
The Economic Impact of the Soccer World Cup 2006 in Germany

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TABLE OF CONTENTS

TABLE OF CONTENTS	2
1 INTRODUCTION	3
2 DATABASE AND STRUCTURE OF THE MODEL <i>SPORT</i>.....	4
2.1 THE SPORTSPECIFIC INPUT-OUTPUT TABLE	4
2.2 THE ECONOMETRIC INPUT-OUTPUT-MODEL <i>SPORT</i>	6
3 SOCCER WORLD CUP 2006 IN GERMANY	8
4 CHOSEN RESULTS FOR THE ECONOMIC IMPACT OF THE SOCCER WORLD CUP 2006 IN CASE OF ALTERNATIVE FINANCING.....	10
4.1 FINANCING BY MEANS OF INCREASED PUBLIC RAISING OF CREDITS	10
4.2 FINANCING BY MEANS OF A PUBLIC COIN PROGRAMME	14
4.3 FINANCING BY MEANS OF INCREASED DIRECT TAXES BY PRIVATE HOUSEHOLDS.....	16
4.4 FINANCING BY MEANS OF INCREASED DIRECT TAXES BY PRIVATE HOUSEHOLDS AND PROFITS TAX EXEMPTION TO THE FIFA	19
5 SUMMARY AND OUTLOOK.....	21
REFERENCES	23
LIST OF FIGURES.....	24

The Economic Impact of the Soccer World Cup 2006 in Germany¹

1 Introduction

In July 1999 the German soccer association (DFB) has applied officially for hosting the soccer world cup in the year 2006 in Germany at the international soccer association (FIFA). On account of the high social role of soccer in Germany the DFB has placed a research order to analyze the socio-economic impact of the soccer world cup 2006 in Germany. The study is based on the cost-benefit-analysis and tries to give arguments for the economic possibilities of such an event (Rahmann et al. 1998). The results of this study are crucially influenced by the model for calculating the macroeconomic impact. For this study the authors did not have an adequate economic model linking sporteconomic activities to the economy as well as to the state in detail. Consequently they could not give information about the potential macroeconomic cycle effects on production, income and employment in case of alternative public financing the soccer world cup 2006.

In the scope of this paper the results of an analysis with the econometric forecasting model *SPORT* are presented. The econometric simulation and forecasting model *SPORT* with a special focus on analyzing sporteconomic activities has been constructed in the framework of a research project² financed by the Ministry of the Interior (Meyer/Ahlert 1999) and is equipped with a deeply disaggregated sporteconomic database.

The results at hand will illustrate the economic impacts of the soccer world cup in case of different means of financing the indispensable public world cup infrastructural investments. Under favourable conditions (medium to low public world cup infrastructural investments, relatively high capacity of the stadiums due to high numbers of visitors) the staging of the soccer world cup will generate an increase in the gross domestic product as well as a positive effect on employment. The level of the effect will of course be determined by the additional demand of foreign visitors. This additional foreign demand will cause

¹ The author thanks Bernd Meyer and Marc Ingo Wolter for helpful comments.

² research order: Die ökonomische Bedeutung des Sports in der Bundesrepublik Deutschland. Prognosen und Simulationsrechnungen mit einem disaggregierten ökonomischen Modell. Federal Institute of Sports Science, Cologne.

a strong expansion of production and income in the year 2006. Although the consumptive exogenous impulse of the foreign visitors will be limited to the short period of the world cup, due to the manifold multiplying links of the economic cycle this additional demand will generate a noticeable additional demand in the following years.

2 Database and Structure of the Model *SPORT*

For this study a consistent database for the year 1993 has been prepared, which gives manifold information about sporteconomic connections especially the mutual interindustry relations with the rest of economy. This sporteconomic database has been integrated in an existing econometric model for the Federal Republic of Germany. It is the sectoral deeply disaggregated model **INFORGE** (**IN**terindustry **FOR**ecasting **GER**many) which has been extended for sporteconomic activities in the framework of this study.

2.1 The Sportspecific Input-Output Table

Within the framework of this study a database has been developed - the satellite system *sport* - which gives a detailed and consistent impression of the economic relevance of sports in 1993. This database is a sportspecific extension of the German system of national account. The "heart" of this database is the input-output table of sports (compare figure 1). This sportspecific input-output table illustrates the importance of the different sporteconomic activities especially the mutual interindustry relations with the different sectors of economy. The sportspecific input-output table is fully integrated into the German input-output table of the Federal Statistical Office for the year 1993 (Ahlert/Schnieder 1997).

Figure 1 shows the composition of the sportspecific input-output table. The grey bars bring out the added sportspecific sectors. You can see that in the first quadrant of the input-output matrix seven additional sportspecific production sectors are integrated. For the goods sports cycles, sports equipment, sports shoes and sportswear it was possible to open additional rows and columns. For the services the same is done for the sector "commercial sports facilities" (fitness centre, private sportschools, athlets etc.) and sportspecific services of sport clubs and associations. Besides that the production sector 56 "Services of the local and regional government" is divided into a sportspecific sector because especially the local government let construct and maintain a large part of the sportspecific infrastructure.

comprises not only the consumption of the sportspecific goods and services of the seven additional production sectors.

In the sportspecific private consumption vector all goods and services are included which are used by practicing sport activities. Sportspecific investments comprises the investments of the seven sportspecific production sectors. In the same way sportspecific imports and exports are handled. The sportspecific government purchases includes the goods and services which are given to the people without paying any money.

2.2 The Econometric Input-Output-Model *SPORT*

The sportspecific input-output-table with its additional sportspecific sectors has been fully integrated into the especially for sporteconomic analysis' developed sector econometric simulation and forecasting model *SPORT*. It is a sporteconomically extended version of the *INFORGE*-model (Meyer et al. 1999).

Its performance is founded on the *INFORUM* philosophy (Almon 1991) to build econometric input-output models *bottom up* and *fully integrated*. The construction principle *bottom up* says that each sector of the economy has to be modelled in great detail (about 150 variables for all 65 sectors, inclusive 7 sportspecific sectors) and that the macroeconomic aggregates have to be calculated by explicit aggregation within the model. The construction principle *fully integrated* means a model structure that takes into account the input-output structure, the complexity and simultaneity of income creation and distribution in the different sectors, its redistribution among the sectors, and its use for the different goods and services the sectors produce in the context of globalizing markets. In this way one succeeds to describe properly the role of each sector in the interindustry relations, its role in the macroeconomic process as well as its integration into international trade (see figure 2).

These conceptual advantages end up in a consistent and powerful processing of sectoral and macroeconomic information. The approximately 36.000 equations of *SPORT* describe the interindustry flows between the 65 sectors, their deliveries - distinguishing between non-sportspecific and sportspecific deliveries - to personal consumption, government, equipment investment, construction, inventory investment, exports as well as prices, wages, output, imports, employment, labour compensation, profits, taxes, etc. for each sector as well as for the macro economy. In addition the model describes the income redistribution in full detail.

The sporteconomic activities are consistently implemented into the structure of the model. The system of equations for the additional sportspecific sectors has the same definitions like the non-sportspecific sectors. On account of missing time series for the sporteconomic activities it is only possible to connect the behavioural equations of the non-sportspecific sectors by definition via their

relative shares to the corresponding sportspecific sectors for the year 1993. The national account system was extended in the same way for sporteconomic relations. Even the specific institutional organisation structure of sports - in Germany sports is especially organized by the the local government and non-profit sport clubs - is embodied (Ahlert 1998).

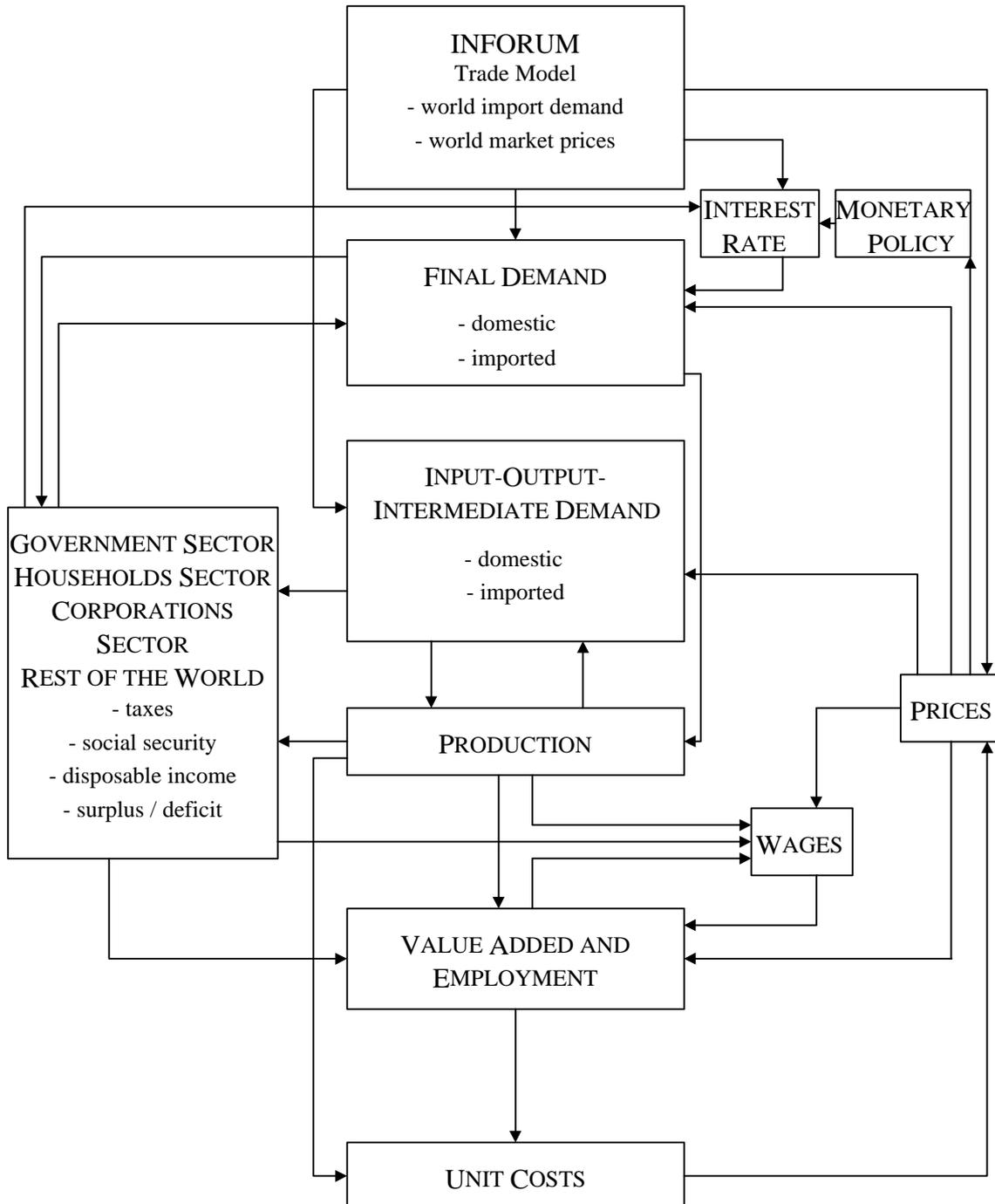


figure 2: the structure of the model SPORT

So besides the interindustry relations the income reactions and redistribution in the different sectors and among the sectors just as the use of income of the private households for the different goods and services has been extended for sporteconomic activities.

This *SPORT*-model with its detailed sporteconomic extensions has been used for analyzing the economic impact of the soccer world cup 2006 in Germany.

3 Soccer World Cup 2006 in Germany

The calculations with the simulation model *SPORT* for analyzing the macro-economic impact of the soccer world cup in the year 2006 are based on the world cup study of Rahmann et al. (1998) "Social economic analysis of the soccer world cup 2006 in Germany". Within the scope of an extended cost-benefit analysis, quantities directly and indirectly measurable in money have been found and linked to qualitative effects from an over-economic social view (Kurscheidt/Rahmann 1998, p. 79ff).

To make the simulations, first of all some results from the world cup study with reference to possible investment costs within the scope of preparing the world cup were extracted. Within the framework of the model calculations we refer to the investment scenario demanding medium to low pre-event infrastructural investments and granting a secure and sufficient further use. Following this approach, there will be investments necessary to the amount of approx. 0.69 bill. DM (based on 1996 prices) under these favourable conditions. These investments will be made during the years 2003 to 2005 (pre-event phase). It is presumed that the investment volume will spread evenly over this 3-years' period. This scenario was chosen especially because the authors of the world cup study identify it as situated in the center of the realistic range (Rahmann/Kurscheidt 1999, p. 45f). Moreover, it may be said that with a view to the current discussion about planning or building special soccer or sport arenas (Munich, Hamburg or Leverkusen) we can presume that new stadiums will be erected during the next years, independent of a positive decision through the FIFA naming Germany the place to host the soccer world cup 2006. In many cases funds will be privately raised to build the arenas or in so called private-public-partnerships (Dietl/Pauli 1999). This shows that only a part of the investments will be directly related to a possible world cup. Therefore the model calculations do not consider a higher investment volume because part of the investments will be or might obviously be financed under privately economic participation. So in the framework of these simulations the public households are solely responsible for the yearly investments to the amount of 0.23 bill. DM (based on 1996 prices) assigned for the world cup (see figure 3).

In contrast to the investment costs during the years 2003 to 2005, additional revenues may be expected as a result from the consumption of world cup tourists in the year 2006. Due to the great importance of soccer in Europe, the framework

of the simulations make here considers the optimistic evaluation of the number of visitors. This is reflected by the results for the utilization of stadium seats for the soccer tournaments in Europe during the last decade (EURO 1988 in Germany 96 %, EURO 1996 in Great Britain at 90 % or the world cup 1998 in France at 88 %; Rahmann et al. 1998, p. 135f). Including the sport journalists and having a capacity of 90 %, more than 1.1 million foreign visitors are expected, spending approx. 1.765 bill. DM (see figure 3) or 1.463 bill. DM (based on 1996 prices) in the tournament year 2006. The complete spendings of the foreign world cup visitors are based on the spendings of an average world cup tourist for voyage, entertainment, catering etc. and are a foreign demand for German goods and services. Thus they are treated as sportspecific exports in the simulations.

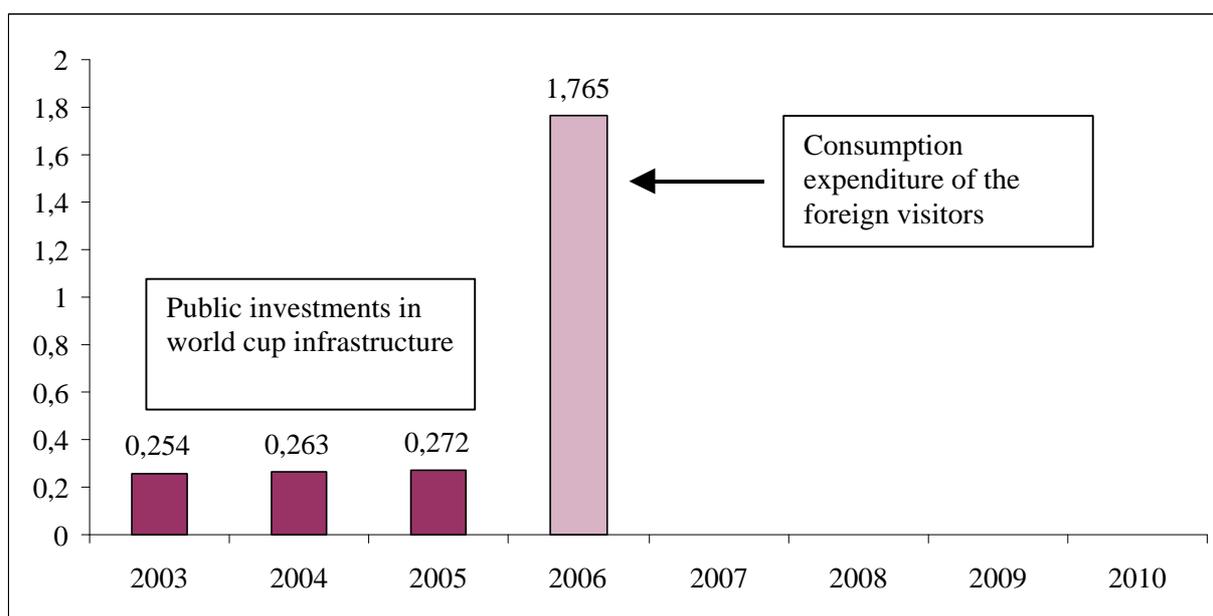


figure 3: investments to provide the world cup infrastructure in the years 2003 to 2005 as well as consumption expenditure of foreign visitors in the world cup year
 – bill. DM in current prices -

The probably increased consumption expenditures of the German people are not considered for it is unclear whether the increased consumption expenditures for visiting the world cup games will be financed by a reduction of non-sportspecific consumption expenditures or by a reduction of the savings ratio and thus a higher consumption quota. There is certainly a lot which speaks for a reduction of savings to finance the increased consuming, but its amount can hardly be determined. The net effect for the German economy will be only positive if the national marginal propensity to consume increases at least during the staging of the world cup.

4 Chosen Results for the Economic Impact of the Soccer World Cup 2006 in Case of Alternative Financing

The following discussion shows some simulation results from the SPORT-model. The simulation results differ on account of different means of financing the necessary public world cup infrastructural investments. It is not the aim of these model calculations to verify the various scenarios presented by the world cup study of Rahmann et al. (1998) but to analyse the macroeconomic effects of a relative realistic scenario for different financing. In contrary to the results of the world cup study, the induced production and price effects – considering all possible stimulus-, promoting- and feedback effects – of the additional impulses to demand can be found model-endogenously through the SPORT-model.

The results will be shown as deviations from the base solution for the prognosted period of 2003 to 2010. The base solution calculated with the model pretends a continuation of the behaviours observed in the past.

4.1 Financing by Means of Increased Public Raising of Credits

Within the framework of this simulation, the funding of investments for sport infrastructure to the amount of 0.69 bill. DM in the years 2003 to 2005 will be made through an increased raising of the public net credits. Moreover it is presumed that the additional public investments in sport infrastructure will not result in a displacement of private investments. Regarding the relatively low investment volume this seems to be a realistic hypothesis, above all because the yearly investments are distributed to the 10 places of the world cup.

Figure 4 shows that the overall effect is positive for the gross domestic product during the whole period of the simulation from 2003 to 2010. The gross domestic product will increase by 0.33 bill. DM in 2003 as compared with the basic prognosis and will be about 0.74 bill. DM higher at the end of the prognosted period in the year 2010. During these years on account of expanding multiplying effects there will be a considerably higher increase of the gross domestic product especially in the year of the world cup. In comparison to the basic prognosis in 2006 the gross domestic product will increase by more than 2.9 bill. DM especially caused by the demand of foreign world cup tourists.

The considerable increase of the gross domestic product caused by the additional sportspecific investments (pre-event-phase) or consumption expenditures of the world cup tourists (event-phase) is, however, not limited to the sportspecific sectors. Already from the beginning of 2004, the expanding effects will radiate very much to the non-sportspecific sectors of the economy. This becomes visible in figure 4, showing that the increase in the gross domestic product lies completely above the sportspecific gross domestic product. This is especially true for the years after the world cup (post-event-phase) where the expanding business cycle effects are nearly exclusively true for the non-sportspecific areas

of the economy. The effects to the sportspecific gross domestic product may be disregarded.

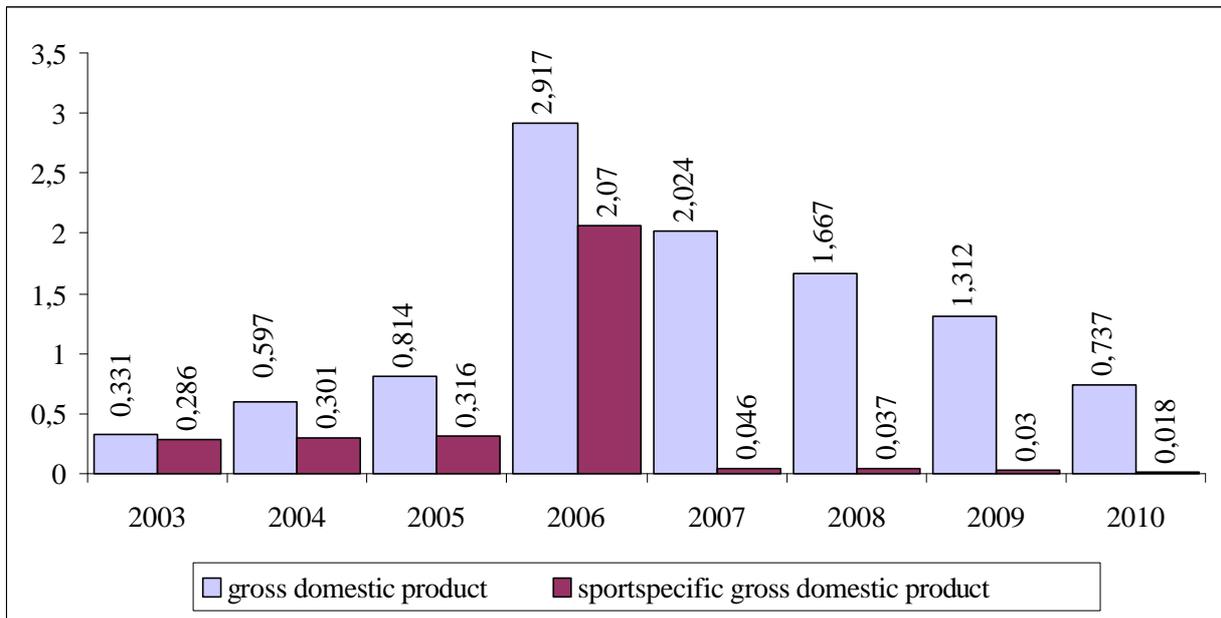


figure 4: *change of the gross domestic product because of financing the soccer world cup by means of increased public raising of credits - deviations to the base solution in bill. DM in current prices –*

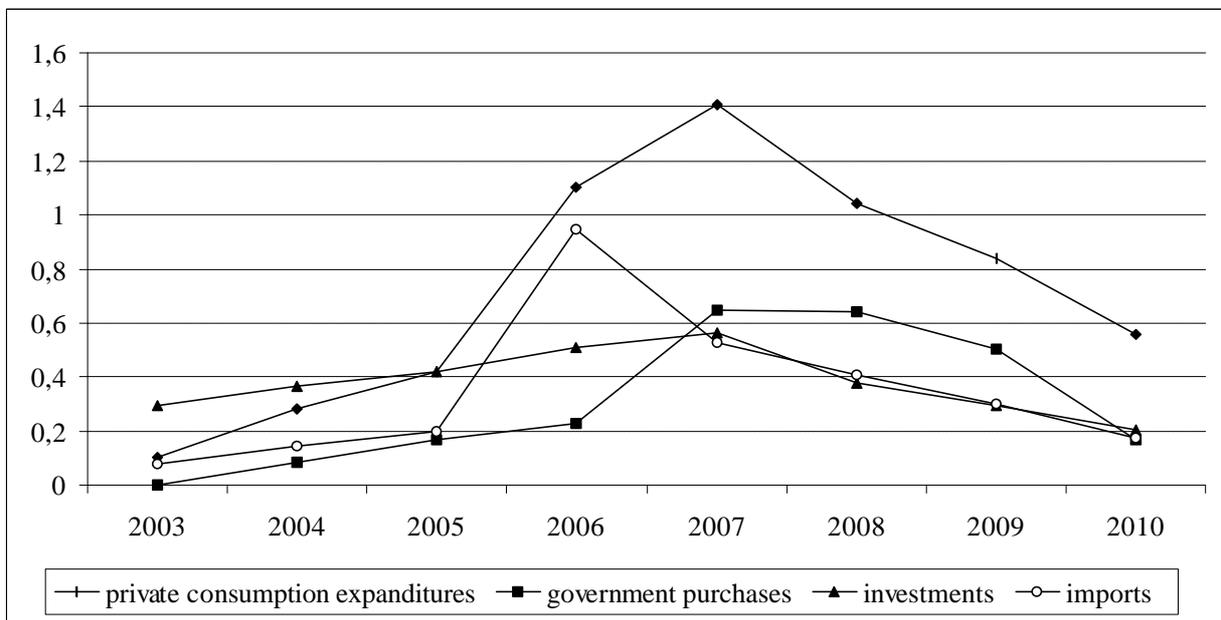


figure 5: *development of some components of the gross domestic product because of financing the soccer world cup by means of increased public raising of credits - deviations to the base solution in bill. DM in current prices -*

Figure 5 shows the development of three components of the gross domestic product. On the one hand, of course, investments will be directly expanded by the world cup infrastructural investments in the years 2003 to 2005. The increasing investments generate through an expansion of production growing wages and profits within the economy and thus inducing further investments besides an increased private consumption. This is confirmed by a comparison of the development of the investments in figure 5 with the given infrastructural investments in figure 3 during the years 2003 to 2005. The multiplying increase of the investments will be amplified by the additional foreign demand resulting from the world cup tourism in 2006, reaching its maximum at 0.56 bill. DM in the year after the world cup. Due to weakening multipliers in the following years the additional investments will decrease to 0.2 bill. DM until the year 2010.

The private consumption will dynamically develop over the whole period of simulation. In the years 2003 to 2005, it will be stimulated by rising income resulting from positive multiplying effects of the public investments in sport infrastructure. In the following years, there are the positive income effects caused by the additional foreign demand for consumption goods of the year 2006. The additional increase in private consumption will reach its peak at 1.4 bill. DM in 2007 and will decrease to 0.56 bill. DM until the end of the prognosted period.

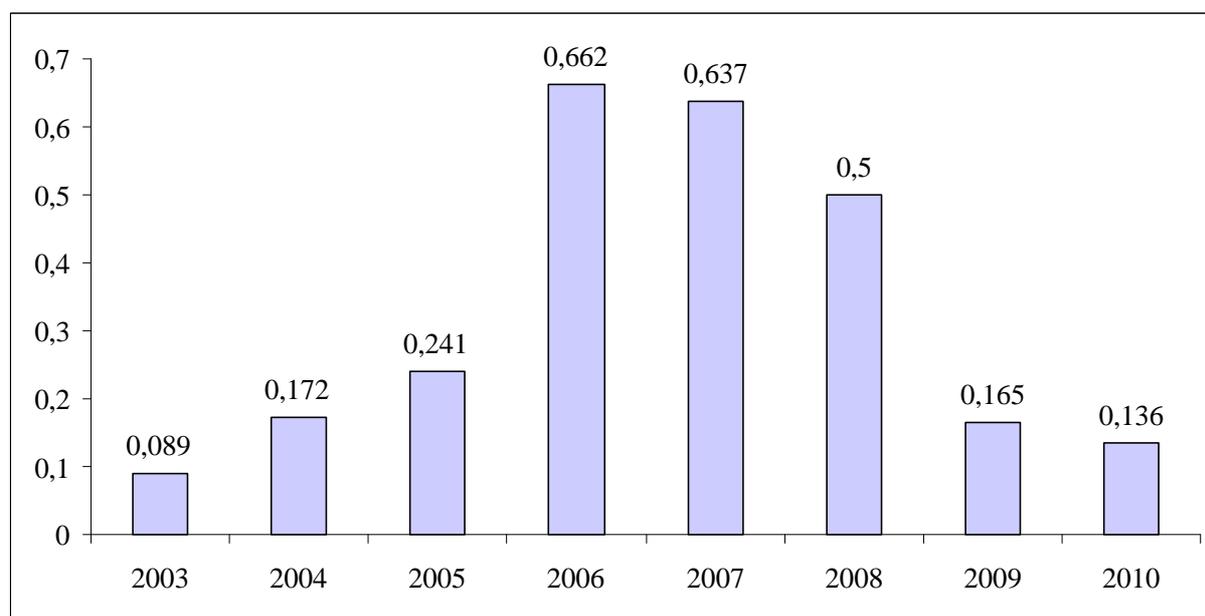


figure 6: *development of the taxes because of financing the soccer world cup by means of increased public raising of credits - deviations to the base solution in bill. DM in current prices -*

The increase in the gross production, however, will not only result in rising wages and profits and thus in increasing disposable income of the private households, but also in expanding public revenues as a result of increasing taxes. These will rise over the complete period, the increase being extraordinary strong

at 0.6 bill. DM as compared with the basic prognosis in the years 2006 and 2007 (see figure 6). The additional tax payments will be made by companies and private households for about equal shares.

On account of increasing public revenues caused by increased taxes (compare figure 6) there will be an increased public demand over the whole simulation period. Figure 5 shows the expansion of the government purchases in comparison to the basic prognosis seeing a considerable increase especially through the expansive impulse in demand in the year 2006. The additional public revenues will merely lead to a slight reduction of the public net lending.

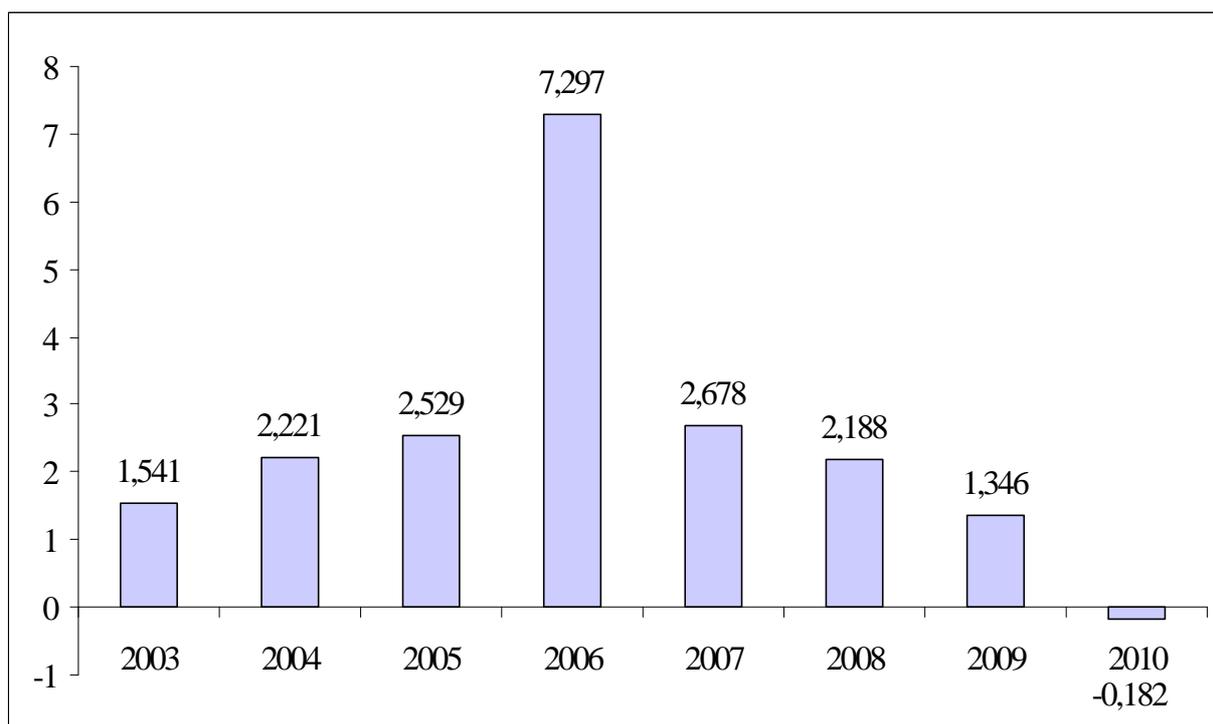


figure 7: *development of employment because of financing the soccer world cup by means of increased public raising of credits - deviations to the base solution in thousand employees -*

Despite a contractive financial effect of the credit funded public investments in the world cup infrastructure caused by a marginal increase in the interest rate the gross domestic product will develop positively. The world cup infrastructural investments as well as the additional demand caused by the world cup tourism in Germany during the year of the world cup will create further income spreading over several periods of decreasing waves into the whole economy. All in all there will be positive effects to employment over the whole simulation period. More than 2.4 thousand jobs in an all-years average will be additionally created each year. In the year of the world cup even more than 7 thousand jobs will be created (compare figure 7).

4.2 Financing by Means of a Public Coin Programme

So, what would happen if the government would not levy the infrastructural investments necessary for the world cup by credit taking (as in par. 4.1) but exclusively by a public coin programme? Such a coin programme would give soccer fans the opportunity to take a share in "their" world cup. It is obviously that the investments in the pre-event-phase are probably far to high for such an exclusively public coin programme (Maennig 1992, p 52) but analyzing it reveals the limits of this possible financial proposal.

Private households buying world cup coins just means a transfer of assets from the private households to the state. This flow of payments will be additionally considered in the simulation for the world cup year. It is presumed that private households will interpret the world cup coins as an alternative way of saving. Thus no reduction in consumption results from their purchase, but there is a substitution of other saving forms (world cup coins against savings on accounts).

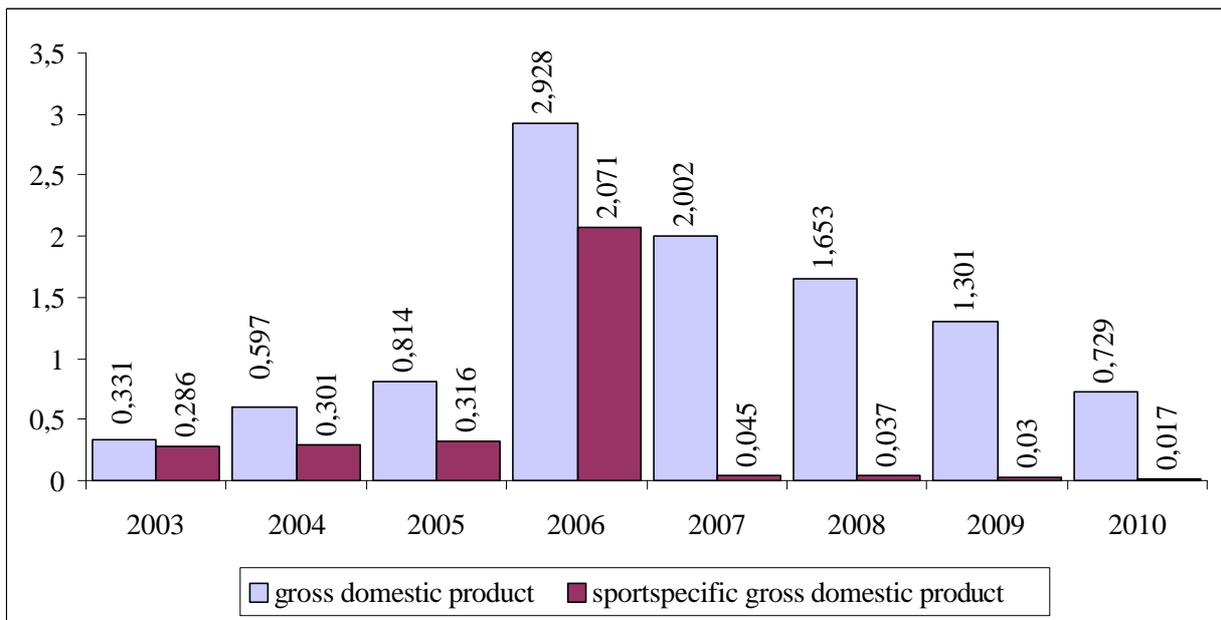


figure 8: *change of the gross domestic product because of financing the soccer world cup by means of a public coin programme (coins are interpreted as an alternative savings activa) - deviations to the base solution in bill. DM in current prices –*

Comparing the gross domestic product caused by this scenario (compare figure 8) with the result from the framework of the calculation before (credit financed investments in world cup infrastructure, compare figure 4) shows that they only differ slightly. Despite a marked decrease in the public financial balance due to additional revenues from coin purchases from private households in the world cup year 2006 generate only a small difference in the results. This result which may surprise at a first glance can be explained with the two types of financing

(credit and coins) being claims of the private households to the state and thus leading to a payment in later years. However, there is a difference in quality between the funding by coins and by credit. While for the credit funding a pay-back including adequate interest is agreed at the time of crediting, neither interest nor pay-back delay will be agreed in case of coin financing. The state as well as the coin collector are hoping that the value of the coins will rise in the future respectively these coins will be kept by reasons of ideal.

If, however, the world cup coins issued by the state will not be interpreted as an alternative form of savings but as a very special sportspecific private consumption expenditures, the result changes considerably. In this case, there will be decreased private consumption expenditures caused by the additional savings in the world cup year. This will lead to a marked contraction of the aggregate demand in the following years (compare figure 9).

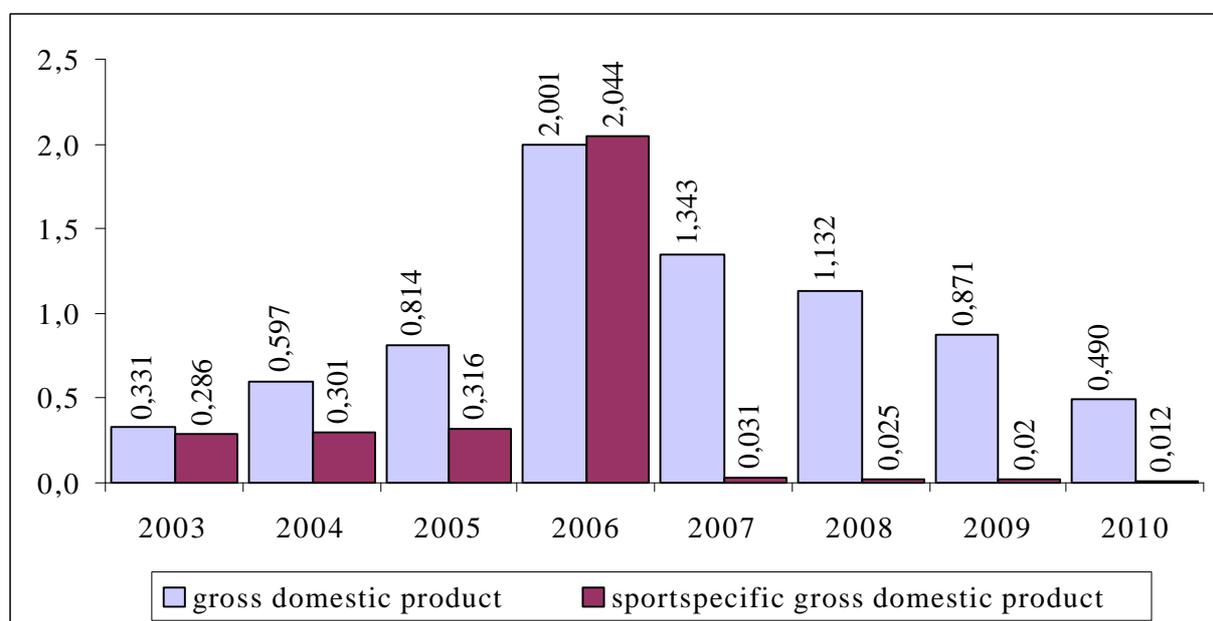


figure 9: *change of the gross domestic product because of financing the soccer world cup by means of a public coin programme (coins are not interpreted as an alternative savings activa) - deviations to the base solution in bill. DM in current prices –*

In case of a coin financing programme the diffusion of the additionally created income into the whole economy will be determined by the behaviour of the private households to save. If the coin financing leads to a reduction in the consumption of private households, no additional demand will be stimulated. Only in case of replacing different types of savings through the special world cup coins evident expansive income effects can be expected. This shows that such coin programmes only make sense if their volume as well as their form will not lead to additional savings and thus not to a reduction of the private consumption expenditures.

These results illustrate that a financing by coins bears risks and thus should be thoroughly prepared by the public money or finance controlling authority. If this is not guaranteed the desired expanding effect of a world cup coin programme to finance the necessary public world cup infrastructural investments is not ensured.

4.3 Financing by Means of Increased Direct Taxes by Private Households

Now it is presumed that the taxes paid by the private households be parallelly increased by the amount of the additional yearly pre-event-investments in the years 2003 to 2005.

In comparison to the base solution the gross domestic product will rise over the whole period. However, compared with the already in par. 4.1 discussed prognosis (credit financed investments in world cup infrastructure) the increase will be weaker. There is, of course, a direct relation to the financing of the world cup infrastructural investments. The additionally payed taxes of private households will slow down the effect of expanding payments of additional public investments because a part of the created income are taken out of the circula flow. Obviously this leads to a marked decrease in private consumption (compare figure 11) if compared to the base solution in the first years of this prognosis. This decrease is especially strong for the non-sportspecific private consumption. It is much stronger than the expanding effect of the world cup infrastructural investments.

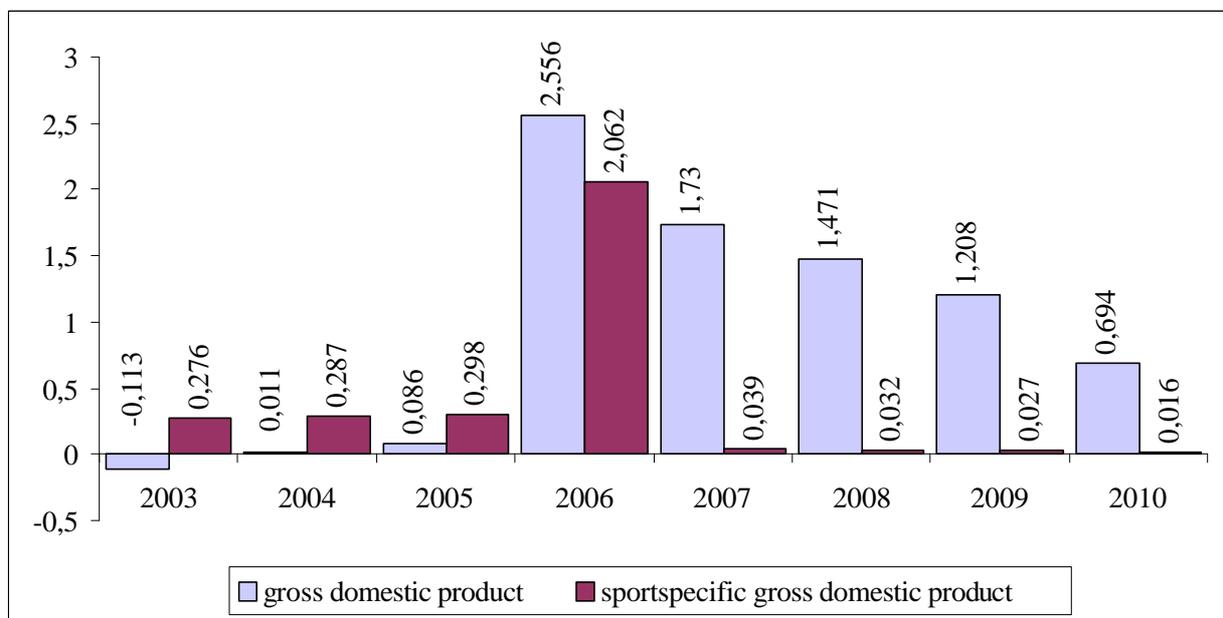


figure 10: change of the gross domestic product because of financing the soccer world cup by means of increased direct taxes by private households - deviations to the base solution in bill. DM in current prices –

In the year 2006, the additional demand by foreign world cup visitors to the amount of 1.765 bill. DM will cause a noticeable expansion of production and an increase in the disposable income of private households which now again will generate an additional demand for consumption, investments or will flow back to the state as additional taxes. After a decrease of government purchases due to the contractive financial effect at the beginning, these processes will provide an increase in government purchases. Due to the multiplying effects the state can obviously finance additional expenditures. Besides that figure 11 shows that additional investments are induced by the consumption expenditures of the foreign visitors.

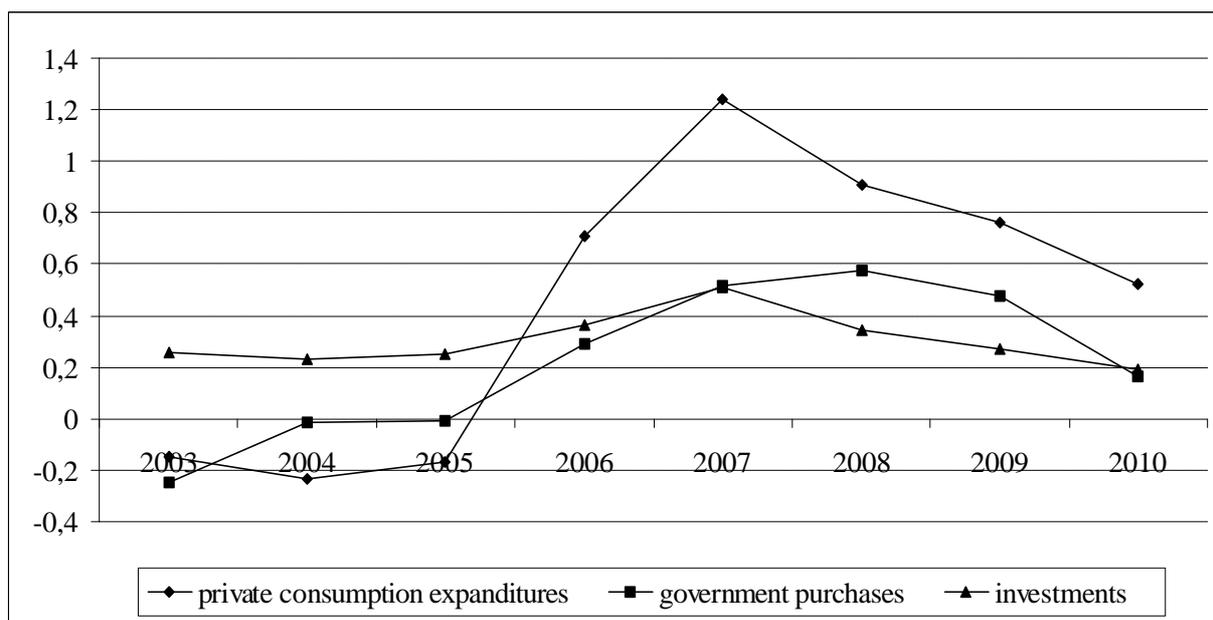


figure 11: *development of some components of the gross domestic product because of financing the soccer world cup by means of increased direct taxes by private households - deviations to the base solution in bill. DM in current prices -*

Due to the world cup specific extension of the infrastructure by means of taxes there will be a noticeable expansion of the gross production and its components only at the year of the world cup. This delayed development can be seen with the disposable income as well, decreasing due to the tax financing in the years 2003 to 2005 and only rising strongly through the exogenous push of demand from abroad. The increase in gross production as well as in the income will amplify a favourable development of the public revenues. If taxes will be increased during the first three years for financing, especially the increasing disposable income will generate additional tax revenues in the following years (compare figure 12).

However, the additional tax revenues can only reduce a minimum of the public net lending. On the one hand, they will be originally levied to fund the public world cup infrastructure investments. On the other hand due to cycle effects the additional tax revenues will be spent as additional public expenditures, i. e. they

will not be explicitly taken to pay off the public liabilities. Only in the year of the world cup the additional tax revenues will cause a slight decrease in new public liabilities.

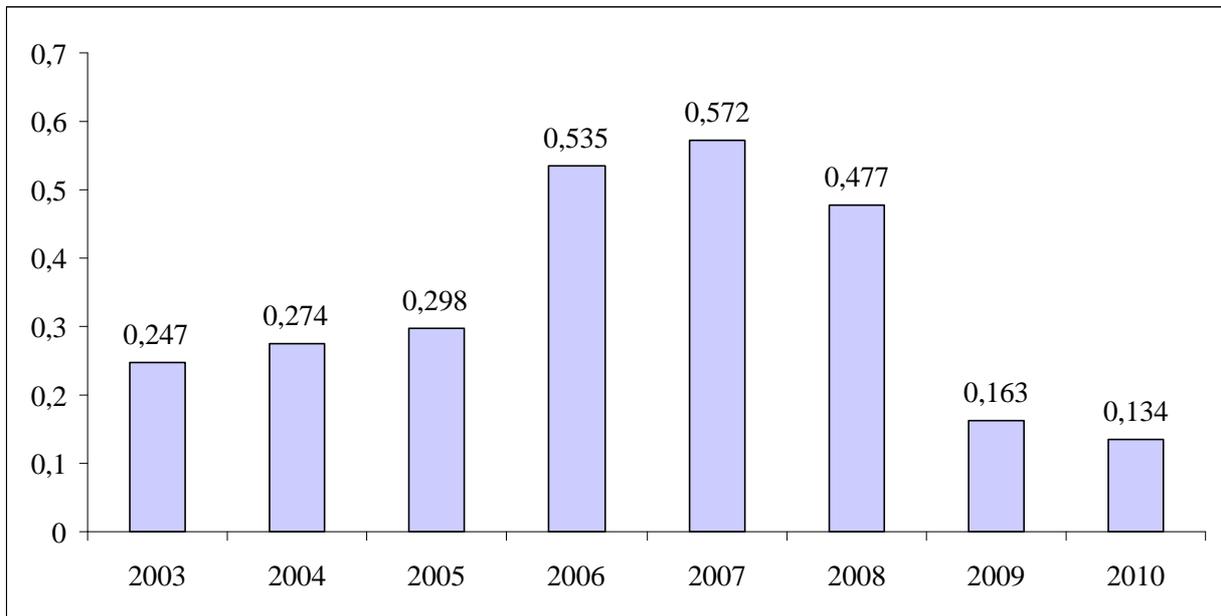


figure 12: *development of the taxes because of financing the soccer world cup by means of increased direct taxes by private households - deviations to the base solution in bill. DM in current prices -*

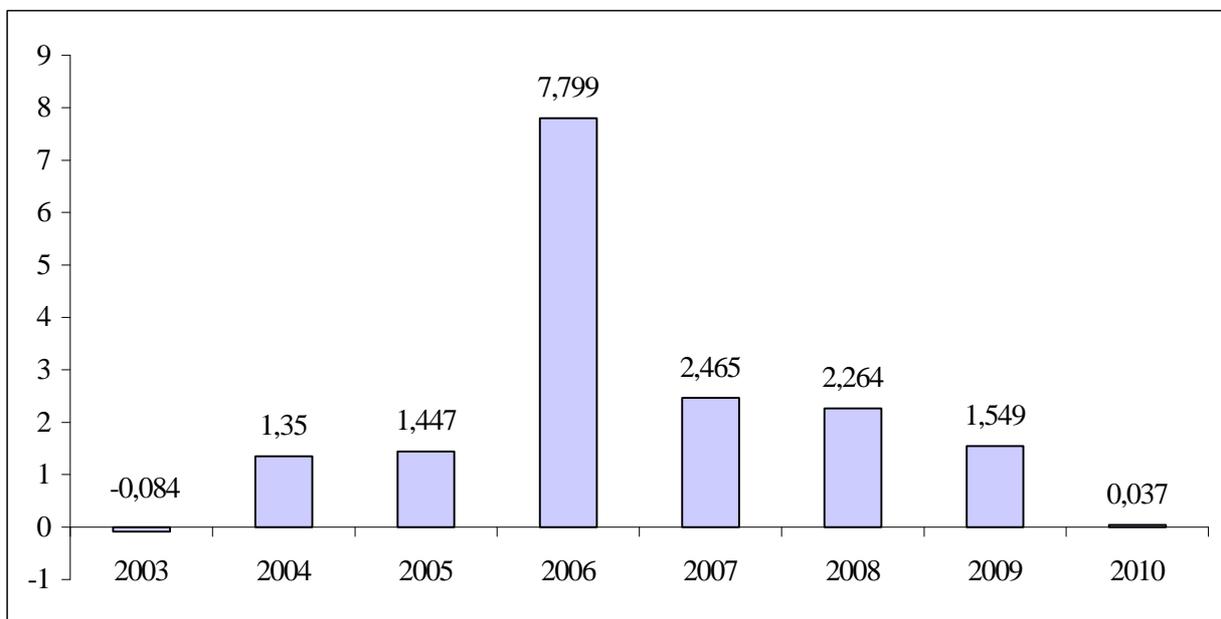


figure 13: *development of employment because of financing the soccer world cup by means of increased direct taxes by private households - deviations to the base solution in thousand employees -*

The expansion of the sportspecific public expenditures in the pre-event-phase financed by means of increased direct taxes will have a positive effect on employment. After a decrease due to the contractive financing effect of the world cup infrastructure investments at the beginning in the year 2003, employment will slightly increase during the years 2004 to 2009 and reaches its maximum at nearly 7800 additional jobs in the year of the world cup.

4.4 Financing by Means of Increased Direct Taxes by Private Households and Profits Tax Exemption to the FIFA

Finally we consider how the results will change when besides financing the world cup investments by higher taxes in the years 2003 to 2005 (compare par. 4.3) the German government will guarantee the international soccer club association (FIFA) the expected 25 % profits tax exemption. This profits tax exemption is an indispensable requirement for a successful application of the German soccer association (DFB) to be host of the soccer world cup 2006 in Germany. The profits tax exemption causes an estimated loss in taxes of 0.45 bill. DM (Frankfurter Allgemeine Zeitung, 16.01.1999, S. 39f). In the scope of this simulation we assume that this loss in taxes will be financed by a corresponding reduction of the government purchases in 2006.

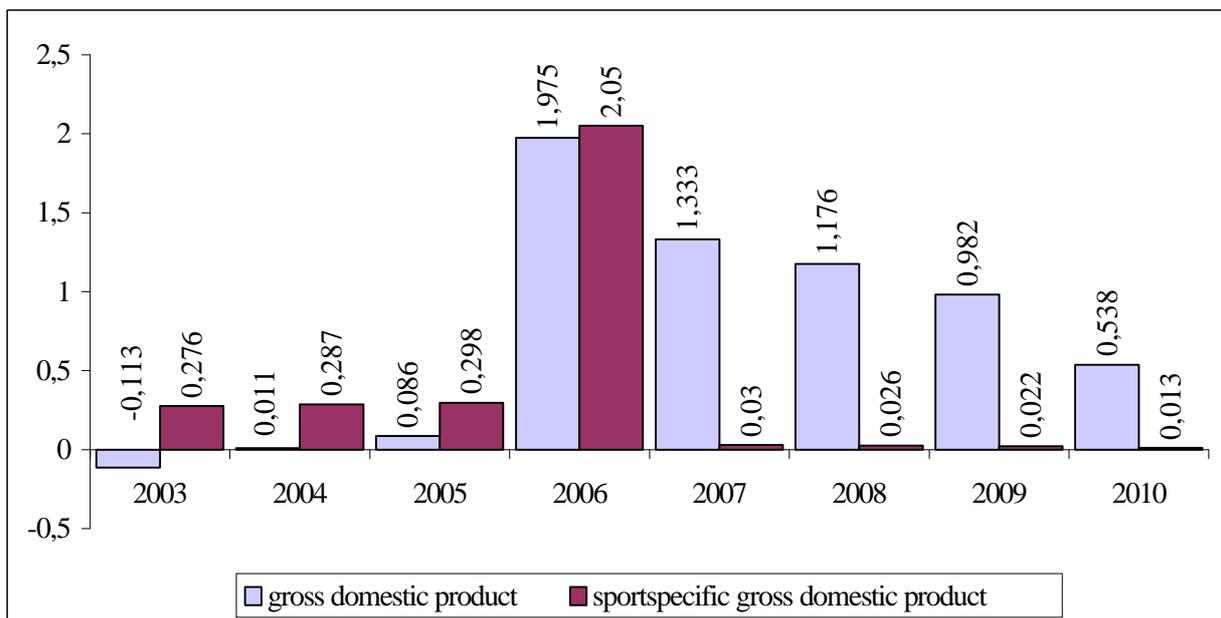


figure 14: *change of the gross domestic product because of financing the soccer world cup by means of increased direct taxes by private households and profits tax exemption to the FIFA in 2006*
 - deviations to the base solution in bill. DM in current prices –

The gross domestic product will rise over the whole period. However, compared with the already in par. 4.3 discussed simulation results the increase will be

weaker (compare figure 10). After a shrinkage of the gross domestic product in 2003 due to the contractive financing effect of the tax financed world cup infrastructural investments the gross domestic product increases in comparison to the base solution. The additional demand by foreign world cup visitors to the amount of 1.765 bill. DM in 2006 will cause a noticeable expansion of production and an increase in the disposable income of private households which will stimulate an additional demand for consumption, investments or will flow back as additional tax revenues. The profits tax exemption causes a remarkable reduction of the tax revenues (not only for the year of the exemption). The loss in public revenues, which is financed by a reduction of the government purchases results in an evident slowdown of gross domestic product. In the year 2006 the supplementary increase to the value of 1.9 bill. DM is about 0.58 bill. DM weaker in comparison to the previous simulation (compare figure 10 par. 4.3). The profits tax exemption in favour of the FIFA slow down the expansive effect of the government expenditures because a part of the created tax revenues are taken out of the circula flow.

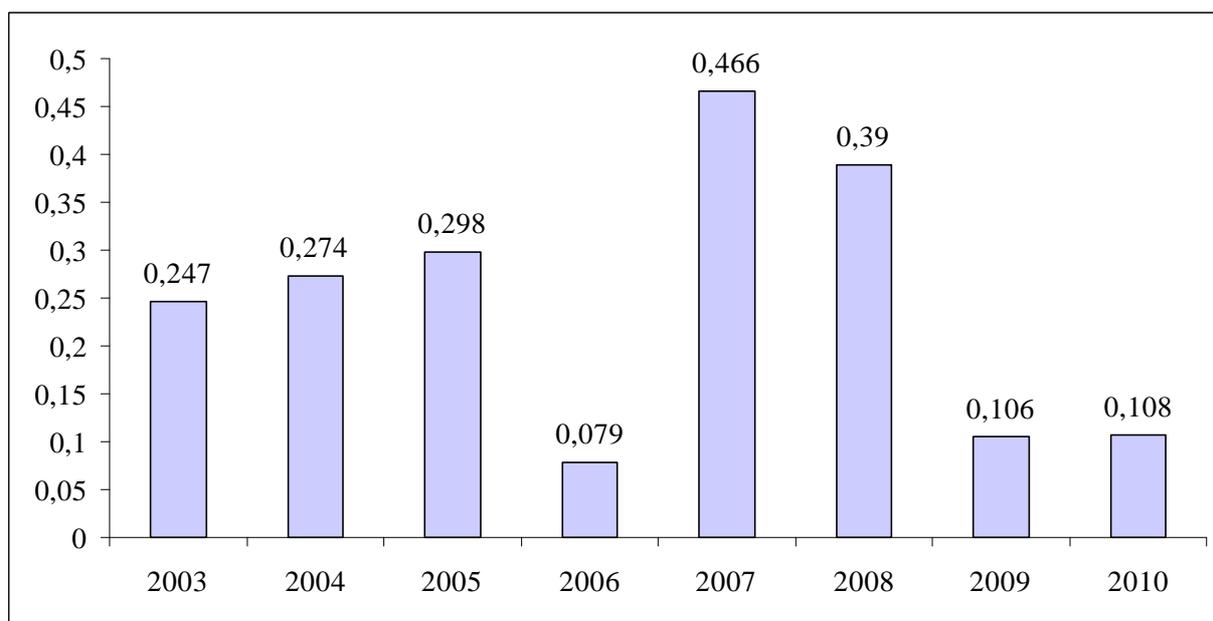


figure 15: *development of the taxes because of financing the soccer world cup by means of increased direct taxes by private households and profits tax exemption to the FIFA in 2006 - deviations to the base solution in bill. DM in current prices -*

Because of the weaker expansion of the cycle in 2006 the additional public revenues decline. In the year of the world cup the state realizes a loss in tax revenues to the amount of 0.45 bill. DM. On account of the weaker expansion of the cycle this loss in tax revenues will continue in the following years (in comparison to the already in par. 4.3 discussed simulation result).

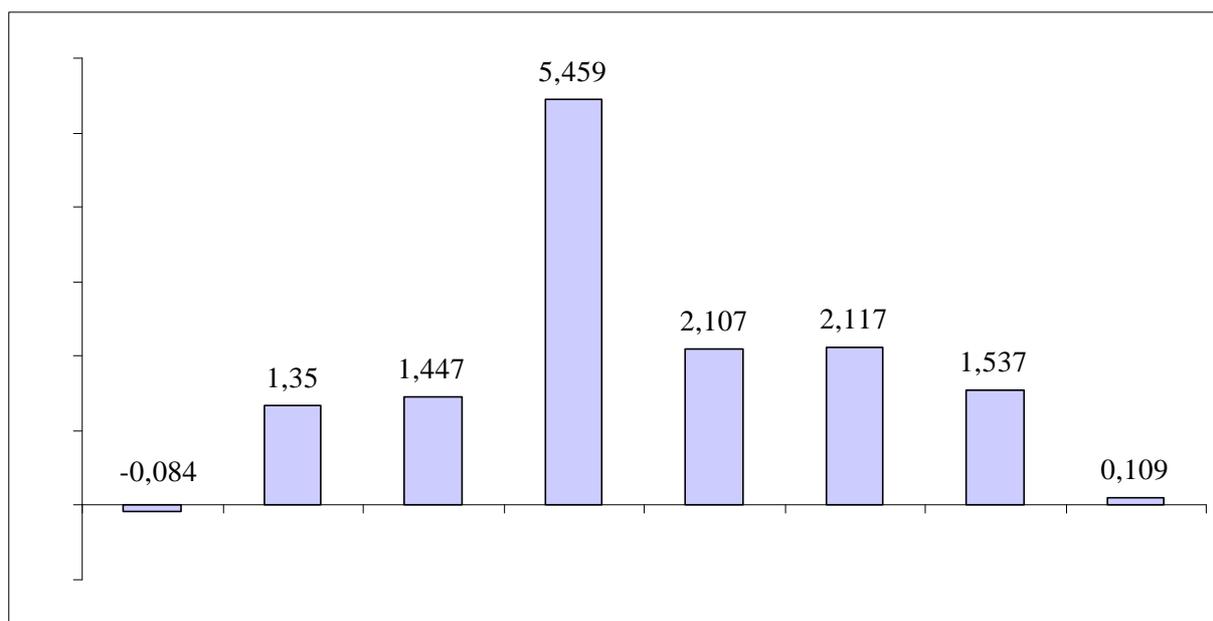


figure 16: *development of employment because of financing the soccer world cup by means of increased direct taxes by private households and profits tax exemption to the FIFA in 2006 - deviations to the base solution in thousand employees -*

Despite the profits tax exemption to the FIFA in the year 2006 we can observe a positive impact on the employment. After a decrease due to the contractive financing effect of the infrastructure investments in 2003, employment will slightly rise during the following years. The additional employment reaches its climax in 2006 with nearly 5500 additional jobs. In comparison to the previous simulation without profits tax exemption (par. 4.3) the positive employment effects are a little bit weaker on account of the losses in tax revenues.

5 Summary and Outlook

The results of the different simulations analyzing the economic impact of the soccer world cup in case of different means of financing show that under the favourable conditions assigned an increase in the gross domestic product as well as a positive effect on employment can be expected. This positive result is regardless whether the way of financing the pre-event infrastructure investments or the indispensable profits tax exemption to the FIFA.

The level of the effect will of course be determined by the additional demand of foreign visitors to the soccer world cup. This additional foreign demand will cause a strong expansion of production and income in the year 2006. Although the consumptive exogenous impulse of the foreign visitors will be limited to the short period of the world cup, due to the manifold multiplying links of the economic cycle this additional demand will generate a noticeable additional demand in the following years.

In addition the presented results enable the decision-makers in sports, policy and business to determine the opportunity costs of the alternative means of financing the necessary world cup specific infrastructural investments. With the aid of such model calculations the responsible decision-makers are able to minimize the potential losses in future earnings. They get so valuable additional informations respectively arguments for explaining their decisions to the public.

Besides that the paper at hand illustrate the wide scope of application of such model based calculations. The special performance of the SPORT-model is the complete linkage of the national account system with the input-output-system considering the sporteconomic activities in detail. Only this complex approach makes it possible to study the induced intertemporal production and price effects of the additional impulses to demand, because they can be found model-endogenously through the SPORT-model.

Naturally the results of these model calculations can be the basis for further investigations in the framework of an extended cost-benefit analysis. Such an extended cost-benefit analysis supplements the presented quantitative impacts with qualitative effects from an over-economic social view. In this sense the study from Rahmann et al. (1998) is a good example.

REFERENCES

- Ahlert, G. / Schnieder, C. [1997]** *Integrating Sports in the German Input-Output Table*. Paper presented at the Fifth INFORUM World Conference. Bertinoro (Italy).
- Ahlert, G. [1998]** *Sports and Economy*. Paper presented at the Sixth INFORUM World Conference. El Escorial (Spain).
- Almon, C. [1991]** *The INFORUM Approach to Interindustry Modelling*. Economic Systems Research. Vol. 3, Nr. 1.
- Dietl, H.-M. / Pauli, M. [1999]** *Wirtschaftliche Auswirkungen öffentlich finanzierter Stadionprojekte*. in: Arbeitspapiere des Fachbereichs Wirtschaftswissenschaften der Universität-Gesamthochschule Paderborn., Nr. 61, Paderborn.
- Maennig, W. [1992]** *Kosten und Erlöse der Olympischen Spiele in Berlin 2000*. Berlin.
- Meyer, B. / Ahlert, G. [1999][forthcoming]** *Die ökonomischen Perspektiven des Sports. Eine empirische Analyse*. Köln.
- Meyer, B. et al. [1999]** *Marktkonforme Umweltpolitik*. Heidelberg.
- Kurscheidt, M. / Rahmann, B. [1998]** *Local investment and national impact: The case of the football World Cup 2006 in Germany*. in: Jeanrenaud, C. (ed.): *The Economic Impact of Sport Events*, Neuchatel (Switzerland), 79 -108.
- Rahmann, B. et al. [1998]** *Sozio-ökonomische Analyse der Fußball-WM 2006 in Deutschland*, Köln.

LIST OF FIGURES

FIGURE 1: INPUT-OUTPUT TABLE OF SPORTS	5
FIGURE 2: THE STRUCTURE OF THE MODEL SPORT	7
FIGURE 3: INVESTMENTS TO PROVIDE THE WORLD CUP INFRASTRUCTURE IN THE YEARS 2003 TO 2005 AS WELL AS CONSUMPTION EXPENDITURE OF FOREIGN VISITORS IN THE WORLD CUP YEAR – BILL. DM IN CURRENT PRICES -	9
FIGURE 4: CHANGE OT THE GROSS DOMESTIC PRODUCT BECAUSE OF FINANCING THE SOCCER WORLD CUP BY MEANS OF INCREASED PUBLIC RAISING OF CREDITS - DEVIATIONS TO THE BASE SOLUTION IN BILL. DM IN CURRENT PRICES –	11
FIGURE 5: DEVELOPMENT OT SOME COMPONENTS OF THE GROSS DOMESTIC PRODUCT BECAUSE OF FINANCING THE SOCCER WORLD CUP BY MEANS OF INCREASED PUBLIC RAISING OF CREDITS - DEVIATIONS TO THE BASE SOLUTION IN BILL. DM IN CURRENT PRICES -	11
FIGURE 6: DEVELOPMENT OF THE TAXES BECAUSE OF FINANCING THE SOCCER WORLD CUP BY MEANS OF INCREASED PUBLIC RAISING OF CREDITS - DEVIATIONS TO THE BASE SOLUTION IN BILL. DM IN CURRENT PRICES -	12
FIGURE 7: DEVELOPMENT OF EMPLOYMENT BECAUSE OF FINANCING THE SOCCER WORLD CUP BY MEANS OF INCREASED PUBLIC RAISING OF CREDITS - DEVIATIONS TO THE BASE SOLUTION IN THOUSAND EMPLOYEES -	13
FIGURE 8: CHANGE OT THE GROSS DOMESTIC PRODUCT BECAUSE OF FINANCING THE SOCCER WORLD CUP BY MEANS OF A PUBLIC COIN PROGRAMME (COINS ARE INTERPRETED AS AN ALTERNATIVE SAVINGS ACTIVA) - DEVIATIONS TO THE BASE SOLUTION IN BILL. DM IN CURRENT PRICES –	14
FIGURE 9: CHANGE OT THE GROSS DOMESTIC PRODUCT BECAUSE OF FINANCING THE SOCCER WORLD CUP BY MEANS OF A PUBLIC COIN PROGRAMME (COINS ARE <u>NOT</u> INTERPRETED AS AN ALTERNATIVE SAVINGS ACTIVA) - DEVIATIONS TO THE BASE SOLUTION IN BILL. DM IN CURRENT PRICES –	15
FIGURE 10: CHANGE OT THE GROSS DOMESTIC PRODUCT BECAUSE OF FINANCING THE SOCCER WORLD CUP BY MEANS OF INCREASED DIRECT TAXES BY PRIVATE HOUSEHOLDS - DEVIATIONS TO THE BASE SOLUTION IN BILL. DM IN CURRENT PRICES –	16
FIGURE 11: DEVELOPMENT OT SOME COMPONENTS OF THE GROSS DOMESTIC PRODUCT BECAUSE OF FINANCING THE SOCCER WORLD CUP BY MEANS OF INCREASED DIRECT TAXES BY PRIVATE HOUSEHOLDS - DEVIATIONS TO THE BASE SOLUTION IN BILL. DM IN CURRENT PRICES -	17

FIGURE 12: DEVELOPMENT OF THE TAXES BECAUSE OF FINANCING THE SOCCER WORLD CUP BY MEANS OF INCREASED DIRECT TAXES BY PRIVATE HOUSEHOLDS - DEVIATIONS TO THE BASE SOLUTION IN BILL. DM IN CURRENT PRICES -.....	18
FIGURE 13: DEVELOPMENT OF EMPLOYMENT BECAUSE OF FINANCING THE SOCCER WORLD CUP BY MEANS OF INCREASED DIRECT TAXES BY PRIVATE HOUSEHOLDS - DEVIATIONS TO THE BASE SOLUTION IN THOUSAND EMPLOYEES -.....	18
FIGURE 14: CHANGE OF THE GROSS DOMESTIC PRODUCT BECAUSE OF FINANCING THE SOCCER WORLD CUP BY MEANS OF INCREASED DIRECT TAXES BY PRIVATE HOUSEHOLDS AND PROFITS TAX EXEMPTION TO THE FIFA IN 2006 - DEVIATIONS TO THE BASE SOLUTION IN BILL. DM IN CURRENT PRICES -.....	19
FIGURE 15: DEVELOPMENT OF THE TAXES BECAUSE OF FINANCING THE SOCCER WORLD CUP BY MEANS OF INCREASED DIRECT TAXES BY PRIVATE HOUSEHOLDS AND PROFITS TAX EXEMPTION TO THE FIFA IN 2006 - DEVIATIONS TO THE BASE SOLUTION IN BILL. DM IN CURRENT PRICES -.....	20
FIGURE 16: DEVELOPMENT OF EMPLOYMENT BECAUSE OF FINANCING THE SOCCER WORLD CUP BY MEANS OF INCREASED DIRECT TAXES BY PRIVATE HOUSEHOLDS AND PROFITS TAX EXEMPTION TO THE FIFA IN 2006 - DEVIATIONS TO THE BASE SOLUTION IN THOUSAND EMPLOYEES -.....	21