FIFA WORLD CUP 2018: AN EX ANTE INPUT OUTPUT ANALYSIS FOR THE NETHERLANDS

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ABSTRACT

Together with Belgium, the Netherlands was one of the candidates to host the FIFA World Cup 2018. There is an ongoing debate about whether this event would have been beneficiary for the Netherlands. Several studies point out that the expected benefits for previous FIFA World Cups did not materialize due to certain effects as crowding out and leakage effects. This paper focusses on the increased employment which occurs as a result of increased financial flows. An input output model was designed for this purpose. With the model three scenarios were analysed. Finally, a sensitivity analysis was carried out. The Annual Sports and Cultural Festival is an Indigenous sporting and cultural event that has been held

KEY WORDS

World Cup, Input Output analysis, Crowding out effect

INTRODUCTION

In 2010 the FIFA committee decided that the 2018 soccer World Cup will take place in Russia and in 2022 in Qatar. Several countries tried to retrieve the doubtful honour of hosting the World Cup, including the Netherlands (together with Belgium). According to the soccer organizations hosting will come with significant economic windfall. Several different economists though claim otherwise and argue there are effects which cause the net benefit to hold off. There is a huge gap between several ex ante studies, which predict significant economic windfall, and several ex post and ex ante studies, which claim a net loss is more likely than a net benefit (see for instance Baade & Matheson 2004, Kim, Gursoy, & Lee 2006, Lee & Taylor 2005, Maennig 2006, Nooij, Berg, & Koopmans 2010). One of the arguments in this debate is the impact on employment. Money is spent in several sectors which cause employment to increase. For example employment in the Construction sector will rise as a result of the construction of stadiums. This research focuses on these employment effects. A general accepted method to calculate (employment) effects as a result of an economic impulse is an input output analysis (Fletcher 1989, Burgan & Mules 1992, Heijman & Schipper 2009). For this research an input output model is constructed as will be explained in the method section. The input side of the analysis depends heavily on the CBA of Nooij and Berg et al. (2010), so in order to understand some of the choices made for the model, a basic summary of the general discussion is provided in the following part.

The major part of the increase of income for a country during large sport events is generated by tourism. The differences between the several CBA studies rely heavily on the differences in tourism related numbers, which result logically in different expected employment figures. Tourism during the period of the event is often related to the World Cup and the amount of tourists is much larger than in other years. In many ex-ante calculations the net amount of extra income due to tourists are subscribed as gains of the World Cup. However, this assumption is not correct. The so called *crowding out effect* is one of the reasons why the predicted net gains derived from the tourism sector are not realistic (Matheson & Baade, 2004). Because of the major sports event some tourists want to avoid the crowds and the traffic congestions and go elsewhere. These tourists would spend their money in the host country in the absence of the World Cup, but now they spend it elsewhere. According to Matheson (2004) not only the spending behaviour of the actual tourists is important to calculate the net economic impact but also the spending behaviour of the tourist who otherwise would have visited the host country. This *crowding out effect* is seen in multiple examples. During the World Cup in 2006 in Germany the usage of accommodation in Berlin and Munich was more than 10% less than in June 2005. Besides this, the amount of tourists, as based on utilization of accommodation, during the following months in 2006 was less than in 2005 (Maennig, 2006). The same effect is also described by Anderson (in (Matheson & Baade, 2004)) for the case of the Olympic Games in 2000 in Sydney. This *crowding out effect* is the result of *aversion factors*, such as traffic congestion, large crowd's, noise, etcetera (Lee & Taylor, 2005).

Effects which are related to the *crowding out effect* are the so called *carnival effect* and the *couch potato effect*. Some local people do not like all the negative externalities related to the World Cup so they ´flee´ to another place. This is called the *carnival effect* (Maennig, 2006). Besides this effect local people also change their consumer behaviour during the World Cup; the so called *coach potato effect* (also called the *substitution effect* by (Matheson & Baade, 2004)). The increased expenditure by locals during the World Cup is cutback by expenditures elsewhere. Overall the consumption rate remains the same (Maennig, 2006). This is certainly not positive for the host country since a certain share of these extra World Cup related expenditures flows abroad to the FIFA. This means a net overall loss for the host country with regard to the expenditures of local people. Nooij et al. (2010) present even more effects which are underestimated in many ex ante studies. For instance the so called time-switching effect includes that some people who come to an event would also have come to the host country in the absence of the event. Also the leakage effect is described. Because of global corporations and businesses money flows from one country to another which is a well-known effect in the area of tourism (Nooij, et al., 2010).

Arguments as mentioned above are not subject of analysis in many ex-ante studies. Ahlert (2001) for instance presents a calculation based on an Input-output model. The results are quite positive and as a conclusion the author recommends the World Cup for Germany in 2006. In this model none of the above effects (crowding out, couch potato, carnival) are included (Ahlert, 2001). Of course it is difficult to examine the exact impact of these effects since they are not presented in the literature, but the author does not mention these negative effects at all. The outcomes are in an ex post study countered by Maennig (2007). This example highlights the absence of negative effects in ex ante studies, which results in a gap between ex ante and ex post calculations.

After the introduction into the topic this paper will continue with its main focus on the employment effects in the Dutch economy if the Fifa World Cup 2018 would have been organized in the Netherlands. Section 2 presents the methodology including the Input-output model designed for this research. Section 3 focuses on the origin of the used data. Section 4 presents the results for the Netherlands in three scenarios, both in the long term and the short term. A sensitivity analysis will be presented in Section 5 to see the impact of slightly different input numbers. The final section presents the conclusions and a discussion.

METHOD

There are multiple perspectives from which the economic impact of the World Cup for the Netherlands can be analysed. In this article the IO analysis will be used as the basic method in the following chapters. Calculating employment effects with an IO model has already been done before by Heijman & Schipper (2010); the approach for this research is similar to his approach.

The demand for a specific product of a firm is determined by the demand for this product by other firms and the demand from final consumers. The demand for tires for instance is determined by direct consumers and by automobile factories, trucking company's etcetera. So the inter-industry demand is a share of the total demand. The relations between all of the sectors can be expressed in coefficients which can be placed in matrix form **A**. The final demand, the demand from final consumers, can be expressed as vector **F**. The total demand, which is the sum of the inter-industry demand and the final demand, can be expressed as vector **X**. This leads to the following formula: **AX + F = X.** An Input-output analysis aims to compute the change of total demand **X** as a result of a change in final demand **F**. The formula above needs to be rewritten for this purpose by using a unity matrix **I**: $\mathbf{(I-A)X = F}$; $\mathbf{X = (I-A)^{-1}F.}$ This equation is known as the Leontief equation and it can be used to determine the change in total demand as a result of a change in final demand. The equation can be used to calculate the **X** vector for every possible **F** and to make clear the multiplier. This model is presented in Heijman (2010) where it is also more thoroughly explained.

Three different multipliers can be distinguished. The first one is the multiplier of the direct output effect. This multiplier can be understood as the internal effect of a change in the final demand for a certain sector. The second multiplier is the multiplier for the indirect effects, presented as the inter-industry purchases. In other words, this is the effect of an impulse on all the different industries. The third multiplier is the gross output multiplier. This multiplier includes both the inter-industry purchases and the household sector. The meaning of the multiplier can be explained in short as: "the notion that direct spending increases induce additional rounds of spending due to increased incomes that occur as a result of additional spending" (Matheson & Baade, 2004). An example is provided by Szymanski (2002): "For example, if expenditure by spectators produces $100 of income for a hot-dog seller, then some fraction of this income (say 50%) will be spent on goods and services supplied elsewhere in the economy, and generate an economic gain of $50 for those suppliers. If those suppliers also spend 50% of what they receive, then another round of economic stimulus occur ($25). This process will continue endlessly, but after a small number of rounds the size of the increment will be negligible. It turns out that the value of this sum is equal to 1/0.5, which equals 2, so the total impact is two multiplied by the direct impact, i.e. $200. The sum of the fractions that determine the size of the stimulus is called

the multiplier, as it is the total economic impact of an amount of spending injected, expressed as a multiple of that injection"(Szymanski, 2002). This example might clarify the meaning of the multipliers as discussed above.

More important multipliers are the income and the employment multipliers. By adding a vector for the direct income or employment multiplier, which is actually the income or employment per output ratios, employment and income effects can be computed. IO analysis can be used to examine the effect of a financial shock on the economy by calculating the different multipliers. An IO analysis makes visible in which sectors the shock takes place and what the consequences are for production in other sectors. When adding employment or income vectors to the model the impact of an economic shock can be determined for these specific factors.

The input of an IO analysis, the change in final demand, is of course based on certain assumptions, but it is not clear if the input is actually realistic. An IO analysis should in that manner not be used to predict exact outcomes for a specific event. Especially not as a single instrument, which is often the case in many ex ante studies regarding the World Cup (Matheson & Baade, 2004). An estimation of inputs combined with bad interpretations of output results often in a predicted positive impact, which unfortunately hardly materializes. For example, in many ex-ante studies for predicting the economic impact of the World Cup, initial spending increases due to the fact that indirect spending is part of the outcomes. These multiplier effects do not take the general equilibrium in account, while economic relations certainly change. Because of this incorrect multiplier interpretation, the actual prosperity is highly overrated and as a result also the input for the IO analysis. Another remark can be made with regard to the inter-industry relations. These relations are fixed in the IO method, but it is not exactly clear if these relations remain unchanged in case of a somewhat larger economic shock (Nooij, et al., 2010). For this research though, inter-industry relations will remain fixed.

Nooij et al. (2010) examined three scenarios for the World Cup to show the costs and benefits for the Netherlands: an unfavourable, a probable and a favourable scenario. The differences between these scenarios are caused by higher income and lower costs or the other way around. This research presents also three scenarios which correspond with the scenarios presented by Nooij and Berg et al.. The numbers which are used as input for the model are in total derived from the study of Nooij and Berg et al., but the way these numbers are structured is slightly different. For an Input-output analysis costs and benefits are less important. It is the total input per sector which matters, with no regard to who incurs the actual expenses. So the differences between the three scenarios used for the Input-output analysis are determined by increased income from tourism and changes in overall costs of, for instance, construction and security. The terminology used in the Cost-Benefit analysis conducted by Nooij et al. might be confusing. A favourable scenario for a Cost-Benefit analysis is not necessary favourable for an Input-output analysis. For an Input-output analysis applies the higher the input the higher the output and the employment effect. Since the focus of this research is not on net profits or losses and the terms favourable and unfavourable implicate value judgment, other terminology is used. So the three scenarios are called 'scenario 1', 'probable scenario' and 'scenario 3', corresponding to the unfavourable scenario, the probable scenario and respectively the favourable scenario (see Section 4).

DATA

The World Cup induces a financial flow in several sectors of the economy, such as the hotel and restaurant sector and the Construction sector. Due to the relations between sectors an impulse in one sector leads to increased turnover in another. The best understandable way to measure the consequences of a financial impulse is by calculating the increased employment. The model used for this research calculates the increase in employment in all sectors as a result of a financial impulse in one or more sectors. It is constructed on the basis of data derived from the national accounts from the Netherlands, as provided by the central bureau of statistics (CBS). The most recent data available dated from 2009, such as the Input-output table. The CBS provides information on 25 different sectors in which several larger sectors are divided into smaller ones. Data regarding the added value per sector is derived from the regional accounts from 2007 and adjusted for the inflation, since this data is not yet available for 2009.

The data used for constructing the model comes from the CBS. The data needed for the input however, is not so easily found. It is difficult to find suitable data, especially concerning unrealistic ex ante studies and their theoretical issues as explained in Section 1. The data used as input for this research is derived from an ex ante social Cost-Benefit analysis conducted on behalf of the department of economics (Nooij, et al., 2010). Although the overall aim of a Cost-Benefit analysis differs from an Input-output analysis, some numbers can be used. The focus of a Cost-Benefit analysis is to determine whether a project is profitable by subtracting the costs from the overall benefits. When using the numbers of a Cost-Benefit analysis for an Input-output analysis though, a difficulty is encountered. An Input-output analysis requires information on which sectors retrieve the money, since the consequences of the input for employment differs per sector. This is irrelevant for a Cost-Benefit analysis since the aim is on an overall gain or loss of the project. So the numbers used in a Cost-Benefit analysis are not sophisticated enough to use them directly as input for an Input-output analysis. Since the input per sector matters, numbers derived from a Cost-Benefit analysis need to be transformed to know which sector receives which part of the expenses. For a category like tourism this is extremely difficult. Tourists spend their money mostly on restaurants and hotels, but also on transport and retail sales (e.g. souvenirs). So the income derived from tourism as presented in the CBA needs to be distributed over three different sectors to be used in the Input-output analysis. But the exact proportions are difficult to determine in case of tourism. The same problem occurs with the expenses of the FIFA and the preparation costs for the government. Due to these difficulties the distribution of these expenses is determined based on estimation. These estimations will be justified in the sensitivity analysis in Section 5.

Another important issue regarding the input data is the time perspective. It is most likely that the World Cup has hardly an effect on the economy in the long run, because the largest amount of the impulse happens only once in the year the event takes place. There are however some expenses which are made for a longer period of time. According to Nooij and Berg et al (2010) the government has to invest more money in the years prior to the event and even the year after the World Cup the governmental costs are higher due to completing the paperwork. Also the impulse in the Construction sector is likely to take place in the years prior to the soccer event. A stadium simply is not build within a year and it is plausible money is paid during the process of building. It takes approximately four to six years to build a stadium, so all the construction expenses are divided over multiple years (Preuss, 2004 in Nooij, et al., 2010). This means the

effects of the impulse are present during multiple years. Because of these reasons this research will provide the results for the entire planning from 2010 to 2019, assuming the World Cup would have taken place in 2018 in the Netherlands.

THREE SCENARIOS FOR THE NETHERLANDS

Logically a change in employment occurs as a result of the World Cup. This change takes place in the years before the event, in the year the event actually takes place and in the year after the World Cup. This chapter will focus on how the World Cup influences the employment in several sectors. In the first place the years before and the year after the event are examined, the period 2010-2017 and 2019. Subsequently the focus will be on the year 2018, the year in which the World Cup will take place. For every period three scenarios are presented as explained at the end of the methodology section.

Large expenses are made in the years prior to the World Cup. These expenses are mostly made in the Construction sector. Building a stadium usually takes about four years. Nooij and Berg et al. (2010) presents the expenses made per year on the basis of a study conducted by Preuss (2004). These numbers point out that most of the construction expenses are made in the years prior to the World Cup. These numbers give a clear indication of the actual costs, although they are still based on estimates. The input per sector per year can be found in Table 1. Besides the construction expenses made, governmental costs are also present in the years prior to and the year after the World cup. The preparation costs of the government are relatively low, but are included in this research for completeness. When using the data of the construction costs together with the governmental costs as input for the earlier presented model the employment effect for these years are presented. The hotel and restaurant sector is included since it receives most of the inputs during 2018. All the other sectors have limited influence and are presented together for the sake of clarity. The first period is 2010-2012 in which there is only an input for the governmental costs which vary from 1 million euro to 2.1 million euro.

Table 1: The input per sector per year for the three scenarios (millions of euros)

	Sector	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
1	**Construction**				**25.875**	**43.125**	**120.75**	**250.125**	**258.75**	**129.375**	**34.5**
	Hotels and restaurants									105.62	
	General government	1.7	1.8	2.1	2.5	3	3.5	4.6	6	324.95	1.7
	Others									142.73	
Probable	Construction				24	40	112	232	240	120	32
	Hotels and restaurants									225.52	
	General government	1	1.1	1.3	1.5	1.8	2.1	2.8	3.6	165.75	1
	Others									155.83	
3	Construction				21.6	36	100.8	208.8	216	108	28.8
	Hotels and restaurants									549.65	
	General government	1	1.1	1.3	1.5	1.8	2.1	2.8	3.6	86.325	1
	Others									230.13	

Most of the jobs created in the years 2010-2012 are created in the public sector with only a few jobs created in the private sector (for example Construction). In these years, most of the money will be spent in the public sector which logically results in job creation in that sector. These numbers though are of little significance compared to the entire picture, since it is about 10 to 20 jobs a year. The following years are much more important since expenses in the Construction sector appear. For the period 2013-2017 and 2019 the input consists of construction and governmental costs. The effect on employment is shown by Figures 1-3. These figures show the employment for the sectors which benefit the most from the input, together with the sum of employment for the other sectors.

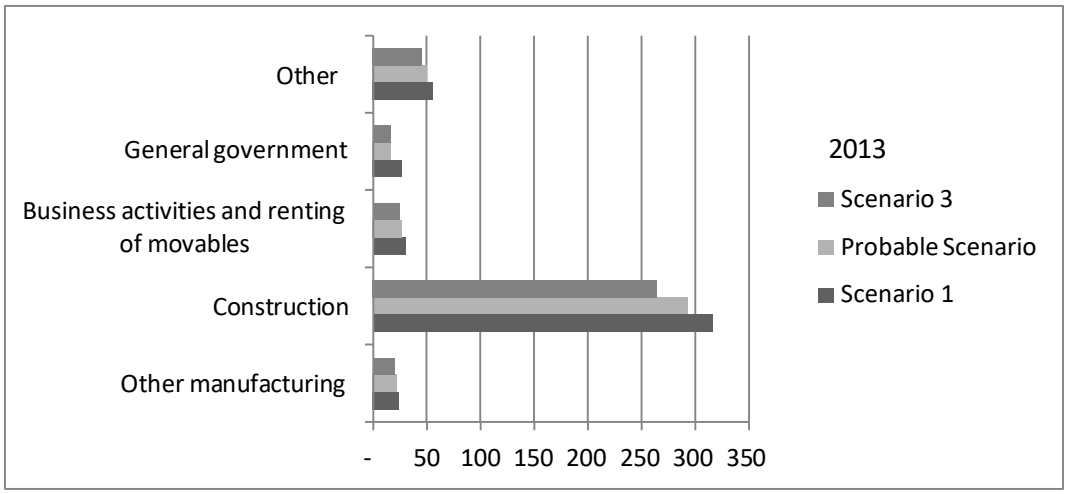

Figure 1: The estimated increase of employment in 2013 (number of jobs)

The differences between the three scenarios are not significant and are only based on a slight difference between the input numbers. The total employment for 2013 is in case of scenario 1 about 280 and in case of scenario 3 about 227. The probable scenario shows an increase of 251 jobs. So both scenarios 1 and 3 deviate by and large ten per cent from the probable scenario. The Construction sector has almost the largest multiplier of indirect effects (about 1.76), so expenses made in the Construction sector causes output to rise significantly in other sectors as well. Most of the employment (about 75%) is generated in the Construction sector. The remaining 25% is distributed over the other sectors. Especially the sector 'Business activities and renting of movables', 'Other manufacturing' and the 'Manufacture of basic metal and fabricated metal products' benefit from an investment in the Construction sector.

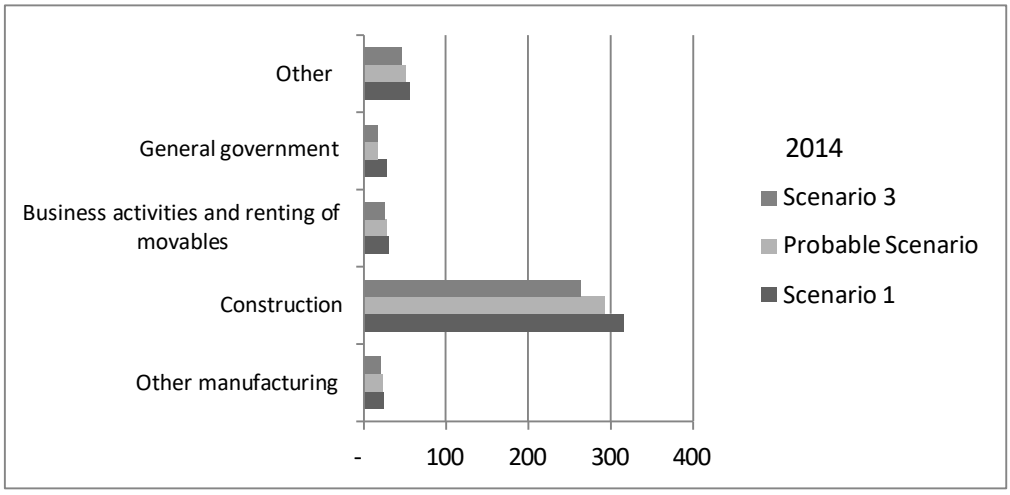

Figure 2: The estimated increase of employment for 2014 (number of jobs)

In the years, 2015-2107, the share of the Construction sector in the expenses increases with regard to the share of the General government sector. The input for the general government sector decreases from about 3% of total expenses in 2015 to about 2% in 2017 (in case of Scenario 1). In other words, the employment is almost entirely determined by expenses in the Construction sector. The overall increase in employment for 2015-2017 is presented in Figure 3.

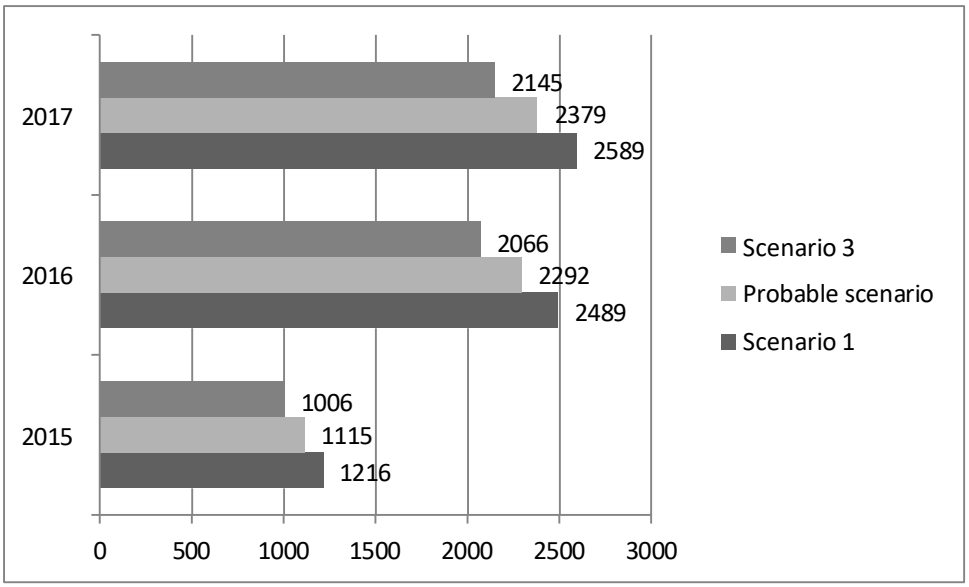

Figure 3: The total employment increase per scenario for the period 2015-2017 (number of jobs)

The year after the event some costs are still present. Construction related costs and some final governmental costs result in a small effect on employment in 2019. Four per cent of the total

construction expenses are made in 2019 and 1 to 1.7 million euros are governmental costs. This results in an employment effect of about 300-350 jobs depending on the scenario chosen.

Table 2: The output in employment as a result of the expenses in the different sectors (number of jobs)

Scenario\Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
1	19	20	24	280	454	1,216	2,489	2,589	7,946	355
2 (Probable)	11	12	15	251	410	1,115	2,292	2,379	7,517	323
3	11	12	15	227	371	1,006	2,066	2,145	11,141	292

In the year the World Cup takes place the input in the economy increases. Most of the money is spent during the event, due to tourism and the costs of security. It is obvious that most of the employment created appears at the year of the event itself. By using the earlier presented Input-output model employment increases can be determined.

During the event money is spent in several categories. In the first place is the issue of security. Security inside the stadiums is the responsibility of the local organization committee (LOC), but security outside the stadium needs to be arranged by the (local) government. So both the LOC and the government spend money on security. The government spends it on the police force (General government) while the LOC spends it on private security companies (business activities). In the second place money is spent on further preparation, ranging from placing tents for the fan parties to cleaning of the streets afterwards. The social services sector benefits from these costs. In case of scenario 3 also costs of vandalism are included. These costs are also input for the social services sector. In the third place is 15% of the total construction expenses are made in 2018. Fourth, is the booming tourism business. Most of this money is spent on hotels and restaurants, about 90%. The remaining 10% are equally distributed over the transport sector and the trade sector. Tourists need to travel from one place to another inside the country, international travel costs are not included in these costs. The trade sector benefits also with a small share of the tourists, since tourists buy also all kinds of things outside their hotels. The numbers with regard to tourism are net inputs, which mean the losses as a result from the crowding out effect are included. This fourth type of input includes also the stay of media, the extra expenses of sponsors and the stay of the soccer teams. The final type of input is the costs made by the FIFA through the LOC. This money is spent on services (such as security), the renting of stadiums and office space and on hotels and restaurants.

The difficulty with some of the above described types of input is the exact distribution. As explained in the theoretical part the input for a Cost-Benefit analysis is not sophisticated enough for an Input-output analysis. Besides, some details are not clear yet, for instance the way the LOC will spend its money. These uncertainties result in the formulation of an estimate. A sensitivity test can show in what way the estimates influence the total effect on employment. The sensitivity test will be presented and further explained in Section 5.

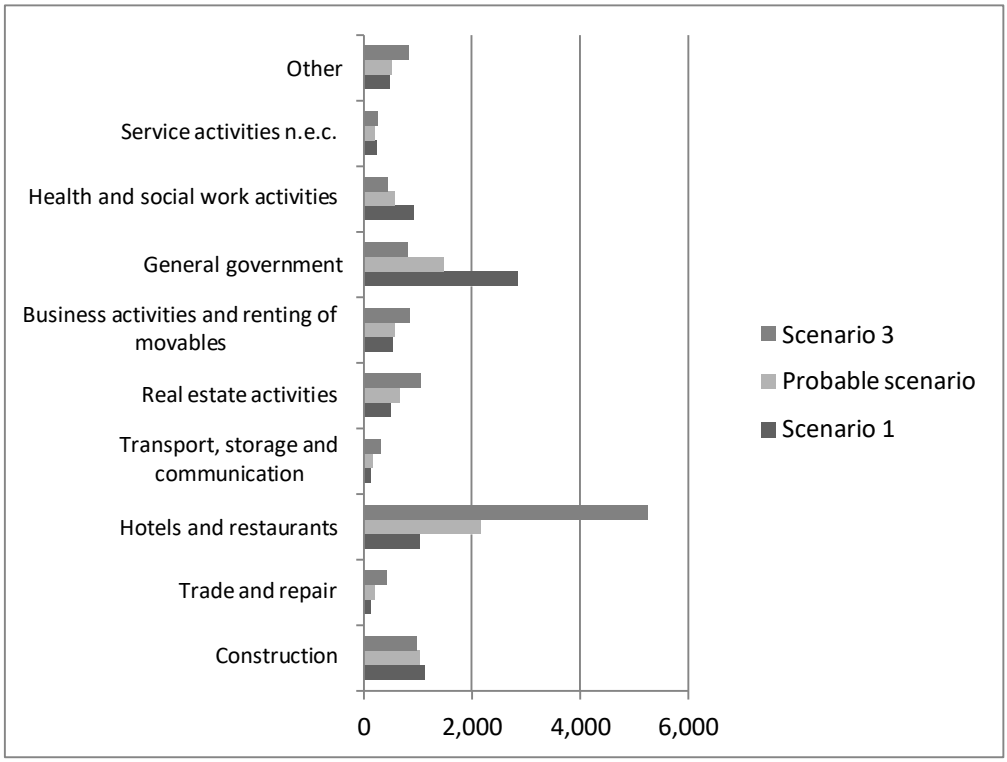

Figure 4: The distribution of employment in 2018 as a result from expenses in several sectors (number of jobs).

Sensitivity Analysis

As explained in previous sections not all numbers are already available, so for this research estimates of certain numbers have been made. To understand the effect of these estimates this section will focus on how they influence the total outcomes of the model. By changing the share of each sector of for instance the expenses of the LOC, the change in effect on total employment can be determined. Another aspect of the sensitivity analysis is the effect on employment due to the crowding-out effect. According to a second opinion conducted by several consultancies commissioned by the Holland-Belgium-Bid, the crowding-out effect is estimated way too high in the SEO research (Meerwaarde, 2010). The final part of this analysis will briefly describe the differences between the employment effect for different crowding-out effects.

Table 3: The distribution of total expenses over sectors in the probable and deviated scenarios

Numbers in millions	Distribution in % per sector	Deviated distribution in % per sector (Dev.1)	Deviated distribution in % per sector (Dev.2)
Security (government)	100% General government	100% General government	100% General government
Preparation	75% Health and Social work activities 25% General government	70% Health and Social work activities 30% General government	80% Health and Social work activities 20% General government
Vandalism/hooligan	100% Health and social work activities	100% Health and social work activities	100% Health and social work activities
Expenses by	65% Real estate activities	75% Real estate activities	55% Real estate activities

FIFAFIFA through the LOC	25% Business activities 10% Hotels and restaurants	20% Business activities 5% Hotels and restaurants	30% Business activities 15% Hotels and restaurants
Stay of soccer teams	90% Hotels and restaurants 5% Transport 5% Trade	100% Hotels and restaurants 0% Transport 0% Trade	80% Hotels and restaurants 10% Transport 10% Trade
Stay of media	90% Hotels and restaurants 5% Transport 5% Trade	100% Hotels and restaurants 0% Transport 0% Trade	80% Hotels and restaurants 10% Transport 10% Trade
Extra expenses sponsors	90% Hotels and restaurants 5% Transport 5% Trade	100% Hotels and restaurants 0% Transport 0% Trade	80% Hotels and restaurants 10% Transport 10% Trade
Tourism	90% Hotels and restaurants 5% Transport 5% Trade	100% Hotels and restaurants 0% Transport 0% Trade	80% Hotels and restaurants 10% Transport 10% Trade
Construction	100% construction	100% construction	100% construction

The changes in shares result hardly in any change in the total employment. The first deviated scenario (referred to as Dev.1) increases the total employment by 7 jobs, less than 0.1 per cent, relative to the probable scenario. The second deviated scenario (referred to as Dev.2) decreases the total employment by 8 jobs, a loss of 0.1 per cent. Both numbers are small. Although the total number of jobs created hardly changes, the distribution over the sectors does change. The difference is largest in the hotels and restaurant sector. For Dev.1 the positive difference with regard to the probable scenario in this sector is about 170 jobs, a change of 8 per cent. For Dev.2 this difference is negative, 8% fewer jobs are created in this sector. So altogether, a shift in input from one sector to another, results in a shift in the specific employment per sector.

The sensitivity with regard to the crowding-out effect is much higher. If the crowding-out effect as described by Nooij and Berg et al. (2010), would be less, employment would rise significantly. The SEO research report uses a crowding-out effect of 120 to 410 million depending on the scenario that is used. If the crowding-out effect would be 50% less, so 60 to 205 million, about 700 to 2,500 jobs are created. This would be a significant change compared to the original numbers. There is no consensus found in the literature on this point, but many agree it remains an important issue in the overall debate.

CONCLUSION AND DISCUSSION

As presented in the previous sections the financial flows related to the World Cup induce effects in the years prior to the event, the year of the event and the year after the event. In the years prior and the year after the event the impulse is present in both the General government and the Construction sector. In this period, 2010-2019 without 2018, most jobs are created in the Construction sector. For all three scenarios 72-73 per cent are created in this sector, about 4,500-5,000 jobs. The other 2,000 jobs are divided over the other sectors.

The total amount of jobs created during the entire period 2010-2019 equals about 14,000 for the probable scenario, 15,000 for scenario 1 and 17,000 for scenario 3. These jobs are divided over

several sectors, especially the Construction, the Hotel and restaurant sector and the General government sector, depending on the scenario.

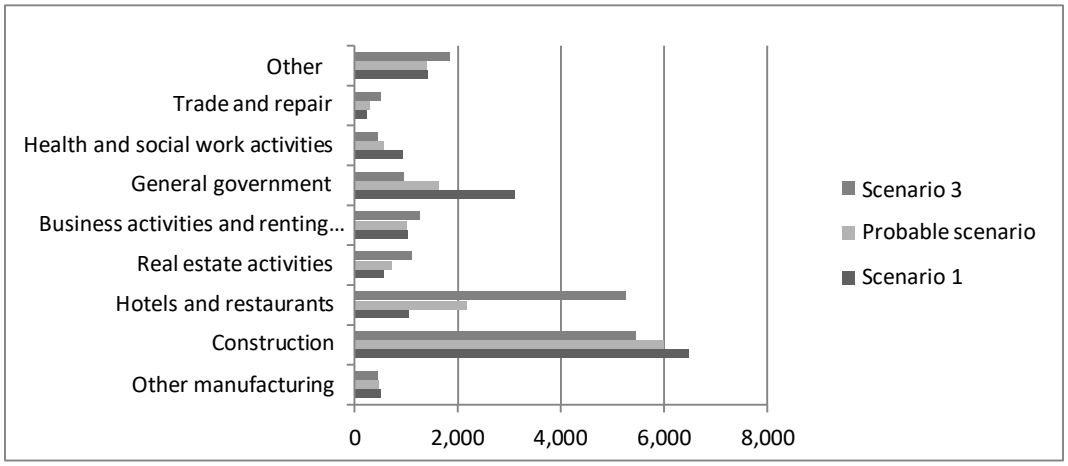

Figure 5: The total employment increase per sector for the period 2010-2019 (number of jobs)

Although the amount of created jobs only equal about 0.2 per cent of the total employment in the Netherlands, an increased employment might be very welcome in some sectors, such as the Construction sector. According to the Economic Institute for Construction about 40,000 jobs will disappear in 2011. It is impossible to know how the situation will be around 2018, but an increase in employment is very welcome as long as not all economic resources are being used. When work is created though and resources are not abundant, the construction of stadiums for instance will go at the costs of other construction projects.

It is obvious that the World Cup will generate a financial impulse especially in the year the event will take place, but there is hardly a long term effect. After the event is over the employment will decrease to its old level, because the financial impulse disappears. Soon the basis of the outcomes of this research the employment effects would be of little significance to the economy of the Netherlands on the long run. The Input-output model and the data presented in this study provide a good perspective on the possible employment effects of the World Cup 2018 in the Netherlands. There are of course also some remarks which can be made regarding the model and the data used in this research.

In the first place few comments can be placed regarding the model. The model is constructed with data derived from the CBS of the Netherlands. The most recent data available dated from 2009. The data regarding the added value per sector dated back from 2007 and in this study was adapted for inflation. It remains uncertain though, if the added value per sector does change at the same rate as the inflation. The model can be made more accurate if the data of 2009 becomes available. Besides the data for the added value per sector, the data regarding the added value per worker are not available in the same detail as the other data. There are only ten different types of added value per worker available while there are twenty-five different sectors used. It is unlikely that in case of the manufacture sectors all these values are exactly the same

for all sub-sectors. The difference between them though, will not be very significant, which makes the chosen numbers more plausible.

In the second place some remarks can be made regarding the used input data. The data used is derived from a study conducted by Nooij et al. (2010). As explained in previous sections the Cost-Benefit analysis presented in that research, could not avoid using estimates since there is of course no data available for 2018. The estimates presented though, are not accepted by some organizations. The Holland-Belgium-Bid, the main organization which tried to get the World Cup to the Netherlands, assigned a second opinion to some other research organizations (Meerwaarde-Consultancy, 2010). Although this second opinion might be biased, their arguments should still be taken into consideration. These arguments focus on the assumptions of Nooij et al. (2010) in their report for SEO. According to the second opinion the crowding out effect calculated by the SEO report is much lower. Also the costs for the stadiums are much lower. Tourist income would be much higher. When using the numbers from the second opinion as input for the model presented in this research, employment numbers will differ seriously from the current numbers. The second opinion is however not the only report discussing the SEO research. During a recent workshop on sport economics Kesenne made some remarks on the research (Kesenne, 2010 via website). According to him the numbers are even much worse than the numbers used by the SEO. It is much more likely that the revenues are less and the costs are higher. This would result in a lower employment effect.

Another remark regarding the input data is the distribution of the financial flows over the different sectors. The sensitivity analysis gives insight in this problem, but the reliability of the outcomes per sector will logically increase if the distribution of the money spent over the sectors is correct. One of the more important issues is how to understand the results of this research in the light of the entire debate. As this research points out employment is created as a result of the World Cup. This sounds very positive but in reality it is important who actually pays for this employment. Since the probable loss of the World Cup equals about 150 million, it will be the Dutch taxpayer who pays for the employment. Creating jobs is always possible if enough money is spent, and therefore the number of created jobs is not an indication of a positive economic impact of an event.

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The *International Journal of Event Management Research*
is a double-blind, peer reviewed journal.

ISSN 1838-0681