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**Conference Paper**

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46th Congress of the European Regional Science Association: "Enlargement, Southern Europe and the Mediterranean", August 30th - September 3rd, 2006, Volos, Greece

**Provided in Cooperation with:**

European Regional Science Association (ERSA)

*Suggested Citation:* Popescu, Alina Mihaela; Friedrich, Peter; Wonnemann, Gunther (2006) : Economic Und Fiscal Effects of the FIFA World Cup in Germany - the Case of Munich, 46th Congress of the European Regional Science Association: "Enlargement, Southern Europe and the Mediterranean", August 30th - September 3rd, 2006, Volos, Greece, European Regional Science Association (ERSA), Louvain-la-Neuve

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# **Economic and Fiscal Effects of the 2006 FIFA World Cup™ in Germany**

## **– The Case of the World Cup™ Games in Munich –**

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### Abstract

The authors determine the income effects, employment effects, production effects, migration effects as well as the budget effects and effects concerning social insurances. These effects concern the city of Munich, the hinterland, other municipalities, Bavaria, other states and the federation.

The so-called “Taxonomic Localization Approach for Public Offices“ is applied. The model for identifying the effects considers the characteristics of the games and of the Munich region. Direct effects are related to economic units directly involved in the World Cup™ games. Indirect effects concern the reaction of economic units, which are not part of the project, e.g. hotels in Munich.

A project includes the effects of the visitors and accompanying persons, of journalists, of a media centre, of FIFA-congresses and of special social events related to the games organized by the city of Munich. In addition, activities of fan-shops, restaurants, service and marketing companies, of the FIFA, the firm operating the stadium influence the size of the effects. The effects are estimated for the year 2006. In Munich, the effects on income, employment, and production turn out considerable high. The budget effects to the city of Munich are also positive. These are going to be positive for the hinterland and the social insurance, too. The size of the effects depends mainly on the visitors and journalists as well as on their expenses. Positive effects caused by the World Cup™ games in Munich compensate the losses of other regions.

Moreover, the business and financial conditions of the stadium, the intergovernmental horizontal and vertical fiscal relations, the characteristics of the regional economy, number of visitors, etc. determine the effects. Public relation effects for Munich, social and political effects and promotion of sports occur, but they are not considered here.

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## I. Introduction

On July 4<sup>th</sup> 2001 FIFA President Joseph Blatter announced the host country for the FIFA World Cup™ 2006. The decision fell on Germany. As the last time Germany hosted a World Cup™ was 1974, the challenge of organizing such a big event took huge dimensions. Soccer is one of the most important sports in the world, so that such competitions are reaching plenty of people from all corners of the world. The population acceptance of organizing the World Cup™ in Germany is at 83%, fact that underlines the popularity of this sport (Voeth, Herbst, Sandulescu, 2005, p.10). Since the development of soccer in the last decades reached from a quite bad image of vulgarity and violence to a central attraction of societies related with show, rituals and sensations (Manzenreiter, 2004, p. 67), the meaning of this sport and its events has increased very fast. The popularity of this sport is shown first of all by the worldwide demand for TV transmissions of soccer events. The FIFA World Cup™ is the most important televised event; it has even more viewers than the Olympic Games (Kurscheidt, 2004, p. 2). The importance of soccer isn't only shown by the number of TV viewers, it is also demonstrated by the increasing number of members of national federations and clubs as well as by the commercial aspect of this sport.

The economic aspect of such big events is a very relevant issue for organizing countries and one of the reasons why so many nations are trying to host such events. First of all, the organization of the FIFA World Cup™ is an opportunity to develop infrastructure and promote the host country with its culture, society and sports, fact which is already shown in the slogan "A time to make friends" of the World Cup™ in Germany. On the other side, the necessary investment volume is very big. The building of new stadiums could be interpreted as major support for infrastructure. Although, the reality can be other than the mentioned one. Host cities without soccer teams in first or second leagues are not able to cover the costs for the building or renovation and the preservation of their stadia.

The relation between sports and economics and business is a very strong one, since the commercialisation of sports and sport events has developed very fast. The importance of profit regarding sport events like the Olympic Games and the FIFA World Cup™ has been growing since 1984, when the Olympic Games in Los Angeles were financed for the first time by private economic actors (Manzenreiter, 2004, p. 67). On the other hand, the commercialisation of sports, especially of soccer, could be observed quite early in England, going ahead with clubs becoming limited companies quoted on the stock exchange (Bourdieu, 1999, p. 18). Issues concerning buying and selling the event, as well as the economic aspects of sport events are very important for creating a complete analysis of the World Cup™. Many authors are arguing about the economic effects of the huge sport events and come to different conclusions. The opinions and results of theoretical and empirical studies are reached from very positive conclusions to the awareness that organizing huge events is the most inefficient method for stimulating the economy (Szymanski, 2002)

In this paper we analyse the economic effects of the World Cup™ games in Munich. This effects concern first of all the impact of the World Cup™ on income, production and employment, as well as effects on infrastructure and migration. We also include in the analysis fiscal effects of the new stadium in Munich on the city budget, as well as on budgets of other counties in the region, on the budget of Bavaria, on social budgets and other kinds of budgets. Operational implications are only taken into consideration if they are necessary for the evaluation of the economic and fiscal effects.

## II. The FIFA World Cup™ in Munich

The Munich city council decided 2001 to build a new stadium in the north of Munich in order to increase the chances to become venue for the opening game and opening ceremony of the

FIFA World Cup™. This intention was accepted after a local referendum by the Munich citizens, which voted with a majority of 68% for building this new stadium. 2004 FIFA confirmed Munich as being one of 12 host cities for the World Cup™ and decided that the opening game and opening ceremony will take place in Munich also. Besides, Munich is going to host the FIFA congress 2006. Munich's importance during the FIFA World Cup™ 2006 is also underlined by the settlement of the International Media Centre in the city. Except the opening game, Munich will host 5 further matches, a final sixteen match and a semi-final included.

The two soccer clubs in Munich, FC Bayern München and TSV 1860 München, founded a operational company, the "Stadion GmbH", a limited liabilities corporation for processing the stadium business.

All six matches will take place in the new stadium "Allianz-Arena". This stadium offers all necessary features to allow a successful course of the FIFA World Cup™ in Munich. The Allianz Arena is endowed with 66.000 seats, including 2.200 business seats as well as 106 boxes (1.374 seats). The possibilities for car are very important too parking. The Allianz Arena disposes about 12.200 car parks. Besides the seats, the boxes and the match field, the stadium in Munich has a lot of other attractions. The most important part of the inner life of the stadium is taken by the gastronomy. There are 28 kiosks, 2 fan restaurants each with 1500 seats, a á la Carte restaurant with 400 seats, as well as a club for the press. Furthermore, the stadium in Munich is featured with offices and rooms for conferences, shopping facilities, day-care facilities for children, as well as 190 monitors all over the stadium area. The following figure is showing the structure of the stadium.

I. Munich game plan	
date	game
09. june 2006	game group A
14. june 2006	game group H
18. june 2006	game group F
21. june 2006	game group C
24. june 2006	round of the last sixteen
05. july 2006	semi-final

Table 1: Survey of all FIFA World Cup™ games in Munich



Figure 1: The location of the Allianz Arena

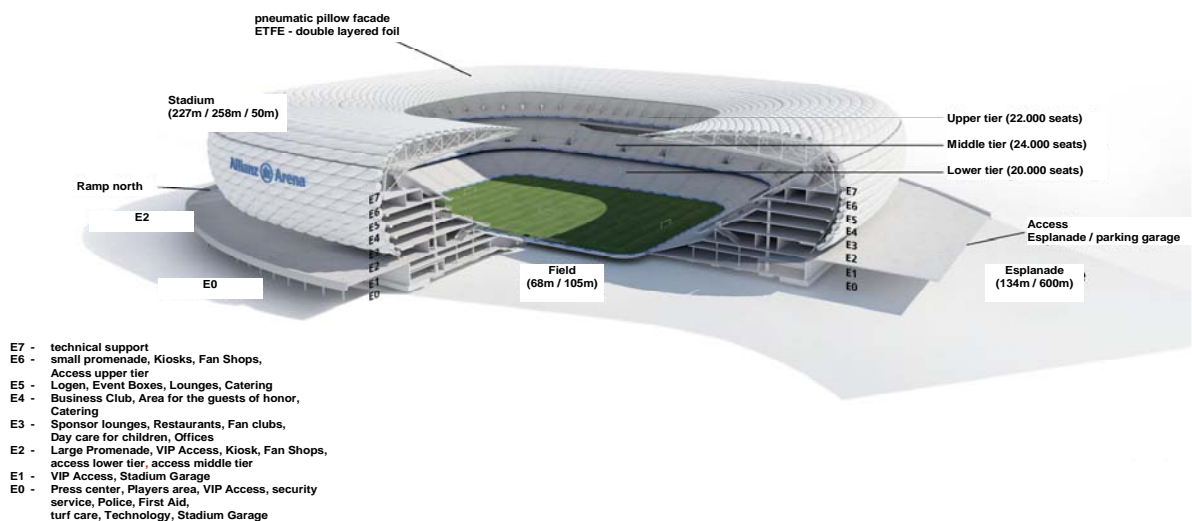


Figure 2: The structure of the Allianz Arena in Munich

The FIFA World Cup™ is a nonrecurring, temporary event, which is limited on a few months (including the accompanying events). The stadium was build first of all for the two Munich clubs and their attendance at the German league (Bundesliga). Thus, we consider for the evaluation of the effects of the event just the utilization of the stadium for the World Cup™ and not the construction. We assumed that the terrain is owned by the city of Munich, which leases the land for the stadium and the parking places for cars and buses. The “Stadion GmbH” is prosecuting the stadium, some of the parking places, and other facilities within the stadium, so that we consider the “Stadion GmbH” as a economic unit for our analysis. We assume that the World Cup™ in Munich are borne by the operational company “Stadion GmbH”, the city of Munich, the FIFA and the Organizing Committee, as well as by the traffic companies and the leasing companies in the gastronomy sector. These involved units are including some public authorities, public or private corporations, and all suppliers of intermediate inputs.

The existing infrastructure of a city is decisive for organizing such big events as the FIFA World Cup™. The investments for the extension of the traffic have been executed in connection with the new stadium in Munich. The city benefits in the long run from almost all changes and extensions in the traffic structure. As long as the expenditures for infrastructure are not directly connected with the games of the World Cup™, these won't be taken into consideration for determining the effects of the World Cup™. Expenditures for temporary measures, like temporary parking places, taxi ranks are considered.

Regarding the determination of the effects of the FIFA World Cup™ in Munich we consider characteristics, which change and affect the circumstances of the regional economy in Munich and neighbouring areas. Therefore, all activities associated directly with the games of the World Cup™ in Munich have to be analysed. These activities concern first of all the characteristics of the stadium as well as the parking possibilities. Furthermore, activities regarding the fan shops, the gastronomy, exhibitions, the TV compound, the volunteer centre, the media centre are taken into consideration. The FIFA World Cup™ is more far-reaching than just the competition itself. It involves also other events. There are A events<sup>4</sup> like the opening ceremony or the football globe<sup>5</sup>. B events are such, like the fan park, the public viewing, and the accommodation camp. The world festival of street football, open-air concerts, blade nights, Friends ask Friends (information centres) are categorized as C events<sup>6</sup>. We define for our study a “commercial sector”, which embraces the involved organizations like the FIFA itself, the German Organizing Committee, the HBS Host Broadcasting Service, hospitality companies as well as Non Profit Organizations. The connection between these partners is not released. However, there will be a profit for this commercial sector that will be divided between the involved units. The figure 3 is giving an overview over the organisation of the FIFA World Cup™ in Munich.

Game	Average price
1	217
2	55
3	55
4	55
5	97
6	308

The number of visitors<sup>7</sup> of the FIFA World Cup™ is decisive for the economical, operational and fiscal effects in Munich because of their direct influence on the profitability of the commercial sector, the gastronomy, the fan shops as well as for the city and the region. Very relevant for the determination of the effects of the World Cup™ is therefore the behaviour of the visitors regarding their expenditures. This expenditures depend to a big extent on the FIFA prices for the tickets. The ticket

Table 2: Average ticket prices

<sup>4</sup> A Events exclusively organised by FIFA and the Organising Committee and are part of the official FIFA marketing program. The World Cup™ Games, the FIFA congress, the opening ceremony, the Football Globe are such A events.

<sup>5</sup> The football globe is part of the artistic and cultural program accompanying the 2006 FIFA World Cup™. Based on an idea by artist André Heller the mobile pavilion is touring the 12 German FIFA World Cup™ Host Cities.

<sup>6</sup> The reception organized by the city of Munich is a C event, as well as the exhibition regarding arts and sports.

<sup>7</sup> The mass media representatives are included in the number of viewers

prices are reaching from 35 € to 400 € depending on category and game. Table 2 is showing the average prices for the six games in Munich. We assume the price for the accommodation in Munich as being 120 €/night. The accommodation in the surrounding area is forecasted at 100 €/night. These prices are average prices. We consider that some of the visitors will be accommodated in youth camps, camping or at friends and relatives in the city. Furthermore, we calculate an average expenditure of 2 €/viewer for car parking. The expenditures for gastronomic services average out at 10 €/viewer. Besides, every viewer is supposed to spend in average 40 € in the city. For calculating the total expenditures of the viewers there is a forecast of the number of viewers of the World Cup™ in Munich necessary.

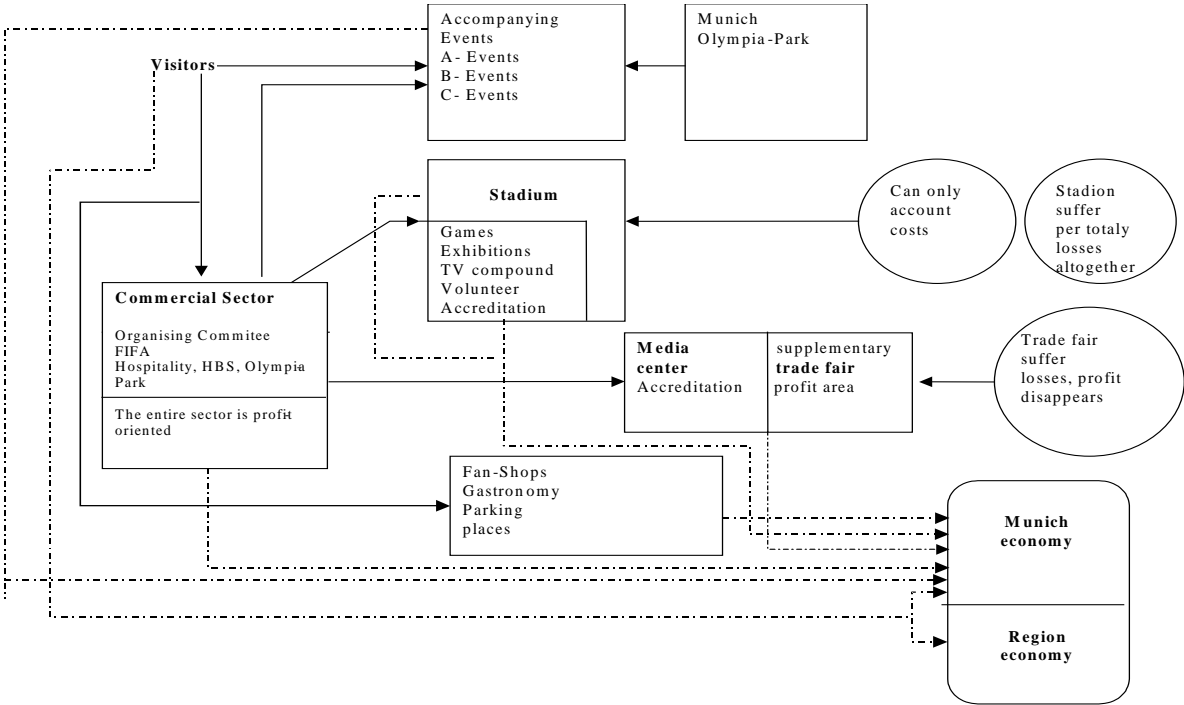


Figure 3: The organisation of the FIFA World Cup™ in Munich

Supposing that the tickets will be sold out<sup>8</sup> for all matches, a number of 60.000 “normal” viewers (the guests of honour as well as owner of tickets for boxes and business seats are calculated separately) is expected for each game. 80% of this viewers are assumed to come from out of Munich. Ca. 12.000 viewers are usually living in Munich. We expect about 20.000 foreign viewers which are going to be accommodated in Munich (2/3 of them) and surrounding area (1/3 of them). Besides, the number of German viewers from out of Munich is going to reach 28.000 viewers/game. About 10% of these viewers are assumed to stay overnight in Munich (2/3) and surrounding area (1/3). We also consider visitors in form of accompanying persons. These persons aren’t obligatorily viewers of the games. They are primarily visiting Munich. They represent ca. 10% of all visitors. They are assumed to spend 60 to 220 € depending on their decision to stay overnight in Munich or not.

<sup>8</sup> As the advance sale is very successfully, the assumption that the stadium will be sold out is not exaggerated

**Expenditures of all visitors and accompanying persons in Munich (all 6 games)**

Visitors not staying overnight	42937200
Visitors staying overnight	31754889
Accompanying persons not staying overnight	907200
Accompanying persons staying overnight	2007720
<b>Total</b>	<b>77607009</b>

**Expenditures of all visitors and accompanying persons surrounding countryside (all 6 games)**

Visitors not staying overnight	0
Visitors staying overnight	4559400
Accompanying persons not staying overnight	0
Accompanying persons staying overnight	455400
<b>Total</b>	<b>5014800</b>

*Table 3: Expenditures of all visitors and accompanying persons in Munich and surrounding area*

The following table is reproducing the forecasted expenditures of the visitors of the FIFA World Cup™ including the guests of honour, the guests of the boxes and business seats, as well as the participants of the FIFA Congress and the HBS Congress. Also included are expenditures of the representatives of the mass media.

Expenditures of the visitors Gastronomy and transport in the city	288000
Expenditures of the visitors in the city	13680000
Expenditures of the reporters in the city (transport + other expenditures)	84799990
Expenditures of the visitors for accommodation in the city	16452720
Expenditures of the reporters for accommodation in the city	270933280
Expenditures of the participants at the FIFA Congress in the city	810000
Expenditures for accommodation of the participants at the FIFA Congress Munich	1856000
Expenditures for transport congress Munich	21600
Expenditures in the city HBS Congress	670000
Expenditures of guests of honour (gastronomy in the city)	39600
Accommodation FIFA congress	1792000
City/honour guests	384000
<b>Expenditures Munich</b>	<b>391727190</b>
Expenditures of the FIFA congress overnight accommodation in the surrounding countryside	500000
Guests of honour	156000
Expenditures for accommodation of reporter in the surrounding countryside	84666600

Expenditures for accommodation of visitors in the surrounding countryside	4615200
Expenditures for accommodation of the participants of the HBS Congress in the surrounding countryside	1055000
Expenditures for transport of the participants of the HBS Congress in the surrounding countryside	21100
Expenditures of additional visitors of city events	2570400
Other expenditures of reporters	42333300
<b>Expenditures Surrounding Countryside</b>	<b>135917600</b>
<b>Expenditures Munich and Surrounding Countryside</b>	<b>527644790</b>

Table 4: Survey of the expenditures of all visitors in Munich and surrounding area

The Munich stadium will just host the 6 games and has no shares in the profits that emerge from ticket sale. The Allianz Arena is just receiving payments from the FIFA and the Organizing Committee for covering the costs for arranging this event. Since the stadium won't make any profits, they won't have the possibility of reducing the losses they usually suffer from their day-to-day business. This has a negative effect on the tax revenues because there won't be any tax payments generated from profits of the stadium. Similar to the stadium in Munich is the case of the Munich fair. The International Media Centre has been planned especially for the FIFA World Cup™ and is subordinated to the Munich fair. The International Main Media Centre (MMC) comprises the International Broadcasting Centre and the Main Press Centre. Therefore, new halls have been constructed on a 16.000 m<sup>2</sup> big area. Also for this purpose there have been provided further 24.000 m<sup>2</sup> of the already existing halls of the Munich fair. All these area and halls are rented out to the "commercial sector" for nine month. We assume the rent for these months to add up to 22.200.00 € In the light of the secret contracts between the involved institutions there aren't any official information about this rent. The MMC is going to host more than 130 televisions. We suppose, that for every television there are 60 employees in Munich (8000 representatives of televisions per totally). Furthermore the MMC is expecting ca. 7000 representatives of radio and press. 1.300 persons are going to be employed direct by the MMC for four month. Considering that the televisions and journals will be in need of human resources like for example translators and technicians, we anticipate further 1200 persons that are going to be hired by studios, media companies etc. For arising works as well as for the construction and removing of the MMC there are other employees needed. We consider for calculating the effects of the FIFA World Cup™ all intermediate inputs, which are obtained by the MMC. The expenditures of the journalists are also included in the determination of the effects.

During the World Cup™ the fair will make profits due to rent revenues or other receipts for the Media Centre. These profits may cover the losses the Munich fair usually sustains, but are definitively not enough for exceeding these losses. In consequence, there won't be any tax revenues from the Munich fair either. We suppose that the commercial sector consisting of the Organizing Committee, the FIFA, the Host Broadcasting Service and NGOs as well as the gastronomy, the fan shops and the car parks will be very profitable during the FIFA World Cup™.

The main focus of this analysis is the determination of the effects regarding the World Cup™ in Munich, which involves an isolation of these effects. It means that a differentiation between the activities associated directly with the organization of the World Cup™ and such aligned with other projects, i.e. the new stadium in Munich, should occur. As far as the FIFA World Cup™ in Munich does not cause changes, these won't be included in the determination



of the effects. The effects are calculated for the year 2006, especially for the period of the World Cup™.

### III. The Model

The “Taxonomic Localization Approach for Public Offices“ is used for the evaluation of the operational, economical and fiscal effects of the FIFA World Cup™ in Munich. This approach is adequate for verifying if a certain project is viable at a certain location. Furthermore, it shows if there are additional measures necessary for realising this project at the chosen location and allows quantifying the effects of the project.

The criteria of the city, of the event and the requirements of organising such event like the FIFA World Cup™ are central elements of this model. Basically, the bigger the concordance

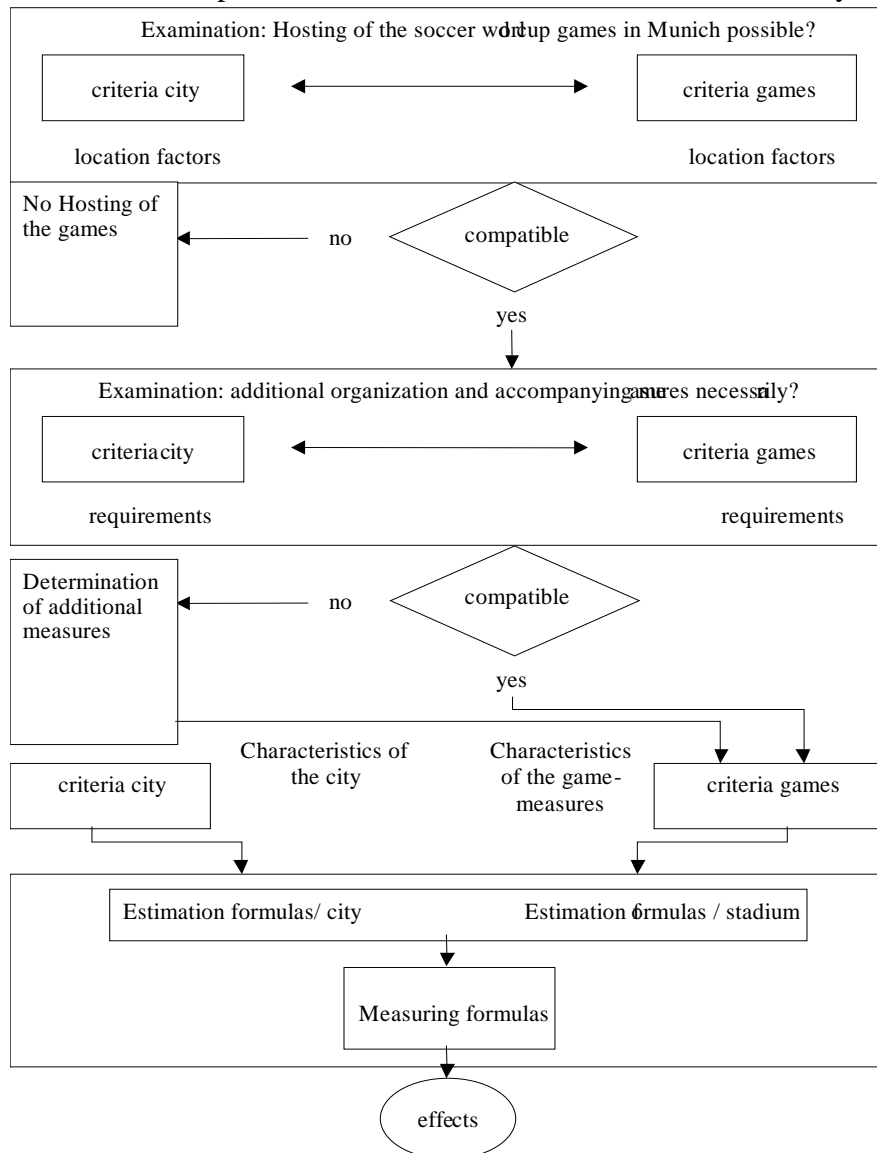


Figure 4: Process for effects determination

between the criteria of the city and that of the event, the more appropriate is the chosen location. Criteria of the event, which are not corresponding, with criteria of the city can be fulfilled by additional measures. The project, in this case the World Cup™, consists of all activities as well as of additional measures of the involved economic actors, which are determined as a result of the comparison between the criteria of the location and that of the event. We consider just activities, which are related to the accomplishment of the project.

We distinguish between three kinds of criteria of the city and the World Cup™. The first group of criteria considers necessary requirements for both,

the city and the World Cup™. Without fulfilling these conditions the realisation of the FIFA World Cup™ wouldn't be possible. This kind of criteria regards for example legal and institutional facts. The hosting of the FIFA World Cup™ in Munich is from legally, institutional, infrastructural and economical point of view assured and thus, the viability of the project “World Cup™ in Munich” is given. However, these specifications are not enough for evaluating the effects of the World Cup. The second group of criteria is considering

conditions, which can be satisfied by additional measures if they aren't already fulfilled. Information about legal, operational, financial characteristics of the project is necessary for the accuracy of the estimation. Therefore, we consider legal forms and finance concepts of the involved corporations, as well as their legal and operational interdependency. Also included are the peculiarities of the city economy. We allow for public budgets of the involved public institutions. All these information about the participating private and public institutions admit a comparison of their requirements. This enables the determination of necessary additional measures. Following activities are considered to be additional measures: the fan shops, the gastronomy, the exhibitions, the TV Compound, the International Media Centre, A, B and C events.

After checking the feasibility of the World Cup™ in Munich and the determination of the additional measures, the effects and their dimension have to be identified. The third kind of criteria relates to characteristics of the World Cup™ and the city of Munich, which are decisive for the dimension of the effects. The information gained on the basis of the criteria, is used now for calculating the direct and indirect operational and economical effects.

The dimension of the effects results from a forecast model that describes the structure of the FIFA World Cup™ as well as that of the region<sup>9</sup> and the regional economy. This detailed reproduction of the project and its location allows a forecast of the fiscal effects as well as of the production effects, the income effects, employment effects and migration effects.

The "Taxonomic Localization Approach for Public Offices" permits in this study the consideration of:

- Different economic units, like public administrations and private companies. The differentiation as two separate sectors is possible.
- Different municipalities, i.e. Munich and the surrounding area
- Location factors like available hotels, areas for the International Media Centre, etc.

Furthermore, the model allows the implementation of regional interactions, which are useful for the determination of the effects for five regions: the location itself (the city of Munich), the surrounding area, Bavaria, other federal states and Germany. The geographical demarcation of these regions is possible.

The interactions between these five regions are considered in this model as follows:

- Equations that describe the necessary purchasing activities of inputs related to the realization of the World Cup™, i.e. human resources, services
- Equations that determine the regional effects of the purchasing activities on different regions, sectors, private households
- Equations for considering the financial requirements for hosting the World Cup™ on the city of Munich, Bavaria and Germany
- Equations regarding the income, the aggregate demand, migration, imports and exports, as well as the differentiation of this variables for the considered regions
- Equations for explaining regional and supra-regional real and monetary interactions of the economic units among themselves as well as interactions of this units with the capital markets and the social security systems

Per totally the model consists of 4006 equations that measures the budgetary changes of the five regions, income effects, effects on employment and migration, as a result of the realization of the project. These effects are defined as follows:

- The income effect is measuring changes of income due to the World Cup™
- The employment effect is determining the number of additional employed persons as a result of the project
- The migration effects are showing to what extent the FIFA World Cup™ is leading to migration of households

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<sup>9</sup> We consider the Munich region and the surrounding area as well as the interactions of this region with other regions

## IV. Results

### 1. Economic effects

#### a) Income effects and production effects

The FIFA World Cup™ is expected to come along with considerably income and production effects. The planning and realization of this event implies big expenditures. We assume expenditures of 646,4 Mil. € for necessary inputs and 41 Mil. € for personnel. The expenditures for the inputs (for example, maintenance costs, administration costs, energy, etc) results from the statements of profit of the involved economic units like the operating firm “Stadion GmbH” or leasing companies. Furthermore, the city of Munich and the neighbouring municipalities are also spending money for the implementation of the FIFA World Cup™. All these expenditures are leading to an increased income for the inhabitants of Munich and surrounding area. The additional income that results from the 6 games of the FIFA World Cup™ mount up to 398,2 Mil. € in Munich and 561,1 Mio. € in Bavaria. Other German federal states will also benefit from this World Cup™ games in Munich. We estimate an income increase of 617,8 Mio, € for Germany.

<b>Play phase</b>	<i>Munich</i>	<i>Surrounding communities</i>	<i>Bavaria</i>	<i>The rest of the Federal States</i>	<i>Germany</i>
Income	398.200	162.930	561.130	56.706	617.837
Disposable income	154.326,1	89.215,72	243.541,8	-5.407,4	238.494
Production	1.062.115	486.943	1.549.058	74.144,9	1.623.202,9

Table 5: Income and Production effects

The increase of the disposable income is smaller due to the social security taxes, which are paid by the new employees. The rapport of the income increase to the total expenditures for the realization of the World Cup™ is for Munich 0,57, for Bavaria 0,08 and for Germany 0,88. We anticipate a total expenditure of 703 Mil. € We consider in our forecast model data regarding the branches, labour market, capital market, commuters, vertical and horizontal fiscal equalisation, migration of households, taxation. These input data may explain the comparatively small or negatively income effects for the other German regions. Also taken into consideration are potential crowding out effects that are also leading to interregional shift of effects. We observe deferrals in the fiscal equalisation in favour to other regions and federal states. These result from the increased tax revenue in Munich. Because of the big unemployment in Germany, there are no crowding outs on the labour market expected. We assume in our analysis that 2/3 of the demand related to the FIFA World Cup™ is crowded out. This means, that 2/3 of the demand, which is attracted in Munich through the World Cup, won't be replaced by other demand. In spite of the crowding out, there will be a rise of the demand, which is explained by the argument that the World Cup™ is a supplementary event, which attract extra visitors that dissolve their savings. As the implementation of the FIFA World Cup™ is leading to an increased demand for different goods, inputs, services, an increasing production is expected. All branches in Munich and neighbouring area will benefit from this event. The most significant increase will be observed in the service sector. In this case we observe a crowding out effect in favour of this branch. A marginal crowding out of the economical activity in Munich may slow down the increased production.

#### b) Employment effects

As the city will benefit from an increase in production a change on the labour market is also expected. The increased demand for labour is leading to important impulse for the employment. 12.299 new fulltime jobs are created as a result of hosting the World Cup™ in Munich. The surrounding municipalities are benefiting of 8.292 new full time employees.

	<i>Munich</i>	<i>Surrounding communities</i>	<i>Bavaria</i>	<i>The rest of the Federal States</i>	<i>Germany</i>
During the 6 games	12.299	8.292	20.591	2.196	22.787

Table 6: Employment effects

Besides, a lot of part time jobs are available so that the effect of the World Cup™ on the employment is very important considering the present situation of the labour market in Germany.

c) Migration effects

Considering the new employment situation in Munich and the surrounding area, the migration behaviour of German households should be taken into account. The question, which should be answered, is if the created jobs are offering a migration incentive for German households. The assumed number of migrating households in favour of Munich adds up to 1.215. 102 households are migrating in the neighbourhood of Munich.

	<i>Munich</i>	<i>Surrounding communities</i>	<i>Bavaria</i>	<i>The rest of the Federal States</i>	<i>Germany</i>
During the 6 games	1.215	102	1.317	-1.317	0

Table 7: Migration effects

The reason why the migration is not so vast is that the created jobs are mostly in the low wage sector. The demand for executives is quite low so that the migration incentive is restrained.

d) Infrastructure effect

The FIFA World Cup™ is coming along with measures that are going to improve the infrastructure in Munich and neighbourhood. The transport connections are improving due to new traffic lights, better schedules of the public transport, etc. Additional car parks have been provided, as well as a heliport. The existing infrastructure like the electrical power supply, water supply and the refuse disposal service has been improved. Furthermore, a growth of the tourism sector can be observed. Last but not least, the publicity for Germany all over the world will increase substantially.

2. Fiscal effects

For the determination of the fiscal effects, the influencing parameter should be identified. Therefore, we consider variables like the crowding outs for local capital markets, the fiscal equalization, the repartition of public administrations and private corporation at the location, the location of Munich in Bavaria. Furthermore, we examine the characteristics of beneficiary of services, the structure of employment at the location, etc. These factors are determining the effects on the different kinds of budgets. We allow for the changes of budgets, which are arising directly and indirectly from the FIFA World Cup™ in Munich. Direct changes are defined in this case as being revenues and expenditures like for example tax revenues<sup>10</sup> that

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<sup>10</sup> Companies are paying taxes on profits. These profits are resulting from activities that are directly connected to the FIFA World Cup™ in Munich

result from companies directly involved in the event, or expenditures of the city for marketing activities, infrastructure and other events directly associated with the six games of the World Cup™ in Munich. Indirect changes are arising from activities like the taxation of profits of employees, which have been employed as a result of the construction and operation of the new stadium in Munich. Other indirect changes are emerging from the revenues and expenditures in line with the fiscal equalization as well as from the taxation of companies that are indirect involved in the realization of the project.

a) Effects on the municipal budget of Munich

The realization of the FIFA World Cup™ in Munich is burdening the budget of the city because of the participation of the city at this event with high expenditures. However, higher revenues will also influence the city of Munich. Here to mention, are the indirect tax revenues from private companies. These add up to 19,1 Mil. € These tax revenues are mainly consisting in additional trade income tax revenues and real property tax revenues. The additional receipts generated from the increasing income tax revenues are adding up to 7,2 Mil. € The increase of fees, contributions and concession levy payments are quite small and can be neglected.

The determination of the effects of the FIFA World Cup™ in Munich on the fiscal equalisation is quite important. The number of inhabitants as well as the anticipated financial needs and resources affects the fiscal equalization in Germany. The World Cup™ in Munich is leading to a rise of the population in Munich, as well as to a decrease of the unemployment. This induces a higher income taxation base. Thus, the resources for the fiscal are increasing. As an improvement of the financial situation can be observed, the city of Munich will be allocated less funds than usual.

	game phase
Earnings:	
Taxes form companies	19.096,5
Taxes from Administrations	4,7
Taxes from priv. households	7.209,8
Expenses:	
Administration expenditures	-17.146,2
Interest (respectively omitted interest)	1.591,5
	Fiscal equalisation
	-7.754,1
	Shared taxes
	533,8
Direct and other earnings and expenses	41.936,2
Balance/cash flow	45.472,2

Table 8: Fiscal effects on the city of Munich

b) Effects on the budget of other municipalities in the Free state of Bavaria

The mechanism of the fiscal equalization is decisive for the financial situation of the rest of municipalities in the free state of Bavaria because the improvement of Munich's financial situation is leading to higher revenues from the fiscal equalization for the Bavarian municipalities. 15,8 Mil. € will be additionally allocated to the Bavarian municipalities. The consequence of the FIFA World Cup™ for the Bavarian local authorities is a financial relief of 40.309,5 Mil. € This amount is reflecting also the expansive participation of the surrounding area on the economical effects. The municipalities improve their financial situation also as a result of the shrinking employment rate that comes along with decreasing expenditures for social security services.

	game phase
Earnings:	
Taxes form companies	7.131,5
Taxes from Administrations	12,6
Taxes from priv. households	3.419,1
Expenses:	
Administration expenditures	-17.922,3
Interest (respectively omitted interest)	1.480,8
	Fiscal equalisation
	15.862,4
	Shared taxes
	2.934,5
Direct and other earnings and expenses	27.391,0
Balance/cash flow	40.309,5

Table 9: Fiscal effects on other municipalities in Bavaria

c) Effects on the budget of Bavaria

The budget of the free state of Bavaria will experience related to the World Cup™ a deficit of 46.475, 4 Mil. € In spite of the fact that the tax revenues are increasing for 10.563,2 Mil. € the expenditures of the free state are exceeding the revenues. The reason therefore is given by the increasing contribution payments of Bavaria at the horizontal fiscal equalisation. The budgetary deficit is leading to additional interest payments as well as amortization payments.

	game phase
Earnings:	
Taxes form companies	9.465,4
Taxes from Administrations	8,6
Taxes from priv. households	35.229,1
Expenses:	
Administration expenditures	-4.826,2
Interest (respectively omitted interest)	-1.399,9
	Fiscal equalisation
	-51.594,8
	Shared taxes
	4.322,0
Direct and other earnings and expenses	-37.679,4
Balance/cash flow	-46.475,2

Table 10: Fiscal effects on the budget of Bavaria

d) Effects on the federal budget

The increased tax revenue due to the FIFA World Cup™ in Munich has also positive effects on the federal budget. The federation is entitled to shares of the trade income tax revenues, sales tax revenues as well as excise tax revenues. Direct expenditures regarding the World Cup™ are not incurring. The federal budget achieves a budget surplus of 216.025,3 Mil. €

	game phase
Earnings:	
Taxes form companies	81.439,8
Taxes from Administrations	0

Taxes from priv. households	36.017,4
Expenses: Administration expenditures	-17.498,6
Interest (respectively omitted interest)	7.560,9
Fiscal equalisation	0
Shared taxes	-28.144,8
Direct and other earnings and expenses	136.650,6
Balance/cash flow	216.025,3

Table 11: Fiscal effects on the federal budget

#### e) Effects on social budgets

The effects on the social budgets resulting from the FIFA World Cup™ are considerably high. The social security institutions in Bavaria are saving an amount of 183,3 Mil. € and in the rest of Germany an amount of 29 Mil. €. This can be explained by the raising number of contributors at the social security systems, which results from the higher employment.

	<i>Bavaria</i>	<i>other Federal States</i>	<i>Germany</i>
Game phase	183.347,5	29.007,9	212.355,4

Table 12: Effects on social budgets

### 3. Operational effects

The estimation of the costs and revenues of the involved institutions, as the operating firm “Stadion GmbH”, the gastronomy, the car parks as well as the commercial sector, is necessary for the approximation of the operational effects from two points of view. First, it enables the achievement of information regarding the required inputs for the realization of the FIFA World Cup™ in Munich. Secondly, the profits of these institutions are relevant for the estimation of the direct tax payments. The direct tax payments are determined on the operational level. Thus, the operational effects are based on the predetermined structure of the stadium in Munich and on the assumed number of visitors of the FIFA World Cup™ in Munich. The predetermined segmentation of the surface area (for example the area of the International Media Centre), the industry classification of the involved institutions as well as their tasks regarding the realization of the World Cup™ provide a basis for the cost determination. The sale figures have been estimated considering the average expenditures of all visitors and the sales revenues customary in the particular trades. The following table is giving an overview of all visitors of the World Cup™ in Munich. The number of viewers of the six games of the World Cup™ in Munich is adding together of 72.000 visitors for one day and 288.000 viewers staying over night. 9.126 accompanying persons are going to visit Munich without staying over night and 4.554 of them are going to be accommodated in Munich.

#### visitors und accompanying persons

	From Munich	From outside Munich	total
Number of visitors of the soccer games	12000	48000	<b>60000</b>
Further visitors of Munich (accompanying persons)	1521	759	<b>2280</b>

	total	13521	48759	62280
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Table 13: Number of viewers and accompanying persons

The dimension of the services of the involved institutions is reflected first of all in their revenues. Thus, the FIFA is having due to the ticket sale high revenues. For this reason, there is no profit for the Munich institutions from the ticket sale. The operating company of the new Munich stadium "Stadion GmbH" is not participating at these revenues. The FIFA is getting the Munich stadium at quite favourable conditions, so that the "Stadion GmbH" is receiving payments from the FIFA just for covering its costs. I.e., the FIFA is paying a pro rata indemnity for costs related with the long lease, the amortization, and inputs aligned with the World Cup™ in Munich. Considering that the "Stadion GmbH" is financing itself exclusively with debt capital, marginal profits cannot compensate the losses. Therefore, the trade profit tax payments as well as corporate income tax payments will remain undone.

The members of the commercial sector give the arguably most effective involved economic actor. Payouts of the commercial sector are resulting from rents for the International Media Centre, congresses, personnel and inputs. The revenues from the ticket sales are adding up to 77 Mio. € Furthermore, the commercial sector will benefit from advertising revenues, sponsoring, catering. Due to the fact that almost all companies in the commercial sector are going to make profits, we assume them paying the required taxes.

The organization of the FIFA World Cup™ is accompanied by considerably high expenditures of the city of Munich. These expenditures are related with costs for traffic, other infrastructural facilities, Marketing, Sponsoring as well as for the organization of own events. The following table is showing the direct impacts of the city events.

(1)	General expenditures of the city	3.966.000
(2)	Share of the expenditures for the city events paid by the city	1.148.000
	total	<b>5.114.000</b>
(3)	Share of the expenditures for the city events paid by the commercial sector	7.887.000
(4)	Expenditures of additional visitors for the events in the city.	2.570.400
	total (1-4)	<b>15.571.400</b>

Table 14: Direct impacts of the city events

Regarding the determination of the tax revenues we considered the legal dispositions. We determined the added value tax, the trade profit tax and the corporate income tax due for payment by assuming collection rate of 490 for the trade profit tax and a corporate income tax rate of 25%. The resulting tax payments are figured in the following table.

	Trade profit tax	Corporate income tax	Added value tax
Fan Shops	58.169	59.351	165.067
Gastronomy	1.039.956	1.061.086	1.237.779
Car parks	201.877	205.984	193.845
Stadium	wegen Verlust	wegen Verlust	209.401
Media center/Munich fair	wegen Verlust	wegen Verlust	7.144.348
FIFA-congress			
Commercial sector	3.350.166	3.418.268	4.579.668
Kongress (FIFA)	1.082	1.105	5.520
total	<b>4.651.250</b>	<b>4.745.794</b>	<b>13.535.628</b>



## V. Conclusions

The organization of the FIFA World Cup™ is related with major economic activities. In this article we defined the project “FIFA World Cup™ in Munich” as consisting of activities and additional measures of all implicated economic actors directly related with the realization of the project. Using the “Taxonomic Localization Approach for Public Offices“ we defined criteria of the city of Munich and of the project in order to help us finding additional necessary measures and quantifying the income-, production-, employment-, migration-, fiscal- and operational effects. A set of 4006 equations induced the introduced results. The “Taxonomic Localization Approach for Public Offices“ is appropriate for evaluating the economical and fiscal effects of the World Cup™ in Munich because this event is nonrecurring, so that a static analysis may be enough for describing the effects for a defined period. Therefore, a CGE Model cannot be applied easily, because the parameters of the “Taxonomic Localization Approach for Public Offices“ cannot be estimated by using econometric methods like time series or cross section analysis.

The effects in Munich are remarkable because the city has a diversified economic structure. The population is large enough; the outflows from economic impulses are not high. There are a few crowding out effects, some of them in Munich related with low interest rates and stagnating real estate prices. As a result of the foreign visitors as well as foreign investors, a capital flow will be observed to Munich. The regional competition is going to be stimulated through for example the concentration of demand and of consume spending in Munich. As a matter of principle, the regions without locations for the FIFA World Cup™ have not the possibility to improve their competition position in spite of the fact that they benefit indirectly from the FIFA World Cup™ as well.

It is toss-up whether economic and fiscal effects of similar size can be obtained more easily by other measures than this huge event. This estimation can be achieved by using cost-benefit-analyses, which is not subject of this paper. However, the effects of the FIFA World Cup™ exist to a high degree, fact that confirms that the economic relevance of such events is given.