Helsinki and Vantaa as well as the State participated in several ways to WC2005. When IAAF chose Helsinki to be the site for the games, a condition was that Helsinki and the State will participate in organizing and bearing financial responsibility for the games. In this section, we shall consider the expenditure (inputs) and revenues of the public sector, which resulted from WC2005.

The public sector economic input to WC2005 consists of three kinds of elements:

- (1) Investments and renovations needed for the games.
- (2) Goods and services provided.
- (3) Direct support to the games.

**Public sector's<sup>10</sup> inputs** (expenditure) to WC2005 are summarized in table 9.1. The goods and services provided by host cities are net figures from which compensations and other income received from LO has been deducted. Respectively, the investment outlays of cities are truly paid figures and they do not include state support. All the information in this table is based on figures from section 5.

The public sector input to the games was about 24 million €, which is only one fifth smaller than the expenses (27,5 million €) of the games based on the financial statement by LO. The State contributed 57 % and the cities 43 %, most of which came from the City of Helsinki (33 %).

Two-thirds (61 %) of public sector input consisted of improvements and renovations of infrastructure and one-third (30 %) of goods and services provided for the games. Direct support was only 9 % of all input most of which came from the State as revenues from the sale of a special WC2005 coin. Furthermore, the State gave a 2,5 million € loss guarantee to the games, which was not used as the financial document of LO showed a profit of 0,4 million €. These items are not included in table 9.1.

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<sup>10</sup> Finnish Broadcasting Company (YLE), the Stadium Foundation and Finnish Housing Fund (ARA) are not included in the public sector.

Table 9.1  
*Public sector input to WC2005 (1000 €)*

Public sector actor	Investments and renovations	Goods and services to WC2005	Direct support to LO	Input in all		
				1000 €	%	
The State	5 340	6 770	1 750	13 860	57,2	
Cities in all	9 390	550	450	10 390	42,8	
- Helsinki	7 370	400	250	8 020	33,1	
- Espoo	2 020	50	200	2 270	9,4	
- Vantaa		100		100	0,4	
<b>Public sector in all</b>	<b>1000 €</b>	<b>14 730</b>	<b>7 320</b>	<b>2 200</b>	<b>24 250</b>	<b>100,0</b>
	<b>%</b>	<b>60,7</b>	<b>30,2</b>	<b>9,1</b>	<b>100,0</b>	

On the **revenue side**, the public sector received additional revenue as a result of WC2005. Most of this effect was due to an increase in tax revenue, which has been estimated on the basis of value added and employment effects presented in section 8. The biggest impact was on value added tax revenue, but also local income tax revenue increased. Furthermore, as profits of firms increased, corporate income tax revenue increased, and in the Finnish system part of this gets channelled from the State to municipalities where the firms (or their plants) are located. Estimated tax revenue effects of WC2005 are in table 9.2 and they take into account the direct and multiplier effects of WC2005 on value added and employment. We also take into account that some organizations are free from VAT (LO, state and the cities)<sup>11</sup>. Because of several assumptions made in calculating the revenue effects, the figures summarized in table 9.2 must be regarded as realistic but rough approximations.

Table 9.2  
*Tax revenue effects of WC2005 (1000 €)*

Public sector actor	Increase in VAT revenue	Increase in state and municipal income tax revenue	Increase in corporate income tax revenue	Increase in tax revenue in all		
				1000 €	%	
State	16 000	4 300	700	21 000	75,0	
All municipalities		6 700	300	7 000	25,0	
- WC2005 cities in all		4 100	200	4 300	15,4	
- Helsinki		2 900	150	3 050	10,9	
- Espoo		650	25	675	2,4	
- Vantaa		550	25	575	2,1	
<b>Public sector in all</b>	<b>1000 €</b>	<b>16 000</b>	<b>11 000</b>	<b>1 000</b>	<b>28 000</b>	<b>100,0</b>
	<b>%</b>	<b>57,1</b>	<b>39,3</b>	<b>3,6</b>	<b>100,0</b>	

<sup>11</sup> Detailed information on tax revenue calculations can be received from the authors.

WC2005 increased tax revenue of public sector in all by 28 million €. Increase in value added tax revenue was the most important (57 % of total increase), whereas the share of income taxes (state plus local 39 %) and corporate income tax (4 %) were smaller. Three-quarters (75 %) of increase in tax revenue is received by the State and one-quarter for the municipalities. WC2005 cities received 15 % of the whole tax revenue increase.

When one compares the public sector expenditure (inputs) and tax revenue effects of WC2005 in tables 9.1 and 9.2, the increase in tax revenue exceeds expenditure by about 4 million €. The tax revenue impact for the State was 1,5 times its input whereas the municipalities invested in the games twice the sum they received in the form of additional tax revenue. This implies that WC2005 was on the basis of economic input and revenue impacts a good and profitable project for the State.

For the host cities involved, WC2005 induced tax revenue fell short of expenditure. In this respect the games did not generate a surplus but a deficit. However, the cities' inputs were to a great extent additional investments and renovations for which there was a need even without the games, but WC2005 brought them forward. In the above calculations the benefits of future (additional) use of these investments and repaired facilities are not taken into account. Another neglected aspect is the effect of WC2005 on future tourist flows and business attraction of the Helsinki Region and Finland in general.

## 10 WC2005 as a tool for business and city marketing

In addition to direct turnover, employment and profitability effects, mega (sporting) events can be seen as a tool for marketing and promotion of business and city image. In this section we summarize the experiences of business firms and cooperating firms about WC2005 in this respect. The results are based on business interviews and interviews of marketing experts of cities and their joint organizations.

### *Tourism related firms*

In the business interviews (see section 7) 22 % of the firms answered that they received more visibility and 19 % additional image value from WC2005. The most pronounced positive effect in both respects came from accommodation firms (30 %, both aspects). Some hotels and other accommodation firms (16 %) also felt that they received new partners. In passenger transportation one third of firms received more visibility and one fourth more image value from WC2005 related activities. In restaurants, 12 % of them received more visibility.

In all 27 % of firms (especially accommodation and shops) felt that WC2005 increased the attractiveness of Helsinki and the Region as a site for events and as a tourist attraction very much. For 32 % of firms this impact was small, 19 % felt no effect and 11 % of firms answered that WC2005 decreased attraction.

When firms were asked what size of events they would like to see in the future in the Helsinki Region (less than 5000, 5 000 – 20 000, 20 000 – 100 000, over 100 000 visitors) all size classes events got support. The most support (75 %), however, was given to smaller events with less than 5000 or 5000 – 20 000 visitors. The biggest supporters of biggest events came from accommodation (hotels) and restaurants and catering firms, whereas personnel traffic and shops preferred mainly smaller events.

### *Cooperating firms*

Most of cooperating firms (76 %) had benefited from WC2005 in marketing, campaigns and customer relations. More than half of them responded that they had improved very much or much in domestic visibility. The other most important elements were improvement of network and societal contact networks and firm's image. These elements were also regarded important objectives in making the cooperation contract with LO, and not so much the business prospects directly attributable to WC2005. Interestingly, international visibility was not a clear objective nor stressed in the answers of firms.

On school scale (4 -10) cooperating firms gave on average mark 8,2 for the games. Almost all (95 %) wanted to participate in future mega events (sporting or other) as a cooperating firm.

### *The cities*

Experts from the Cities of Espoo, Helsinki and Vantaa were interviewed about the effects of WC2005 on visibility of the region, its marketing and future as organizer of events. The comments received included the following types of points. Finland had already before these games a reputation of being able to organize mega sporting events and televising them by Finnish Broadcasting Company (YLE), and WC2005 presumably strengthened this view. YLE gave film material in advance, and especially the marathon routes were cleaned and partly renovated by the City of Helsinki to make it look good in TV. Intervals in public transportation were shortened and WC2005 tickets worked as tickets in trams and buses during the games. The City of Helsinki wanted to market itself as a place where public transport works. Also the new eastern shelter of the Olympic Stadium was regarded as a good investment for athletics and football events in the future. However, as for marketing, most experts criticized the small amount of active marketing efforts to enhance the visibility and image of Helsinki Region and Finland during WC2005.

Some departments of the City of Helsinki used WC2005 to invite guests to the games as a marketing and public relations tool. However, the City of Helsinki and its leaders used WC2005 very little for domestic and international marketing and this was criticized by several experts.

The interviewed experts noted that WC2005 in Helsinki did not suffer from major doping scandals and loss of LO economy after the games despite the fact that extremely rainy weather in a few days affected the games negatively.

IAAF and its non-public financial statements were criticized heavily by several experts. One aspect of this is that IAAF arranges a tender amongst candidate cities/countries to find the best alternative. However, IAAF bear no risks of games' economy, neither does it cover any major costs of arrangements. Instead, IAAF collects monopoly rents of games by selling TV rights of the games, and keeps the revenue for itself. According to the experts' opinion, it is questionable whether similar games in the Helsinki Region are worth applying in the future, at least with the same terms as WC2005.

## 11 Conclusions

World Championships in Athletics (WC2005) took place in Helsinki, in August 2005. The local organizing committee (LO) had had also representatives of the State and Cities of Helsinki, Espoo and Vantaa (host cities), which all invested in the games in various forms.

In this section, we summarize basic information on the games, and our results concerning the economic impact of WC2005. Most of our quantitative results concern annual effects in 2005. They are based on the use of various forms of data ranging from information from local organizers, public sector units, visitor surveys, interviews and statistical information which was gathered specially for this purpose with collaboration with Statistics Finland. Methodologically, a key challenge was how to detect direct net effects of the games. Once this was solved, macroeconomic (direct + multiplier) effects at national and regional effects were derived by a regional input-output model, which also enabled getting estimates of tax revenue effects.

There are two basic questions, which we wanted to study. First, the impact of WC2005 on output (value added) and employment at regional and national level in 2005. Second, we wanted to assess WC2005 as a joint project of local organizing committee (LO) and public sector units (the State and host cities), and the private sector. In the spirit of cost benefit analysis, we present results on who gained and who lost as a result of games relative to the hypothetical "no-games" alternative. On the basis of evaluating the effects of WC2005 on the economy of LO, the State and host cities, and the profits of the business sector we can also make a general conclusion on the profitability of the games during 2005. Note that positive employment and value added effects of games do not necessarily tell whether arranging the games was a good (profitable) project.

In addition to the economic effects of WC2005 in the year 2005, we have qualitative results based on interviews concerning the future impacts of the games. At the end of our conclusions, we turn our attention to the role of IAAF.

### 11.1 Regional and national economic effects of WC2005

The effect of WC2005 on the turnover, value added and employment of private sector firms was positive. The investments, organizing the events, and visitors consumption increased firms' turnover and local organizers' and partners' value of own work<sup>12</sup> by 120 million €, each by one third. This is an estimate based on the gross value, where the crowding out effects and multiplier effects has not been taken account. When these effects are taken into account, the picture on regional impacts of WC2005 changes dramatically.

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<sup>12</sup> This does not include value of volunteers' work, which is estimated to be worth 5 million €.

After taking into account crowding out and multiplier effects, the increase of value added<sup>13</sup> caused by WC2005 in 2005 was nationally 80 million € and about 60 million € in Helsinki Region<sup>14</sup>. The net employment effect, respectively, was nationally about 1 500 man-years and in the Helsinki Region about 1 100 man-years. In both cases, 40 % of the effects were based on investment, 50 % on organizing the event, and only 10 % was due to the consumption of visitors.

As a single event, the impact of WC2005 on the economy of Helsinki Region was small given its size. The increase in value added was about 0,15 % of the regions value added in 2005. Output in the Helsinki Region grew actually by 3,5 % in 2005, without WC2005 the figure would have been 3,3 %. At national level the value added effect is less than one per mille of Finland's output. As such it cannot be regarded as a tool for boosting growth to the economy even at regional level. Of course, the regional impact of WC2005 would be relatively greater if the host city (and region) was smaller.

**By sector**, the greatest impact of WC2005 was felt in **hotel business**. Even here the impact was based on increase in prices, especially in Helsinki. Also hotels in the whole region and beyond benefited from positive impacts of WC2005. Restaurants and firms supplying services to transportation sector, and business service firms benefited somewhat. However, passenger traffic, specialized shops and other services did not get a positive impact from WC2005.

One of the challenges of this study was to take into account the crowding out effects. With our results at hand, we have a good reason to suspect that many previous studies which only estimate the spending by visitors (gross effect) overestimate the economic impact of events. For instance the study concerning WC1995 in Gothenburg (by Stiernstrand et al.) to our knowledge did not take such effects in account. In the case of WC2005 crowding out effects was significant in the case of visitors. In August 2005 the **number of tourists** was only 2 % greater than our trend estimate without the event suggested. Better weather during the event would have increased the net impact on visitors somewhat but not decisively to change the regional effects even marginally.

## 11.2 Assessment of WC2005 from stakeholders' perspective

Next, we shall summarize whether WC2005 was a good (profitable) project from the perspective of local organizers, the State, the host cities and the private sector.

### Local Organizing Committee's (LO) economy

According to the financial statement of the Local Organizing Committee (LO), it ended up with a **profit of 400 000 €**. Thus the loss guarantee from the State was not needed. Given the bad weather conditions during some days of WC2005, this outcome is positive.

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<sup>13</sup> At firm level value added is approximately turnover minus purchases from outside.

<sup>14</sup> Here the regional unit is the Province of Uusimaa instead of the Helsinki Region.

It is, however, based on several items both on cost and revenue side, which have been assessed within a range. None the less, the profit and the whole event were possible because about 3000 volunteers were available without being paid and cost control was strict in case of purchases of goods and services when the spending money was involved. Suppliers were typically chosen on the basis of tender. Many types of facilities were made available for WC2005 without charge by Cities of Helsinki, Espoo and Vantaa. They also carried the costs of renovating sports facilities, public spaces and the like. The strict economy had also its downside in the host cities. First, it was unclear who would cover the costs of renovations and small investments. In the end, the host cities financed the projects within their normal budgets, which meant that some alternative projects in 2005 were not carried out. These facts explain why (in real terms) the budget of WC2005 was third smallest after the Helsinki 1983 and Sevilla 1999 WC games in athletics.

### *Economic impacts on the economy of the cities and the state*

The public sector invested 24 million € to WC2005. The state's share was 57 % and the cities' share was 43 %. As for the type of outlays, investments to improve infrastructure and renovate venues and public places comprised 61 % of outlays. The cities were predominantly (2/3 share) responsible for these investments, whereas the state had a minor role (1/3). Direct cash support for the event was only 9 % of public WC2005 related expenditure.

According to our calculations, tax revenue increased by 28 million €. This consists of value added tax revenue (57 %), state and municipal income tax revenue (39 %) and corporate income tax revenue (4 %). The State received 75 % and the municipalities 25 % of the increased tax revenues. The host cities' (Helsinki, Espoo and Vantaa) share of total increase in tax revenue was 15 %.

Total tax revenue exceeded **public sector** outlays implying a **surplus of about 4 million €**. The **State got 1,5 times more than it invested to WC2005**, whereas **host cities invested twice they got in the form of tax revenue**. The event was not so bad project for the cities as these figures suggest if the renovated facilities financed by the cities serve useful purposes for the residents, sports clubs and other agents in the future.

### **The business sector**

Our above results on regional and national output and employment effects of WC2005 were positive. However, they cannot be used to evaluate the successfulness of the games from the viewpoint of the business sector. The key question is, whether WC2005 was a profitable project for the private sector. Output and employment effects do not necessarily tell anything about how private sector profits were affected by the games.

Statistical information on actual profits in 2005 is not yet available and furthermore it does not contain regional information. Thus we had to use our input-output model to get estimates on this matter. They are based on assuming the change in private sector (firms) profits is proportional to value added. This leads to the following result. When direct and mul-

multiplier effects are taken into account **profits increased by about 4 million € in 2005**. This result was also used when the impact of WC2005 on corporate income tax revenue was considered. In addition to numerical calculations, interviews of firms in tourism related sectors indicated that there were more firms experiencing an increase in profits due to WC2005 than firms with respective decrease in profits. Thus we conclude that the business sector on average benefited from the games.

### Summary of stakeholders

Our numerical results suggest that LO made a surplus, and the impact of WC2005 as an aggregate was positive for the public sector (revenue impact exceeded expenditure impact) and for the private sector (profits increased). Thus, **as a whole, WC2005 was a good project**. However, inside the public sector the **State was a winner** (made a surplus) whereas the **host cities were losers** (made a deficit) as a result of the games.

## 11.3 On long run regional economic impacts

As a single event, WC2005's regional and national effect in 2005 was marginal. In the long run tourism intensive sectors may benefit from the event if it helps to maintain and increase the number of smaller events (congresses, sporting and cultural events etc.) take place all the time in the Helsinki Region. Such events bring a big share of tourists to the area, where 10 % of employment is in tourism related sectors. According to the experts interviewed, WC2005 increased the reputation of Finland and the Helsinki Region as a competent organizer of mega events, even in exceptional rainy conditions during some days of the games. As such the event increased the "goodwill stock"<sup>15</sup> of local organizers in Finland, which helps to get new events and other activity to the area in the future. This does not necessarily happen without extra efforts such as marketing.

### *Impact on marketing Finland and the Helsinki Region*

**Cooperating firms** of WC2005 used the event for marketing. Here, the target was domestic and almost not at all international customers and directions. The firms also answered in surveys telling that they improved their public relations and networks, and gained in visibility. On the contrary, the use of WC2005 for marketing the **Helsinki Region, its cities or Finland** was very modest. The cities and surprisingly also the Helsinki Region Marketing were very passive and did not utilize WC2005 in their marketing and PR efforts. The cities did not cooperate in marketing the Helsinki Region, either.

Instead, some **departments or units of the Cities** of Helsinki and Espoo invested in WC2005 to gain visibility in their own area. Municipal sports and public works departments and transportation companies wanted to show a positive picture of their activities and abilities to make the cities look good especially in TV, when the marathon route and other places were shown.

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<sup>15</sup> A concept launched by Nerlove and Arrow (1962).

## 11.4 On the role of IAAF

To conclude, we shall comment the role of IAAF in WC2005. The process of selecting the host for the games is questionable in many respects. The applicants consisting of consortiums of cities, regions, states and sports organizations must make public and transparent commitments to finance the events. On the contrary, the economy of IAAF is not at all transparent, as its financial statements are secret. Applicants do not know the resources of IAAF and the investments it is willing to make to finance the games applied by candidates. This far five of six WCs in athletics have been organized in EU countries. It is hard to understand why EU countries accept that a non-transparent organization like IAAF races the candidates with vague terms.

We have estimated that WC2005 brought IAAF about 20 million € from sponsors and from the TV rights. For the sake of comparison, the cost of organizing the event was about 27,5 million €. Despite this, IAAF did not finance the event directly. According to LO, IAAF contribution to the games was 1,2 million €. The local organizers paid most costs of athletes and accredited guests including IAAF's guests. LO and the State carried all the financial risks of organizing WC2005, whereas IAAF had no risks, but instead could reap the gains of its monopoly position as the seller of TV contracts.

The policy of IAAF changed after WC1995 in Gothenburg. Before these games IAAF participated in financing the games but not any more. The motivation is that the event is so profitable to local organizers that there is no economic rationale for IAAF to support the hosts. The results of this study make such claims questionable since WC2005 was not a success for the cities involved. The State benefited but the host cities (municipalities) lost in terms of tax revenue and outlays generated during 2005. The eventual positive long run effects can hardly justify a change of view. The role of IAAF needs reconsideration.

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## Appendix A. Local organizers in Helsinki WC2005

### Helsinki 2005 LOC Office

