



**UNIVERSITY OF GOTHENBURG**  
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**A Triple Bottom Line Evaluation of the Impacts of  
UEFA EURO 2012:**

The development of indicators

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## **Abstract**

### **A Triple Bottom Line Evaluation of the Impacts of UEFA EURO 2012: The Development of Indicators**

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The vast majority of previous studies of mega-sporting events have had a clear focus on the evaluation of economic or social impacts, although, a need for a more holistic approach has long been acknowledged in academic research. Recently a framework known as the “Triple Bottom Line” (TBL) covering economic, socio-cultural and environmental dimensions has been incorporated into the field of mega-sporting events’ impacts studies.

This thesis aims to contribute to the development of the TBL framework for evaluation of the impacts of mega-sporting events. In this study, the TBL framework is applied to the evaluation of the impacts of the Final Tournament of the UEFA European Football Championship 2012 on Ukraine, which is co-hosted by Poland and Ukraine. This *ex-ante* study results in an assessment and comparison of the impacts of the event on host and non-host cities of Ukraine.

**Key words:** Triple Bottom Line, Mega-sporting event, UEFA EURO 2012, Ukraine, Poland.

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Finally, we want to wish the best of luck to the Ukrainian Nation Football team during this Championship and let it be a fair play!

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## Abbreviation Index

ARC	Autonomous Republic of Crimea
CAFE	Center for Access to Football in Europe
CBA	Cost-Benefit Analysis
CGE	Computable-General-Equilibrium
EU	European Union
FIFA	Fédération Internationale de Football Association
GDP	Gross Domestic Product
IOA	Input-Output Analysis
IOC	International Olympic Committee
OGIS	Olympic Games Impact Study
TBL	Triple Bottom Line
UAH	Ukrainian Hryvnia
UEFA	Union of European Football Associations



## 1. Introduction

*This section provides an introduction to the topic of mega-sporting events and explains the subject of this study. The background is followed by the research question, delimitations of the study and thesis disposition.*

### 1.1 Background

A mega-sporting event creates a new page in the history of the hosting nation. It is not only a matter of prestige, but could also be profitable as was shown by the 1984 Los Angeles Summer Olympic Games, which created a USD 200 million profit. Since then, the number of bidders to host the Olympics has been steadily increasing (Roche, 2000). Football championships have experienced a similar trend, and since the 1994 FIFA World Cup are taking place outside the regions with strong football culture - Europe and Latin America: 1994 in the USA, 2002 in Japan and Korea, 2010 in South Africa (Andranovich, Burbank & Heying, 2001; GAG, 2007). According to Pellegrino & Hancock (2010:8), the competition between developing countries for the right to host mega-sporting events has become especially fierce these days, as it is seen as “a fast track to global recognition and influence”. Not only does it trigger a boost of the infrastructure development, but it also puts the country under the international attention.

In light of this, the Final Round of the European Football Championship 2012 (UEFA EURO 2012) co-hosted by Poland and Ukraine represents an interesting case for investigation. It is the first time for this event to be held in Eastern Europe - in countries with transition economies, which implies a certain degree of dissimilarity on economic, political and social dimensions in comparison to the countries that hosted an event previously (see Annex D). Moreover, it is the first time for both Poland and Ukraine to host an international event of such a scale, which made it a central topic for discussions in the media over the past years. The proponents of the event stated that it would help both countries to upgrade their infrastructure, strengthen the national identities and bring countries closer to the European Union (EU), the later being especially important for Ukraine considering its attempts at becoming closer to the European Community. At the same time, the opponents of the event claimed that hosting the Championship was an extremely unsuccessful investment project. Nevertheless, after the five years of preparation, both countries are ready to welcome national football teams, officials and football fans from the whole world during the Final Round of the UEFA EURO 2012 that starts less than a week after this paper will be submitted. As

Ukrainians, we are proud that our country was given a chance to host this event. And as business students, we are interested what the outcome of the event for our nation would be.

## **1.2 Research question**

The Triple Bottom Line (TBL) approach was chosen as the most appropriate method to be applied in this study as it provides a profound understanding of the impacts of the mega-sporting events by incorporating economic, socio-cultural and environmental dimensions. Since the TBL framework is a relatively new approach in the field of mega-sporting events' studies, there is still room for the development of constructs.

Thus, the research question for this study can be summarized as follows:

*How can the Triple Bottom Line framework be developed and applied in an ex-ante study that aims to describe, understand and measure economic, socio-cultural and environmental impacts of mega-sporting events?*

This will be exercised on the example of Ukraine for the Final Tournament of the UEFA European Football Championship 2012 co-hosted by Poland and Ukraine.

## **1.3 Thesis delimitation**

We deliberately limited the focus of our research on studying the impacts of the Final Tournament of the UEFA European Football Championship 2012 co-hosted by Poland and Ukraine to Ukraine only. The quality of this study is directly linked to the level of data specification. Moreover, conducting an *ex-ante* study implies that secondary data needed for the research would be obtained in the majority of cases from the local press only. This in turn requires the knowledge of local languages. For this reason we chose Ukraine as our proficiency in Russian and Ukrainian allowed us to retrieve and process rich data, which would not have been the case for Poland.

## **1.4 Thesis disposition**

The Introduction chapter aims to present basic facts relevant to the mega-sporting events and their impacts' evaluation. It also makes clear the main objectives of the study and the need for further research. This is followed by an in-depth description of the case study, namely the Final Round of the UEFA European Football Championship 2012. We put the main focus on the explanation of the bidding procedure, UEFA requirements to the hosting countries and an initial level of correspondence of Ukraine and Poland to these requirements.

In the Literature review, we highlight the predominant methods of evaluation of economic and socio-cultural impacts of mega-sporting events. Then we will proceed to the description of a more holistic approach – Triple Bottom Line that integrates the assessment of economic, socio-cultural and environmental impacts of a mega-sporting event.

The Methodology and research design chapter provides an overview on the research and data collection methods. There is also a discussion on the rationale behind the data selection procedure and study reliability, as well as limitations of this study.

In the Empirical results chapter, we provide an analysis and assigned scores of each of the impacts at each dimension, i.e. economic, socio-cultural and environmental. Then, we proceed with a graphic representation of our findings in a form of a triangular radar chart and further discussion.

The last part of the thesis contains conclusions on the main findings, as well as theoretical implications. Finally, suggestions and recommendations for future research are made.

## **2. Case description: The Final Round of the UEFA European Championship 2012**

*This chapter provides a brief description of historical insights into the UEFA European Football Championship and the selection procedure applied for the identification of the hosts for the Final Tournament of the UEFA European Football Championship 2012. Then the organizational format of the event is outlined and the initial degree of correspondence of Poland and Ukraine to the UEFA requirements is described.*

### **2.1 UEFA European Football Championship**

The UEFA European Football Championship is a competition between European men's national teams that takes place every four years and is administrated by the Union of European Football Associations (UEFA). The winner of the tournament receives an Henri Delaunay's trophy, named after the first UEFA General Secretary and former French national association General Secretary, who suggested an idea to introduce the European Football Cup in 1927. The first championship, called the European Nations' Cup at that time, took place in France in 1960, and the first team to receive a trophy was the national team of the USSR. Since then, thirteen Championships have been held. The National team of Germany has been the most successful and holds three titles while Spain and France each have become champions twice (UEFA, 2012).

Currently, the European Football Association has 53 members and all of them are eligible to enter the Qualifying Competition that results in selection of the 16 teams that participate in the Final Stage of the Championship. Starting from 2016, there will be 24 teams taking part in the Finals. The Qualifying Competition Stage lasts more than a year, while the matches of the Final Tournament are played during a period of three weeks (UEFA, 2008; 2004).

The Final Tournament of the UEFA European Football Championship, commonly referred to as UEFA EURO, is one of the most significant football mega-sporting events that attracts large number of spectators and television audience. For instance, 7.9 billion TV viewers all over the world watched the matches of the UEFA EURO 2004 held in Portugal which was a 157 percent growth in comparison with the UEFA EURO 2000 hosted by Belgium and the Netherlands. Also, 500 thousands supporters traveled to Portugal in 2004 to see the matches, while for the UEFA EURO 2008 hosted by Austria and Switzerland this number has doubled (Humphreys & Prokopowicz, 2007; UEFA, 2010b).

## **2.2 UEFA EURO 2012**

The Final Round of the UEFA European Football Championship 2012 (UEFA EURO 2012) will be the 14<sup>th</sup> championship in the history and will take place in Poland and Ukraine during the period from June 8 till July 1, 2012. Previously, there have been two other final tournaments of the UEFA Championships hosted in collaboration between two countries: the UEFA EURO 2000 held in Belgium and the Netherlands and the UEFA EURO 2008 in Austria and Switzerland (UEFA, 2012; 2007).

### **2.2.1 Bidders and selection process**

Poland and Ukraine were chosen to be the hosts of the UEFA EURO 2012 as a result of a two phase Selection Procedure that started on December 17, 2004 when UEFA opened the bidding process by distributing Bid Regulations adapted by UEFA Executive Committee on December 16, 2004, to all the members of the Association. At the beginning of February 2005, football associations of ten countries have informed UEFA about their intention to submit bids for hosting the EURO 2012. Azerbaijan, Greece, Italy, Romania, Russia and Turkey were interested in solo bids, while Croatia/Hungary and Poland/Ukraine expressed their intension to submit joint bids (UEFA, 2005a; 2004).

By the deadline for submitting bid dossiers on July 21, 2005, five bids composed by the football associations of seven countries, namely, Croatia/Hungary, Greece, Italy, Poland/Ukraine and Turkey, were registered. On November 8, 2005 after the UEFA

Executive Committee concluded the first stage of the Selection Procedure conducted in a form of a technical evaluation of the bidders, it was announced that the bids of Croatia/Hungary, Italy and Poland/Ukraine were shortlisted to proceed to the second stage. During the second phase the football associations of the selected countries were obliged to submit more detailed dossiers which were closely examined by the UEFA through, for instance, site visits. The final decision to grant the right to host the Championship to Poland and Ukraine was announced by the UEFA President Michel Platini on March 16, 2007 (UEFA, 2007; 2005b; 2005e; 2004).

### **2.2.2 UEFA requirements for host countries**

The Phase I Bid Requirements for the European Football Championship Final Tournament 2012 (2004:5) (Bid Requirements) states that the organizational roles of UEFA and the Host Associations are based on the following principle: “The Host Country provides the stage and UEFA brings the party”. Therefore, UEFA’s main responsibilities include administration of competition aspects of the Championship, sales of tickets and commercial rights; while Host Association is responsible for providing stadia, safety and security, collaboration with governmental and non-governmental organizations in the host county, transportation, accommodation, promotion, etc. (UEFA, 2010a; 2004).

A detailed description of conditions and requirements for the potential host countries could be found under the heading “Schedule of conditions” in the Bid Requirements (UEFA, 2004), where the following categories of requirements were listed:

1. “*General conditions*” implied providing clear motivation for hosting the event, proof of public support and, preferably, previous experience in arranging international mega-sporting events;
2. “*Political support and legal conditions*” in regards to the aspects relevant to the event, e.g. intellectual property rights, customs, ticketing, volunteers, anti-doping regulations, etc.;
3. “*Stadia and other main events facilities*” chapter lists requirements for the event’s strategic objects. For instance, the bidder has to provide eight stadia that meet specific requirements with regard to the capacity, technical equipment, etc.;
4. “*Accommodation*” requirements outline criteria that apply for accommodation for the visitors (e.g. necessary accommodation capacity, proximity of accommodation to the stadia, variety of accommodation and price levels), UEFA event company,

commercial partners, media representatives, and training centers for the national football teams;

5. “*General infrastructure*” includes requirements for providing efficient transport system, reliable and modern telecommunication infrastructure, sufficient medical facilities and anti-doping-control infrastructure;
6. “*Marketing and media rights*” contribute to the major part of the UEFA revenues from the European Football Championship which makes it extremely important to ensure their protection;
7. “*Safety and security*” requirements correspond to the security arrangements in the host country in general (e.g. in the host cities, at the airports and railways stations) and at the arenas and fan zones specifically that must be implemented by the host associations;
8. “*Finance*” section includes information on the price levels within the country, taxes, insurance, etc.

### ***2.2.3 Degree of correspondence of Poland and Ukraine to the UEFA requirements before the beginning of the preparation***

During the first stage of the selection procedure in 2005 UEFA conducted a preliminary evaluation of all the bids submitted by the football associations of the countries willing to host the UEFA EURO 2012 in order to check the degree of correspondence of the possible hosts to the Bid Requirements (UEFA, 2004). The results of the evaluation were summarized in the Phase I Evaluation report (UEFA, 2005c). According to the Phase I Evaluation report (UEFA, 2005c), the state of the general infrastructure, sports facilities and hotels in Poland and Ukraine did not fully satisfy the requirements. Thus, a substantial amount of refurbishment and construction, which according to the Bid Requirements (UEFA, 2004), had to be financed by the host countries, was required in order to upgrade the facilities to the specified level.

None of the stadia initially nominated to host the matches was fully ready in 2005. UEFA (UEFA, 2004) requested eight “state-of-the-art” stadia seating a minimum 30,000 people during the group matches, 40,000 during the quarter- and semi-finals, and 50,000 during the opening and final matches. Some of the nominated arenas in Poland and Ukraine were under construction, the arena in Gdansk was in a planning stage, while the rest of the stadia needed refurbishment due to the lack of certain amenities, like covered seats or VIP tribunes. Nevertheless, the UEFA concluded that the proposed stadia could meet the requirements when the construction work is over.

The hotel capacity in both countries was characterized as limited and did not satisfy the UEFA needs. In Poland, the only city with sufficient hotel capacity was Warsaw, while in Ukraine Kyiv was estimated to have enough hotels by 2012 taking into consideration the recent improvements in hotel infrastructure. In their bid dossier the countries suggested usage of alternative types of accommodation (e.g. youth hotels, universities' campuses) in order to compensate for the lack of the required number of hotel rooms (UEFA, 2005c).

A host country needs to provide “a modern, well-developed, high quality transportation infrastructure that links each host city”, while each host city “must have a modern, well-developed, high-quality public transport network that links each Official Site to the city center, the airport, railway stations and other transportation links” (UEFA, 2005c:40). Although such requirements might seem a little vague, it was clear that both countries had to upgrade their railways and roads since their quality did not meet the European standards (Humphreys & Prokopowicz, 2007). Humphreys & Prokopowicz (2007) also stated that Ukraine had poorer and less maintained system of railroads and roads than Poland did.

#### ***2.2.4 Sites selection in Poland and Ukraine for UEFA EURO 2012***

When submitting their bids, Football Federations of Poland and Ukraine suggested potential cities for hosting the event. In case of Poland, cities of Gdansk, Poznan, Warsaw and Wroclaw were nominated as main sites together with Chorzow and Krakow as reserve cities. Ukraine submitted Donetsk, Kharkiv, Kyiv and Lviv as primary cities, and Dnipropetrovsk and Odessa as reserve (UEFA, 2009a). In May 2009, UEFA pointed out a significant progress in the infrastructural development and preparation for the event in six Polish cities. Gdansk, Poznan, Warsaw and Wroclaw were officially granted the right to host the championship. As for Ukraine, UEFA expressed concerns regarding the insufficient speed of preparation. The city of Kyiv was confirmed as a EURO 2012 host city for the group matches, semi- and quarter-finals, but not for the final match, and the rest of the cities were not approved as venues for the matches (ibid.).

The evaluation of the preparation for the event in Ukraine was redone at the end of 2009. UEFA Executive Committee acknowledged the efforts made by the Ukrainian government that contributed to the intensification of the preparation for an event. As a result, UEFA made a decision to approve Donetsk, Lviv and Kharkov as host cities for the group stage games, while Kyiv was granted permission to stage the final match (UEFA, 2009b).

Thus, EURO 2012 will be started with an opening match between Poland and Greece at the National Stadium in Warsaw on June 8, 2012, and will consist of 31 games played in eight host cities (see Annex II). The final match will take place on July 1, 2012 and will be played at the Olympic stadium in Kyiv (UEFA, 2011c). See Annex III for the detailed tournament schedule.

### 3. Literature review

*This chapter shall cover the approaches used for an assessment of most commonly evaluated effects of mega-sporting events, i.e. economic and social. Then, we introduce the TBL framework. Further, a set of the impacts and indicators applicable for the current study as well as the suggested method for the results aggregation are presented.*

#### 3.1 Defining mega-events and mega-sporting events

After a revision of the definitions of mega-events (see Table 3.1), a number of common characteristics were identified: scale, duration, impact significance and media coverage. Based on the following, we developed the definition for this study: mega-events (special or hallmark events) are large-scale cultural, commercial and sporting short-term events of fixed duration that have a dramatic character, international significance, long-term consequences for host cities and considerable media coverage. Mega-sporting events, in turn, are mega-events dedicated to sports, e.g. the Olympics and Paralympics Games, the FIFA World Cup, Formula One, the Rugby World Cup, the Super Bowl.

Table 3.1 Literature review on definitions of mega-events

Source	Definition of mega-events
Andersson, Armbrrecht & Lundberg, (2008)	Mega-events are very large events that move around the world.
Getz (2005)	Mega-events are temporary occurrences with a pre-determined beginning and end. Every such event is unique.
Hiller (2000)	Mega-events are short-term high profile events that are usually thought of in terms of their tourism and economic impacts.
Horne & Manzenreiter (2006)	Mega-events are deemed to have significant consequences for the host city, region or nation in which they occur, and will attract considerable media coverage.
Mills & Rosentraub (2012)	Mega-events are significant national or global competitions that produce extensive levels of participation and media coverage and that often require large public investments into both event infrastructure and general infrastructure.



*Continuation of the Table 3.1 Literature review on definitions of mega-events*

Ritchie (1984)	Mega-events are major one-time or recurring events of limited duration, developed primarily to enhance the awareness, appeal and profitability of a tourism destination in the short and/or long-term. Such events rely for their success on uniqueness, status, or timely significance to create interest and attract attention.
Roche (1994)	Mega-events are short-term events with long-term consequences.
Roche (2000)	Mega-events are large-scale cultural (including commercial and sporting) events which have a dramatic character, mass popular appeal and international significance. They are typically organized by variable combinations of national governmental and international non-governmental organizations.

### **3.2 Economic and social impacts: theory and practice**

In the research of potential impacts of mega-sporting events, Malfas, Theodoraki & Houlihan (2004:218), concluded that “economic benefits are the prime motive” involved in hosting any mega-sporting event. This statement is fully supported by Sherwood, Jago & Deery (2005), who undertook an analysis of 224 event publications and found out the most frequent focus being on economic impacts, with nearly 30 percent of the publications dealing with these impacts solely. In general, three different types of analyses are used to assess economic impacts of mega-sporting events: Input-Output Analysis, Cost-Benefit Analysis and Computable-General-Equilibrium Analysis (Dolles & Söderman, 2008). However, it is important to note that some studies use neither of the above mentioned methodologies. For instance, Balfousia-Savva et al. (2001) apply a macroeconomic approach in their study of the 2004 Athens Olympics, Baade and Matheson (2002) use an econometric approach in assessing economic impacts of the 1996 Atlanta Olympics.

#### **3.2.1 Input-Output Analysis**

As mega-sporting events have increasingly become an issue of political decisions (Lyck, 2006; Matheson & Baade, 2004; Preuss, 2009), their proponents seek to support their arguments in favor of hosting an event with economic impact statement (Madden, 2006). Usually, this type of impact assessment is based on Input-Output Analysis (IOA), being the predominant approach in assessing economic impacts so far (Dwyer, Forsyth & Spurr, 2004; Jackson, Houghton, Russell, & Triandos, 2005; Madden, 2006). IOA could be described as an estimation of direct and indirect impacts of an event generated by an inflow of money into the

regional economy (Madden, 2006). Direct impacts are measured by evaluating extra rounds of production associated with financial inflows into the economy related to hosting mega-sporting event and as a result surge of demand for inputs. Indirect effects are assessed through the use of regional multipliers (Andersson et al., 2008). The concept of multipliers is based on the work of such economists as Keynes, Leontief and Quesnay. Multipliers describe what happens with financial flow after it enters the regional economy (ibid.). IOA was applied, for instance, for an evaluation of economic effects of the 1984 Los Angeles Olympics (ERA, 1984), the 1996 Atlanta Olympics (Humphreys & Plummer, 1995), the FIFA World Cup 2002 in South Korea and Japan (Lee & Taylor, 2005), the FIFA World Cup 2010 in South Africa (Grant Thornton, 2003).

Despite the fact that IOA approach has received recognition in practitioners' circles, it has been criticized in academic literature for focusing only on positive economic impacts of the event while completely ignoring the real negative impacts (Dwyer et al., 2006), although the negative effects could be just as significant as the positive impacts, and in certain cases, even larger (Jago & Dwyer, 2006).

### *3.2.2 Computable-General-Equilibrium Analysis*

Madden (2006) argues that the Computable General Equilibrium (CGE) modeling is much more sophisticated and modern way to assess economic effects of any mega-sporting event. It could be regarded as a development of the IOA in a way that confronts the critical issues discussed above (Andersson et al., 2008). The underlining assumption of the CGE model is its acceptance of market interdependence, i.e. factor markets, industrial markets and regional markets (ibid.). Moreover, unlike IOA, CGE models evaluate both negative and positive effects of injected expenditure in a region (Dwyer et al., 2004; Lundberg, 2011). The use of the CGE model results in an identification of changes in GDP due to the event that has taken place considering variations occurred in employment, imports and exports (Lundberg, 2011).

CGE models are subject to criticism because of the high level of complexity and financial costs involved in their application. Although, in many cases, the results derived from them were much similar to those of the IOA (ibid.). This could partially explain the reason why CGE modeling has not been used so often for an evaluation of economic impacts of mega-sporting events. The first attempt of practical application of the CGE modeling was undertaken by NSW Treasury (1997) to assess the economic effects of the 2000 Sydney Olympics. Andersen (1999), Madden (2006), Giesecke & Madden (2007) further explored the

initial findings of NSW Treasury (1997) in connection to the 2000 Sydney Olympics using the same methodology. In addition to this, Blake (2005) conducted a research on economic impacts of the 2012 London Olympics applying CGE modeling.

### ***3.2.3 Cost-Benefit Analysis***

Cost-Benefit Analysis (CBA) is based on a comparison between value generated against the value of resources used for hosting mega-event resulted in the assessment of economic efficiency. In theory, the CBA should cover all types of resources, i.e. financial, social and welfare costs. This implies one of the major difficulties associated with practical application of the CBA as not only all the costs and benefits have to be defined, but also an appropriate and reliable methodology for their measurement has to be developed (Andersson et al., 2008; Lundberg, 2011). Due to a high level of complexity the CBA, in practice, is usually restricted to an evaluation of economic impacts and does not cover environmental and social factors (Jago & Dwyer, 2006). The same reason could explain the fact that this approach is not recommendable to apply for studies of small regional sport events as it could be hard if not impossible to gather all the necessary data on costs and benefits to obtain a reliable CBA (Jackson et al., 2005).

Despite all the limitations mentioned above, the CBA is used quite often for an assessment of economic impacts of mega-sporting events, e.g. the 2010 Vancouver Olympics (McHugh, 2006), the UEFA EURO 2000 in Belgium and Netherlands (Oldenboom, 2006), the FIFA World Cup 2010 in South Africa (Maenning, & Plessis, 2007), the FIFA World Cup 2018 in Belgium and the Netherlands (Nooij, Berg & Koopmans, 2010), the FIFA World Cup 2022 in Qatar (Access Economics, 2010).

### ***3.2.4 Social exchange theory***

An assessment of social impacts of sporting-mega events is the second most popular type of evaluation after economic effects, i.e. out of 224 event publications analyzed by Sherwood et al. (2005) 20 percent were concerned with social impacts. Three theories are applied to evaluate the social consequences of sport events, namely social exchange theory, social representation theory and growth machine theory (Deery & Jago, 2010). However, the social exchange theory has received the major support among academics (Deery & Jago, 2010; Reid, 2008) and practitioners. It argues that an individual evaluates the outcome of an exchange in a social context by making a comparison between his/her own benefits and costs derived from the exchange. The application of it to the field of sport events would imply that residents with

a net benefit of their exchange during an event will have a more positive perspective on it, while residents with no or little benefits from an event are likely to have either negative or neutral attitude (Lundberg, 2011). Social exchange theory was applied for an identification of social impacts of the 2000 Sydney Olympics (Waite, 2003), the FIFA World Cup 2002 in Seoul (Kim & Patrick, 2005), the FIFA World Cup 2006 in Germany (Maenning & Porsche, 2008; Ohmann, Jones, & Wilkes, 2007), the 2008 Beijing Olympics (Zhou & Ap, 2009).

### **3.3 Triple Bottom Line approach: origins, development and application**

Although, the main body of research still analyses mega-sporting events from a narrow economic or social perspectives, it has long been recognized that more holistic approach is needed. Ritchie and Beliveau (1974) claimed that sporting events had not only economic impacts, but also influenced the lifestyles of people. Ritchie (1984) identified six types of potential impacts of events, i.e. economic, tourism/commercial, physical, sociocultural, psychological and political. Although, Sherwood, Jago & Deery (2005b) argued that despite the call from researchers to broaden the method of assessment, in reality this had not been the case.

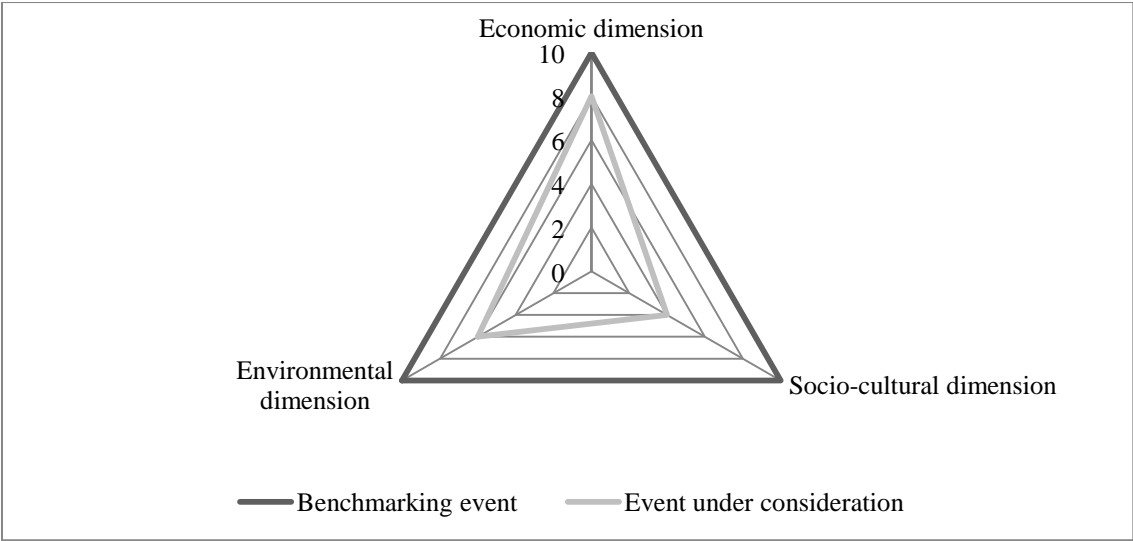
The Triple Bottom Line (TBL) approach could be regarded as one of the first attempts to develop a framework that simultaneously measures economic, socio-cultural and environmental impacts of mega-events (Andersson, 2012). The TBL approach was originally suggested by Elkington (1997) to be used by the companies to report on their results in the context of sustainable development. Recent concerns about sustainability in studies of mega-events and tourism have served as imperatives for applying the TBL in those fields. Up until recently, the majority of studies of mega-events, including mega-sporting events, using TBL were conducted in an Australian context (Fredline et al., 2005; Sherwood, 2007). Several researchers from the University of Gothenburg, School of Business, Economics and Law also contribute to the development of the TBL framework (Andersson, 2012; Lundberg, 2011).

#### **3.3.1 Theoretical development of TBL approach**

In the area of the studies of mega-sporting events, the TBL is still an approach under development, as standardized measures have not been yet developed (Sherwood, 2007). One of the most comprehensive studies in this field was conducted by Sherwood (2007). In his doctorate dissertation he aimed at developing indicators for evaluation of special events by using TBL approach (ibid.). After an extensive literature survey of event-related publications, the vast majority of which were dealing with sporting events, the author has developed a list

of thirteen key event impacts and based on the opinion of a panel of event experts he has created a set of indicators to measure these impacts (see Annex IV). Another comprehensive set of TBL indicators was suggested by Fredline et al. (2005) which is presented in Annex V. The main issue of the application of the TBL approach is the generation of the total score since the scales used for measuring the three dimensions are different. For instance, monetary units for economic impacts, seven point impact scale for socio-cultural impacts, percentage or CO<sub>2</sub> per person for environmental impacts. There have been several attempts made to combine all these results, and to make it possible to weight, for instance, positive cultural impacts against negative economic ones. Fredline at al. (2005) suggested using the following radar chart (see Figure 3.1) with 10 point scale on each dimension. This approach requires a benchmarking event that would have maximum scores on each dimension in order to make a comparison and assign scores to the event under consideration. Another possible suggestion is to transform socio-cultural and environmental impacts into monetary value so that they could be comparable with economic indicators (Andersson, 2012; Getz, 2009).

Figure 3.1 TBL as a uniform measure of event impact



Based on Fredline et al. (2005:20).

**3.3.2 Practical application of TBL approach**

The Olympic Games Impact Study (OGIS) is an initiative of the International Olympics Committee (IOC) that was introduced in order to provide an objective analysis of the impacts of the Olympiads and to build up a common database containing information about the impacts and legacy created as a result of the Olympic and Paralympic Games (UEL, 2010). Since the Vancouver 2010 Winter Olympic and Paralympic Games, the OGIS Study has been

added by the IOC into the official Game planning requirements and the London Olympics is the first Summer Games subjected to the study (ibid.).

The OGIS includes 120 standardized indicators, 73 being mandatory and 43 – optional that measure economic, socio-cultural and environmental impacts. The OGIS is conducted on several stages of hosting the Game and not all the indicators are included in the assessment at every stage. The OGI of the Vancouver 2010 Olympics is composed of four reports, namely (VANOC, 2007):

Report 1 (Baseline) – Prepared three years prior to the Games, 2007;

Report 2 – Prepared one year prior to the Games, 2009;

Report 3 – Prepared within one year after the Games, 2011;

Report 4 – Will be prepared three years after the Games, 2013.

For the 2012 London Olympics the OGIS was scheduled to comprise of three reports: Initial Situation Report issued in 2008, Pre-Games Report published in 2010, and Final Report which is due in 2015 (UEL, 2010). The Pre-Games OGIS for the London Olympics 2012 was based on accessible secondary data that was used to estimate economic, socio-cultural and environmental impacts by applying 22, 23 and 11 indicators respectively in each category (see Annex IV). The results were accumulated and integrated within the framework using the Scoring System (ibid.).

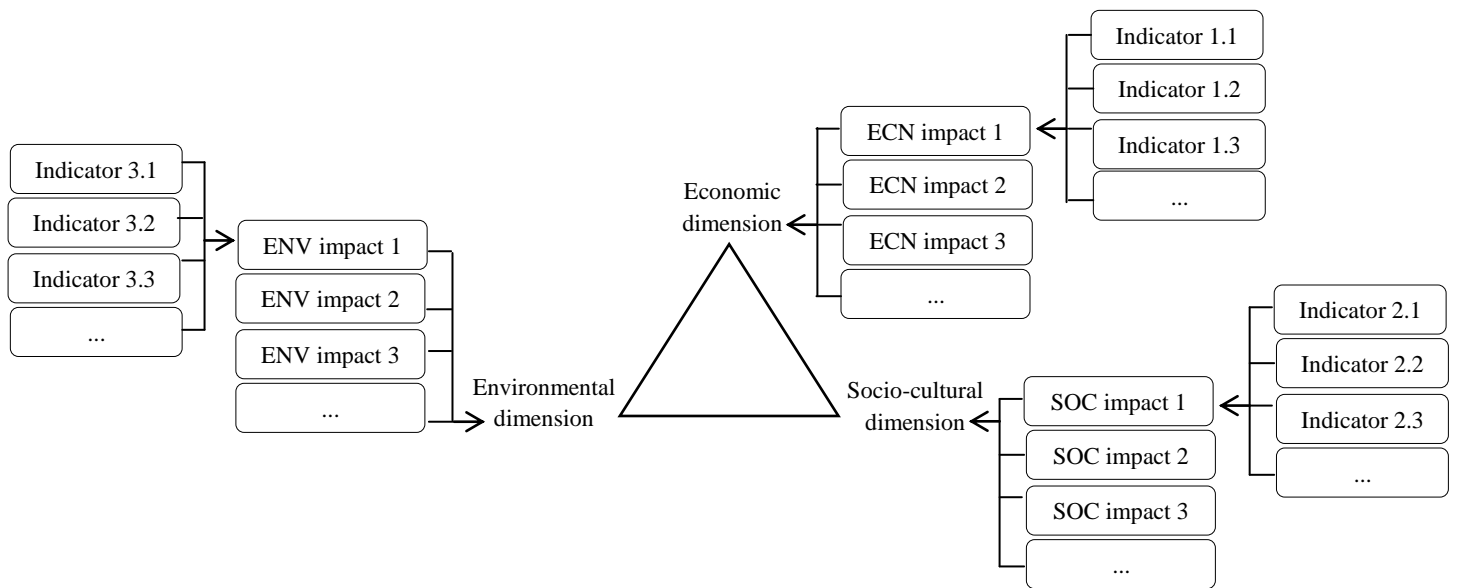
### ***3.3.3 Development and adaptation of the TBL approach for the current study***

Since utilization of the TBL in the research does not require using a fixed list of impacts and indicators and the procedure of application of the TBL is not set, there is a room for adaptation of the framework to the needs of each specific research. This section describes how we developed the TBL framework for the evaluation of the impacts of the UEFA EURO 2012 based on the literature constructs. Firstly, we present the selected set of impacts for an assessment of economic, socio-cultural and environmental dimensions. Secondly, we explain the scoring system that allows to make the total impacts comparable and to aggregate them into a single score. And lastly, we demonstrate the way to present final results in a form of a radar chart.

### 3.3.3.1 TBL Impacts and Indicators

The first step in the research is to compose a list of impacts within each TBL dimension: economic, socio-cultural and environmental and to determine indicators, i.e. possible measures of the impacts (see Figure 3.2).

Figure 3.2 TBL dimensions, impacts and indicators



Source: created by authors.

The following definitions of three dimensions of the TBL approach were adopted for this study (based on Fredline et al., 2005):

1. The economic dimension includes the impacts that the mega-sporting event has on the economy, that is, the effect on the flow of money within an economy in terms of both quantity of money as well as the direction it flows. Thus, creation of new working places as well as development of skills of local labor force is within the scope of this definition.
2. The socio-cultural dimension contains the impacts of the mega-sporting event on society that brings with it changes in quality of life of local residents.
3. The environmental dimension covers the impacts that the mega-sporting event has on the environment meaning ecological changes associated with an event.

Tables 3.2, 3.3 and 3.4 provide an extensive overview of all the impacts and indicators included in this study for each of the TBL dimensions.

Table 3.2 Economic dimension of TBL approach

Impact	Indicators suggested by literature	Indicators applied in this study
Destination promotion and development of tourism industry	<ul style="list-style-type: none"> <li>monetary value of positive, negative and balanced newspaper, television and radio coverage of the destination in the target areas (Sherwood, 2007);</li> <li>number of visiting journalists from target areas (Sherwood, 2007);</li> <li>tourism resource and image enhancement development (Kim &amp; Patrick, 2005);</li> <li>enhanced city's international identity through world media exposure (Fredline, 2000; Zhou &amp; Ap, 2009);</li> <li>tourism infrastructure (VANOC, 2007).</li> </ul>	<ul style="list-style-type: none"> <li>increased attention from international media to country as a whole and host cities in particular;</li> <li>development of tourism infrastructure (including new hotels construction);</li> <li>English translation added at the information portals, tourist sites, street names and public transport stops of the host cities.</li> </ul>
Damage to reputation of destination	<ul style="list-style-type: none"> <li>negative press reviews on organizational aspects of an event (Sherwood, 2007);</li> <li>negative press reviews on destination as a whole (Sherwood, 2007).</li> </ul>	<ul style="list-style-type: none"> <li>political situation;</li> <li>security concerns;</li> <li>animal rights;</li> <li>high hotel prices.</li> </ul>
Business development and investment opportunities	<ul style="list-style-type: none"> <li>value adding food production, arts and craft production and sale (Fredline, 2000; Sherwood, 2007);</li> <li>development of new small- and medium-sized businesses (VANOC, 2007);</li> <li>foreign direct investment (UEL, 2010; VANOC, 2007).</li> </ul>	<ul style="list-style-type: none"> <li>total amount of investment;</li> <li>sources of financing ;</li> <li>regional distribution of investment.</li> </ul>
Legacy of infrastructure and facilities:	<ul style="list-style-type: none"> <li>monetary value of new infrastructure and facilities (Preuss, 2005; Sherwood, 2007; UEFA, 2009c; UEL, 2010).</li> </ul>	<ul style="list-style-type: none"> <li>capital expenditures for construction of infrastructure.</li> </ul>
<ul style="list-style-type: none"> <li>public transport</li> </ul>		<ul style="list-style-type: none"> <li>expansion of public transportation network both in terms of quality and quantity.</li> </ul>
<ul style="list-style-type: none"> <li>airports</li> </ul>		<ul style="list-style-type: none"> <li>modernization or construction of new airports, terminals and runways of sufficient capacity.</li> </ul>
<ul style="list-style-type: none"> <li>roads</li> </ul>		<ul style="list-style-type: none"> <li>development of modern roads meeting the European standards.</li> </ul>
<ul style="list-style-type: none"> <li>railways</li> </ul>		<ul style="list-style-type: none"> <li>upgrading of trains, railway stations and railroad tracks.</li> </ul>



Continuation of the Table 3.2 Economic dimension of TBL approach

<b>Impact</b>	<b>Indicators suggested by literature</b>	<b>Indicators applied in this study</b>
Employment opportunities and skills developed	<ul style="list-style-type: none"> <li>• number of full-time equivalent jobs created (Sherwood, 2007; UEL, 2010);</li> <li>• creation of short and long-term jobs (UEFA, 2009c);</li> <li>• number of people given training as part of the event (Sherwood, 2007);</li> <li>• employability of people with disabilities (UEL, 2010).</li> </ul>	<ul style="list-style-type: none"> <li>• improvement in foreign language skills of local employees;</li> <li>• boost in local employment as a result of event-related construction works.</li> </ul>
Economic benefits	<ul style="list-style-type: none"> <li>• number of visitors multiplied by average visitors expenditures (Sherwood, 2007);</li> <li>• the number of tourist nights (UEL, 2010);</li> <li>• hotel price index (UEL, 2010).</li> </ul>	<ul style="list-style-type: none"> <li>• number of visitors multiplied by an average visitor's expenditures.</li> </ul>

Table 3.3 Socio-cultural dimension of TBL approach

<b>Impact</b>	<b>Indicators suggested by literature</b>	<b>Indicators applied in this study</b>
Community pride	<ul style="list-style-type: none"> <li>• number of positive letters to editor in local newspaper during event period (Sherwood, 2007);</li> <li>• impact on community pride of host community (Fredline, 2000; Sherwood, 2007; Zhou &amp; Ap, 2009);</li> <li>• importance to the community (Fredline, 2000).</li> </ul>	<ul style="list-style-type: none"> <li>• locals' perception of the roles the UEFA EURO 2012 plays in the development of the community pride and honor.</li> </ul>
Quality of life of local residents	<ul style="list-style-type: none"> <li>• residents' perceptions of impacts on quality of life (Sherwood, 2007);</li> <li>• increased number of facilities available for local residents (Fredline, 2000);</li> </ul>	<ul style="list-style-type: none"> <li>• residents' perceptions of impacts on quality of life;</li> <li>• benefits from improved infrastructure and service level;</li> <li>• upgrading facilities to provide disabled access.</li> </ul>

Continuation of the Table 3.3 Socio-cultural dimension of TBL approach

<b>Impact</b>	<b>Indicators suggested by literature</b>	<b>Indicators applied in this study</b>
Volunteering	<ul style="list-style-type: none"> <li>• locals who volunteer at event – skill development, social opportunities, altruism (Fredline et al., 2005; UEFA, 2009c).</li> </ul>	<ul style="list-style-type: none"> <li>• number of applications for volunteering;</li> <li>• number of volunteers;</li> <li>• special training received by volunteers.</li> </ul>
Residents' attitude towards the event itself	<ul style="list-style-type: none"> <li>• resident support for hosting of the event (Fredline, 2000; Ritchie &amp; Lyons, 1987; Waitt, 2003);</li> <li>• opportunity for locals to attend an international event (Fredline, 2000; Zhou &amp; Ap, 2009).</li> </ul>	<ul style="list-style-type: none"> <li>• attitude towards foreign guests;</li> <li>• attitude towards EURO-2012;</li> <li>• attitude towards the events related to the championship.</li> </ul>

Table 3.4 Environmental dimension of TBL approach

<b>Impact</b>	<b>Indicators suggested by literature</b>	<b>Indicators applied in this study</b>
Development and application of sustainability strategy	<ul style="list-style-type: none"> <li>• amount spent on promotion of environmental programs as percentage of event related expenditure (Budil et al., 2007; Chernushenko &amp; UNEP, 2001; EcoRecycle Victoria, 2005; Sherwood, 2007);</li> <li>• use of reclaimed, recycled and local construction materials (UEFA, 2009c);</li> <li>• minimize impact on soil, flora and fauna (UEFA, 2009c).</li> </ul>	<ul style="list-style-type: none"> <li>• UEFA standards and requirements;</li> <li>• environmental initiatives implemented by the organizers.</li> </ul>

### 3.3.3.2 Impacts' aggregation or Scoring System

In order to make an evaluation of economic, socio-cultural and environmental dimensions comparable and to assign scores to the impacts, the Scoring System adopted from the Pre-Games London Olympics 2012 Impact Study (UEL, 2010) was applied in this study with minor modifications. According to Scoring System, each impact is evaluated against three characteristics, namely: relevance, rating and confidence. The Table 3.5 shows the characteristics and their explanation along with possible scores.

Table 3.5 Scoring System

Impact characteristic	Scoring		Rationale and comments
	High	1	
Medium	0.5		
Low	0		
Rating	Positive	+1	This characteristic shows whether an impact of an event is negative or positive for the host country. Consequently, neutral impacts are assumed to be insignificant for the study and are excluded.
	Neutral	0	
	Negative	-1	
Confidence	High	1	This characteristic allows assigning a score to the degree of the reliability of the data used and makes it possible to exclude impacts that were assessed through the information with low confidence.
	Medium	0.5	
	Low	0	

Source: based on UEL (2010:20).

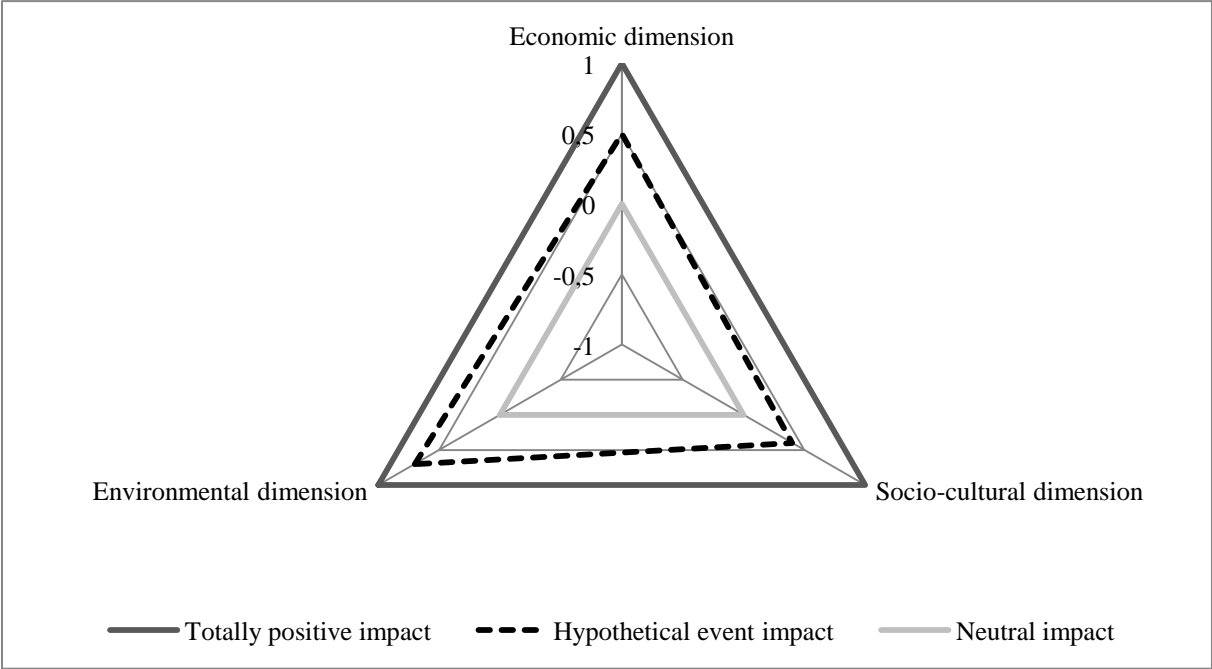
Based on this Scoring System, every impact receives a score for each of the characteristics and the product of multiplication of all three scores gives a total score for the impact. Thus, the impacts with the higher relevance and confidence will have the values which are closer to +/- 1. The general score for the economic, socio-cultural or environmental effect is the average of the total scores of all the indicators used to evaluate the effect.

### 3.3.3.3 Presentation of study results

The final results can be represented graphically with the triangular radar chart. Since selected Scoring System allows computing a numerical score, from +1 to -1, the final results can be presented in the form of a diagram with the respected scale as shown on the Figure 3.3. The area within the light grey triangle includes negative scores, while the dark grey triangle refers to an event with exclusively positive impacts, and the area between the light and dark grey triangles includes positive scores. For instance, the dotted line represents impacts of a hypothetical event that has slightly different but yet positive scores on each dimension. The interpretation of the total impact of the event is the final step of the research and perhaps, the most controversial as the results can be based on a non-compensatory logic, meaning that the impact of the event cannot be considered to be positive if one of the dimensions has a low

score. While fully- or partially compensatory logic suggests that low score on one of the dimensions can be compensated by a high score on another (UEL, 2010). Taking this into consideration, we did not aim to judge whether or not the event itself and the impacts can be classified as positive or negative, but rather to focus on comparison between the effects on host cities vs. the effect for non-host cities.

Figure 3.3 Presentation of final results



Source: based on UEL (2012:22).

**4. Methodology and research design**

*This chapter deals with the description of the methodological approaches applied in the research process. We outline the chosen research approach, research design, data collection method, limitations of the research as well as reliability of the data.*

**4.1 Research approach and design**

The research approach determines how the necessary information will be acquired and is based upon the set of objectives identified by the authors before the research process starts (Aaker, Kumar & Day, 2001). Specifics of our research purpose, that is the development and application of the TBL approach for an *ex-ante* examination of an overall effect of the UEFA EURO 2012 on Ukraine, requires the use of the deductive mixed methods research. Mixed methods research could be defined as “the type of research in which a researcher or team of researchers combine elements of qualitative and quantitative research approaches (e.g., use of

qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration” (Johnson, Onwuegbuzie & Turner, 2007:123).

The rationale behind our choice of mixed methods research approach corresponds to those identified by Greene, Caracelli, & Graham (1989), i.e. triangulation (seeking collaboration of results from different methods exploring the same fact); complementarity (seeking elaboration and illumination of the results from one method with results from the other method); development (using the results from one method to conform the results from the other one); expansion (seeking to expand the range of examination by applying different methods). The type of mixed methods research used for this study could be labeled as qualitative dominant mixed methods research meaning we rely on a “qualitative, constructivist-poststructuralist-critical view of the research process, while concurrently recognizing that the addition of quantitative data and approaches are likely to benefit the research project” (Johnson et al., 2007:124). Furthermore, our research purpose involves using both exploratory and descriptive research approaches, whereas a need for the development of an adjusted TBL framework is exploratory in nature, while an application and description of it on a single case study, i.e. the UEFA EURO 2012 in Ukraine, makes it a descriptive research (Babbie, 2010).

The research is carried out in the form of a case study. The application of a case study as a research method is supported by a number of authors (George & Bennett, 2005; Kohlbacher, 2006; Tellis, 1997; Yin, 2003). For instance, Yin (2003:2) states: “the distinctive need for case studies arises out of the desire to understand complex social phenomena as case study method allows investigators to retain the holistic and meaningful characteristics of real-life events”.

#### **4.2 Data selection and collection**

The analysis of the overall effect of the UEFA EURO 2012 on Ukraine is conducted by applying the TBL approach covering economic, socio-cultural and environmental dimensions and is based upon collection of secondary data only. Secondary data refers to the data that “were originally recorded or collected at an earlier time by a different person from the current researcher, often for an entirely different purpose from the current research purpose” (Tashakkori & Teddlie, 2003:314). As we conduct a mixed methods research, a method for data collection should be “mixed” too. In our case, that is a mixture of non-numeric and numeric documents (ibid.). We retrieved data from the databases of governmental and non-governmental institutions, local and international newspapers and on-line informational

resources for the two categories: host and non-host cities of Ukraine. Then, we selected information based on the criteria of its accuracy, reliability and adequacy. Reliability of the study was supported by data triangulation as it “strengthens a study” (Patton, 2001:247).

### 4.3 Limitations

This thesis does not intend to measure all the possible impacts of the mega-event on the hosting country. The focus is on economic, socio-cultural and environmental impacts solely as they are identified as the most important in the academic literature. Administrative and other impacts are explicitly excluded from this study, although some of them are implicitly covered in the discussion of cultural and social impacts. In addition, not all economic, socio-cultural and environmental impacts are examined to the full extent in the research. A number of reasons for that shall be listed.

First, it is almost impossible to cover all the angles of changes that mega-event brings for the hosting community. Second, although the impacts and indicators used for this study are based on the previous research in the field of mega-sporting events (Fredline et. al., 2005; Fredline, 2000; Sherwood, 2007), we could still be criticized for a subjective approach (Wilkins, 2003) in choosing concrete impacts and indicators for an analysis. The same argument is relevant for the procedure of assigning scores for impact characteristics. We are aware that coding reliability could be improved by involving a panel in the process of score assigning. Lastly, *ex-ante* study being mainly predictive in nature (Coates & Humphreys, 1999) has three main theoretical deficiencies, i.e. the substitution effect, crowding out and leakages (Matheson, 2006). The substitution effect refers to the situation when consumers spend money at a mega-sporting event rather than on other goods and services in the national economy. Thus, *ex-ante* estimates may be biased as, for instance, the total number of tourists in the country could remain unchanged. The mega-sporting event will rather influence the foreign visitor’s decision about when to come to the particular country, but not the decision whether to come at all (ibid.). A second source of bias is a crowding out effect that reflects the reluctance of business and regular recreational visitors to come to a city during a mega-sporting event. Therefore, a number of foreign visitors during an event could be higher than normal, but this increase could be balanced by a similar sized decrease in a number of regular tourists (ibid.). A third source of bias at *ex-ante* studies emanates from leakages as in most of the cases benefits and improvements that are associated with hosting a mega-sporting event are counted as benefits only while ignoring the costs associated with their realization (ibid.) Despite the deficiencies mentioned above, the limited timeline of the project execution did not allow us to

conduct an *ex-post* study, though realizing its higher level of reliability. Finally, as follows from the preceding point, conducting *ex-ante* research sets framework for data selection that is narrowed to a major extent to secondary sources available during the preparatory phase for the mega-sporting event.

## 5. Empirical findings

*This chapter provides the description of the selected impacts of the UEFA EURO 2012 on Ukraine. A number of impacts is used for the evaluation of economic, socio-cultural and environmental dimension of the TBL approach. The analysis of each indicator consists of two sections: analysis and generation of scores. The chapter ends with answering the research question by the graphic representation of the results and their interpretation.*

### 5.1 Economic impacts

#### 5.1.1 Destination promotion and development of tourism industry

##### *Analysis*

This impact captures the level of improvement of tourism infrastructure and tourism industry in general as a result of preparation to host the UEFA EURO 2012. Based on the data presented in Annexes VI and VII, we have made a list of the top ten regions with the largest number of hotels and hotel rooms (see Table 5.1).

Table 5.1 Top 10 regions with the largest number of hotels and hotel rooms in Ukraine, 2000-2010

Name of the region	Total number of hotels, percent change			Total amount of hotel rooms, percent change		
	2000-2005	2005-2009	2009-2010	2000-2005	2005-2009	2009-2010
Cherkaska	0.0	63.9	10.2	-10.1	69.9	6.7
Chernivetska	-33.3	133.3	10.2	-16.8	85.1	5.5
Donetska	-16.2	45.1	-2.2	-17.7	62.7	1.5
Gitomirska	-27.7	285.3	3.0	-20.2	736.9	8.4
Kyivska	30.2	67.9	7.4	0.8	25.0	15.3
Luganska	81.8	55.0	2.6	55.5	30.3	4.7
Lvivska	-31.8	303.3	0.8	-38.6	846.0	10.5
Sumska	7.4	34.5	-2.6	-7.8	2.2	-1.6
Volinska	-2.6	81.6	-2.9	4.8	79.3	-4.2
Zaporizka	-5.8	36.7	2.8	1.3	47.1	5.0

*Source: own calculations based on SSSU (2011:120-122).*

Thus, the hotel capacity of Donetska and Kharkivska regions has not been affected to a large extent by hosting the UEFA EURO 2012, while development of hotel infrastructure in Kyivska and Lvivska regions could partially be attributed to the mega-sporting event. That

being said, some of the other regions of Ukraine, namely Gitomirska, Chernivetska and Volinska have had a tremendous improvement in the hotel infrastructure during the period under consideration (SSSU, 2011).

Hosting the UEFA EURO 2012 definitely has created a “putting the country on the map” effect (Pellegrino & Hancock, 2010:6) as a result of an increased attention from the international media. For instance, Discovery channel has created a film devoted to Ukraine; commercials “Switch on Ukraine” and “High time to see Ukraine” have been watched by nearly 2,5 million viewers all over the world on CNN, BCC, Euronews, etc. (Information center Ukraine-2012, 2012a); CNN names Ukraine as one of the top three most attractive travel destinations in 2012 (EGTIN, 2012). Moreover, English content was created for official sites of host-cities. The names of streets and public transport stops were duplicated in English to allow the international visitors to have better access to the places in interest (Ua.football, 2012). While for the rest of cities in Ukraine, the situation with the adaptation of tourism infrastructure to the needs of foreign guests remains almost unchanged (ibid.).

#### *Generation of scores*

The score “high” was assigned to this impact for the relevance dimension both for host and non-host cities since preparation for the UEFA EURO 2012 has promoted Ukraine as a tourism destination. The “positive” rating score for host-cities was explained above, as the improvement of tourism infrastructure is valid for host-cities only. Thus, non-host cities have a “neutral” score reflecting the absence or minimum positive changes in tourism industry. Confidence in the information was estimated to be “high” since we used triangulation in data reflection (see Table 5.2).

Table 5.2 Assigned scores for Destination promotion and development of tourism industry impact

<b>Impact characteristic, possible score</b>	<b>Host cities</b>	<b>Non-host cities</b>
<b>Relevance (0; 0.5; 1)</b>	High (1)	High (1)
<b>Rating (-1; 0; 1)</b>	Positive (1)	Neutral (0)
<b>Confidence (0; 0.5; 1)</b>	High (1)	High (1)



### 5.1.2 *Damage to the reputation of the destination*

#### *Analysis*

This impact captures the effect from the current events in Ukraine on country's perception by the international community. The imprisonment of the former Prime Minister of Ukraine – Yuliya Tymoshenko has provoked a negative reaction from the representatives of the political circles especially in the EU countries. The Economist (2012) argues: “The EU's political leaders should boycott matches in Ukraine during UEFA EURO 2012”. Some of the participating countries have already made the decision not to send their official representatives to attend the UEFA EURO 2012, i.e. The Federal Republic of Germany (The Guardian, 2012), The United Kingdom of Great Britain and Northern Ireland (Informational Agency “UNIAN”, 2012) and The Kingdom of Spain (Gazeta.ua, 2012). Besides, none of the European commissioners shall participate in any event dedicated to the UEFA EURO 2012 (Le Parisien, 2012). Another issue to be mentioned in this context is a series of bomb explosions in Dnipropetrovsk on April 27, 2012, which has had a significant negative effect on country's perception by foreigners as well as the reputation of the UEFA EURO 2012 (Kyiv Post, 2012a). It raised concerns over the country's ability to host the tournament and ensure the required by the UEFA level of security (ibid.). Ukrainian government has been repeatedly accused of mass culling of stray dogs during the preparation for the UEFA EURO 2012 (Kyiv Post, 2012b). Moreover, there were doubts regarding ability to provide accommodation for foreign visitors at the affordable prices (EURO-2012, 2011).

#### *Generation of scores*

For the relevance characteristic, the score “high” was assigned for both host and non-host cities since the reputation of the destination directly influences the willingness of international visitors to attend a country. All the factors mentioned above have a rather negative effect on Ukraine's perception as a tourist destination explaining the negative score given to host and non-host cities at rating dimension. The level of confidence in the data retrieved is high as we used triangulation to ensure the reliability (see Table 5.3).

Table 5.3 Assigned scores for Damage to the reputation of the destination impact

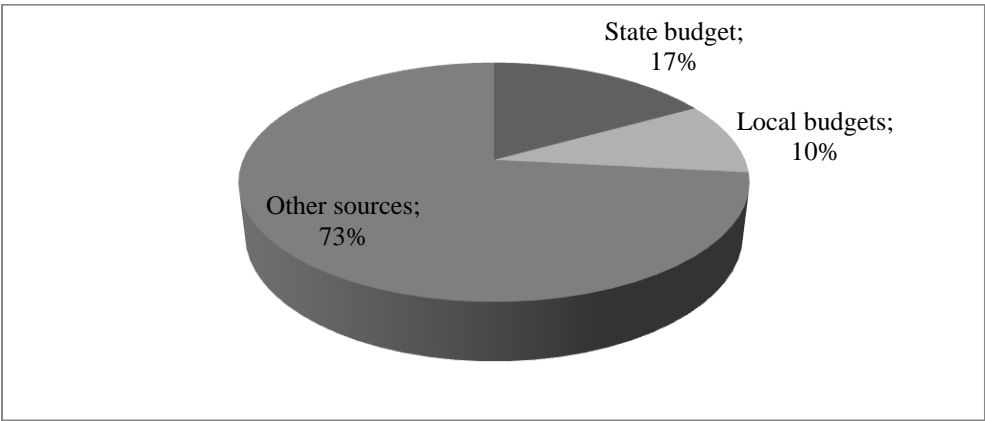
<b>Impact characteristic, possible score</b>	<b>Host cities</b>	<b>Non-host cities</b>
<b>Relevance (0; 0.5; 1)</b>	High (1)	High(1)
<b>Rating (-1; 0; 1)</b>	Negative (-1)	Negative (-1)
<b>Confidence (0; 0.5; 1)</b>	High (1)	High (1)

5.1.3 Business development and investment opportunities

Analysis

This impact captures the effect of UEFA EURO 2012 on the improvement of investment climate in Ukraine for private investors. The Cabinet of Ministers of Ukraine adopted the State Program for Preparing and Conducting of the UEFA EURO 2012 which includes overall investment of more than UAH 125 billion (USD 15.6 billion<sup>1</sup>) or about 24 percent of Ukraine’s annual GDP in 2006. The initially forecast volumes of financing are shown on Figure 5.1: state budget – UAH 18.2 billion (USD 2.3 billion), local budgets – UAH 4.7 billion (USD 587.5 million), private investment – UAH 103.0 billion (USD 12.9 billion).

Figure 5.1 Forecasted structure of financial sources for the UEFA EURO 2012, percentage



Source: created by authors based on Resolution № 357 (2010).

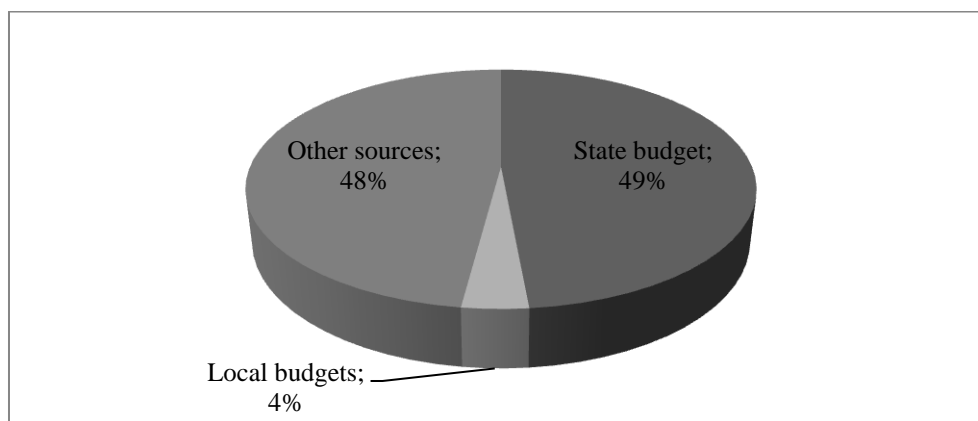
In later versions of the program the volumes of financing from different sources have been the subject of major modifications (see Figure 5.2). Based on the latest publicly available information, the country has already spent around UAH 106.0 billion (USD 13.3 billion) for the preparation to the UEFA EURO 2012, whereby more than half of this amount is financed by the state and local budgets, that is more than UAH 55.0 billion (USD 6.9 billion) (Cabinet of Ministers of Ukraine, 2010; Fair Observer, 2012).

At the initial stage of preparation for the UEFA EURO 2012 private investors were supposed to finance almost half of all the expenses in relation to the mega-sporting event. However, financial crisis made these intentions’ realization practically impossible. During the preparation period, the state did not succeed in garnering involvement of the private local

<sup>1</sup> Here and further, the exchange rate 1 USD = 8 UAH based on the National Bank of Ukraine as for 28 May, 2012.

capital and EU financing. Financing in two of the host cities, namely Kharkiv and Lviv, was made mainly from the state budget (at the level of 75 percent), while Donetsk and Kharkov received around 50 percent of investments from private investors and other sources (Fair Observer, 2012). Despite the facts mentioned above, Ukraine as a hosting country for the UEFA EURO 2012 is becoming more attractive for foreign investors because hosting the Championship itself encourages more investors to settle down (Liga. BusinessInform, 2012).

Figure 5.2 Real structure of financial sources for the UEFA EURO 2012, percentage



Source: created by authors based on Resolution № 357 (2010).

If we have a look at the regional division of capital investment, we will see that since 2000 all of the host regions except Donetska experienced positive changes on the level of capital investments (see Table 5.4). Although, in 2009 and 2010 the Donetska, Kyivska, Kharkivska and Lvivska regions benefited from hosting mega-sporting event, some of the regions had outflow of capital investments, e.g. Chernivetska, Cherkaska, Hersonska, etc.

Table 5.4 Top 10 regions with the highest level of capital investment, UAH million in real prices; 2000-2010

Name of the region	2000	2009	2010
Donetska	2901	12985	11072
Dnipropetrovksa	2252	13254	12570
Poltavska	1438	7691	7317
Kharkivska	1373	8315	7302
Odeska	1348	9959	8009
Zaporizka	1190	4650	7336
Lvivska	1061	6708	8061
Luganska	1030	4378	4706
Kyivska	947	9955	11263
ARC	784	5536	6781

Source: own calculation based on SSSU (2011:154).

### *Generation of the scores*

Host and non-host cities received a score “high” in the relevance dimension as a clear link between hosting a mega-sporting event and investment opportunities is extant. The positive score of the host cities at the rating characteristic reflects the investment intensification made partially at the cost of investment at the other regions of Ukraine. This explains why the non-host cities have been assigned a negative score. Confidence for both categories is perceived to be high as we used multiple sources for information triangulation (see Table 5.5).

Table 5.5 Assigned scores for Business development and investment opportunities impact

<b>Impact characteristic, possible score</b>	<b>Host cities</b>	<b>Non-host cities</b>
<b>Relevance (0; 0.5; 1)</b>	High (1)	High(1)
<b>Rating (-1; 0; 1)</b>	Positive (1)	Negative (-1)
<b>Confidence (0; 0.5; 1)</b>	High (1)	High (1)

#### *5.1.4 Legacy of infrastructure and facilities*

##### *Analysis*

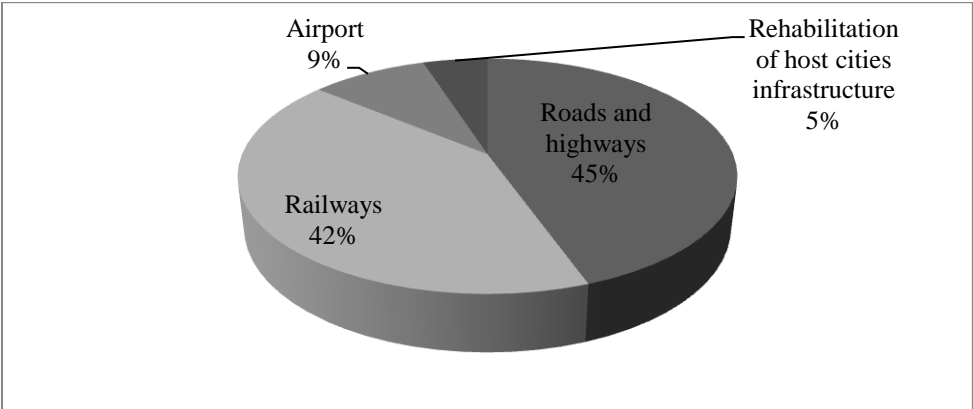
This impact is of a great importance for Ukraine since the preparation for the event triggered a large amount of investments into the upgrading of existing infrastructure and creation of new facilities. Since the legacy of infrastructure and facilities is measured as a part of an economic dimension in this study, one must evaluate it as an investment project, taking into account sources of financing and amounts invested.

The German Advisory Group (2007) suggests that it is important to make a distinction between event specific (e.g. arenas and hotels) and general types of infrastructure (public transportation system, airports, railways and roads) when analyzing the benefits that a host country could obtain from infrastructure development, since the development of general infrastructure provides a significant contribution to the long-term economic development for the country while investments in event specific infrastructure bear high risks since this type of infrastructure may be underutilized after the event. Thus, it was recommended to minimize the share of state investments into event-specific infrastructure by attracting more private investors. 72 percent, UAH 90 billion (USD 11.3 billion), of the total amount of the financing within the State Program for Preparing and Conducting of the UEFA EURO 2012 was attributed to the financing of the development of general infrastructure (see Figure 5.3).

A substantial number of roads and highways connecting the host cities have been constructed. The construction was managed by the governmental organization, “Ukravtodor”, and financed

by the state. Since the Ukrainian railway network is managed by the state-owned company “Ukrzaliznitsya”, reconstruction of the railway was also financed by the state (Sport.bigmir, 2012). The refurbishing of the airports and the construction of the new terminal were financed by the state in Lviv, and by the private investors in Kyiv. In Kharkiv and Donetsk a combination of both sources was used with government financing accounting for two thirds. As a result, total capacity of the airports in the host cities increased by six times (Information center “Ukraine-2012”, 2012b). Development of transport systems in the host cities took place in a form of upgrading of the fleet of buses and trams. Also new routes, were created, mainly those that connect stadia with the city centers (Information center “Ukraine-2012”, 2012c; Korrespondent, 2012b).

Figure 5.3 General infrastructure investments expenditures distribution, percentage



Source: created by authors based on GAG (2007).

Table 5.6 demonstrates the amounts invested into refurbishing and construction of the venues for the event. The construction of Arena Lviv and refurbishing of Olympic Stadium in Kyiv have been financed by the state, by more than 90 percent, while 97 percent of the investments needed for construction of Donbass Arena came from private sources. Two thirds of the amount needed for financing the reconstruction of Metalist Stadium in Kharkiv came from the state budget and the rest from the private investors. Construction of the hotels was dominated by private investors and data is not public (GAG, 2007).

Table 5.6 Building and refurbishing of the arenas

Building and refurbishing of the arenas	Source	UAH million	% of total
Kyiv			
Refurbishing of Olympic Stadium	State budget	5085.5	90.9%
	Local budget	403.6	7.2%
	Other sources	103.8	1.9%
	Total	5592.9	

Continuation of Table 5.6 Building and refurbishing of the arenas

Lviv			
Construction of Arena Lviv	State budget	2443.9	96.7%
	Local budget	83.7	3.3%
	Other sources	0.0	0.0%
	Total	2527.7	
Donetsk			
Construction of Donbass Arena	State budget	6.0	0.2%
	Local budget	76.2	2.4%
	Other sources	3080.0	97.4%
	Total	3162.2	
Kharkiv			
Refurbishing of Metalist Stadium	State budget	7882.8	66.4%
	Local budget	553.4	4.7%
	Other sources	3435.0	28.9%
	Total	11871.2	

Source: own calculations based on Resolution № 357 (2010).

### Generation of scores

Relevance of the impact is “high” for the host cities, since construction and refurbishing of the majority of both even-specific and general infrastructure has been performed due to the UEFA requirements. Rehabilitation of the infrastructure of the cities that do not host the event did not take place, but since the host cities are important regional centers and improving connection between them would benefit the country in general, a score of “medium” was assigned. Despite the fact that the majority of the projects were financed by the government at the cost of reduced investments in the other sectors of the economy, we decided to mark this impact as “positive” for the host-cities as the preparation for the UEFA EURO 2012 has been a catalyst for fast development of general infrastructure. The level of confidence of the information is “high” for the host cities and “medium” for non-host cities since the majority of publications analyzed had a focus on host cities (see Table 5.7).

Table 5.7 Assigned scores for Legacy of infrastructure and facilities impact

Impact characteristic, possible score	Host cities	Non-host cities
<b>Relevance (0; 0.5; 1)</b>	High (1)	Medium(0.5)
<b>Rating (-1; 0; 1)</b>	Positive (1)	Neutral (0)
<b>Confidence (0; 0.5; 1)</b>	High (1)	Medium (0.5)

### 5.1.5 Employment opportunities and skills development

#### Analysis

This impact captures the changes in employment opportunities created by the UEFA EURO 2012 in host cities as well as development of skills of employees and re-training. The economically active population is defined as “all persons of either sex at the age of 15-70 who

provide the supply of labor for the production of economic goods and services” (SSSU, 2011). Based on the data presented in Annexes VIII and IX, we have made a list of the top ten regions with the highest employment rate in the country (see Table 5.8) and the largest amount of employees that receive training (see Table 5.9).

Table 5.8 Top 10 regions in employment rate, 2000-2010, percentage

Name of the region	2000	2009	2010
Vinnitska	65.9	56.9	57.5
Donetska	57.6	57.3	58.3
Kharkivska	57.3	58.5	59.3
Lvivska	56.5	57.2	58.0
Dnipropetrovksa	56.3	57.3	60.3
ARC	56.2	60.0	60.5
Zaporizka	54.8	58.6	59.5
Kyivska	54.8	57.7	58.6
Odeska	54.7	56.9	57.5
Luganska	51.1	56.7	57.1

Source: based on SSSU (2011:138-149).

The level of employment in all the hosting regions have been constantly improving since 2000 with Kyivska region demonstrating the highest growth of nearly four percent while the average figure in the country is one percent for the period under examination (ibid.). In 2010 three out of four hosting regions, namely Donetska, Kyivska and Kharkivska were among those with the highest employment rate in Ukraine. Besides, in the representative sample of the ten top regions with the highest employment rate, only hosting regions of the UEFA EURO 2012 experienced positive trend between 2000 and 2010 (ibid.).

Table 5.9 Top 10 regions in employees’ training, 2000-2010

Name of the region	2000		2009		2010	
	total amount of people who received training, thousands	percentage to the total number of employees	total amount of people who received training, thousands	percentage to the total number of employees	total amount of people who received training, thousands	percentage to the total number of employees
Donetska	137.2	9.6	123.6	10.4	118.5	11.5
Dnipropetrovksa	100.1	9.3	103.0	11.0	15.1	12.4
Luganska	52.7	7.7	49.0	8.8	19.3	9.0
Kharkivska	52.3	6.6	58.1	8.8	12.4	8.7
Zaporizka	50.5	8.8	52.3	11.2	15.4	11.2
Lvivska	36.1	5.4	38.6	6.7	50.3	7.1
Poltavska	27.8	5.7	38.7	10.2	34.9	10.6
ARC	27.6	5.6	34.2	8.6	16.2	7.8
Kyivska	26.0	5.8	23.4	6.4	22.8	6.2
Odeska	25.3	4.2	31.5	6.1	16.9	6.4

Source: own calculations based on SSSU (2011:172).

The intensification of employees training for the UEFA EURO 2012 at hosting regions is reflected in the positive changes in the percentage of workers, who participate in skills development (see Table 5.9). All the hosting regions are in the top 10 regions of Ukraine based upon the criteria of employees' training (SSSU, 2011).

### *Generation of scores*

The score “medium” was assigned to this impact for the relevance dimension both for host and non-host cities since it is hard to differentiate the factors that along with the UEFA EURO 2012 had a direct effect on the employment level in the country as well as employees' training. The “positive” rating score for host-cities was explained above, while the impact of the mega-sporting event on non-host cities in terms of employment and employees' training received a “neutral” score. Confidence in the information was estimated to be “medium” as only the data retrieved from the State Statistics Service of Ukraine was used for analysis (see Table 5.10).

Table 5.10 Assigned scores for Employment opportunities and skills development impact

<b>Impact characteristic, possible score</b>	<b>Host cities</b>	<b>Non-host cities</b>
<b>Relevance (0; 0.5; 1)</b>	Medium (0.5)	Medium (0.5)
<b>Rating (-1; 0; 1)</b>	Positive (1)	Neutral (0)
<b>Confidence (0; 0.5; 1)</b>	Medium (0.5)	Medium (0.5)

### *5.1.6 Economic benefits*

#### *Analysis*

This impact captures the results of international visitors' trip to Ukraine for the UEFA EURO 2012 in monetary terms in an exaggerated way. Depending on the number of tourists and their assessed expenses, the economic benefit from hosting the UEFA EURO 2012 for Ukraine could be put in the range from 77 million to 2 billion USD (see Table 5.11).

Table 5.11 Economic benefits from the UEFA EURO 2012

	<b>GAG (2007)</b>	<b>Dzerkalo Tignya (2012)</b>	<b>Ukrainian National News (2012)</b>	<b>Korrespondent (2012a)</b>	<b>Vidomosti (2011)</b>
Expected number of tourists, million	0.8 - 1	0,26	1	5	1
Expenses, USD	77 - 96	1 153	100	200	200
Economic benefit, USD	77 million	300 million	1 billion	1 billion	2 billion



### *Generation of scores*

The score “high” was assigned to this impact for the “relevance” dimension both for host and non-host cities since the whole country could potentially benefit from hosting the mega-sporting event. The “positive” rating score for both categories is explained by the fact that although the inflow of money by international visitors takes place mainly in host cities, the redistribution inside the economy results in the overall positive effect on the country as a whole. Confidence in the information is perceived to be “low” as the interval of estimations of economic benefits in different sources is large enough to doubt the reliability of the results (see Table 5.12).

Table 5.12 Assigned scores for Economic benefits impact

<b>Impact characteristic, possible score</b>	<b>Host cities</b>	<b>Non-host cities</b>
<b>Relevance (0; 0.5; 1)</b>	High (1)	High(1)
<b>Rating (-1; 0; 1)</b>	Positive (1)	Positive (1)
<b>Confidence (0; 0.5; 1)</b>	Low (0)	Low (0)

## **5.2 Socio-cultural impacts**

### **5.2.1 Community pride**

#### *Analysis*

This impact reflects the creation of the feeling of national pride among the local residents caused by the fact that Ukraine is co-hosting the UEFA EURO 2012. The head of Kyiv city administration, Oleksandr Popov (NSC Olimpiyskiy, 2012), says that “...while for the country it is prestigious to host the event, and it provides many opportunities for the economy and tourism development, for the citizens - it is a national pride. It is a real honor for us to host the event and we are proud to stage five matches in Kyiv, especially the Final”. In his interview for the Official UEFA publication, Andriy Shevchenko (UEFA, 2011e), a legendary Ukrainian football player states: “I am really proud that Ukraine has been given the opportunity to stage the Championship. This is a very important competition for us, not just in terms of the development of football, but also for the development of the country and its people. I am confident that we will be very well prepared for this tournament. This is a matter of national pride for Ukraine”.

### *Generation of scores*

The scores for all the characteristics are similar for both host and non-host cities, since we assume that the feeling of the community pride is a phenomenon that exists on the country

rather than the city level, thus there is no need to make a difference between the two categories in this case. The relevance is high, because this impact is directly caused by the fact of hosting the event and rating is positive. Confidence is medium since the effect was mentioned only in the official sources and no public opinion on the matter was found in the press (see Table 5.13).

Table 5.13 Assigned scores for Community pride impact

<b>Impact characteristic, possible score</b>	<b>Host cities</b>	<b>Non-host cities</b>
<b>Relevance (0; 0.5; 1)</b>	High (1)	Medium(1)
<b>Rating (-1; 0; 1)</b>	Positive (1)	Positive (1)
<b>Confidence (0; 0.5; 1)</b>	Medium (0.5)	Medium (0.5)

### *5.2.2 Quality of life of local residents*

#### *Analysis*

This impact demonstrates the positive change in the quality of life of local residents that would be achieved as a result of preparation and hosting of the UEFA EURO 2012. It includes benefits that the local residents would get from the improved transport and sports infrastructure, service quality, simplification of customs procedure, etc. (Lubkivskyi, 2012).

During the preparation for the event special attention was given to the adaptation of the event-related and transport infrastructure for the needs of people with disabilities. According to the requirements of UEFA and Center for Access to Football in Europe (CAFE), each stadium needs to have a certain number of seats for people with special needs. During the preparation for the UEFA EURO 2012, CAFE was collaborating with the local organizing committee in Ukraine in order to assist with arranging better disabled access to the arenas during the event (UEFA, 2011d). Modernization of the objects of the transportation system was conducted according to the new standards taking into account the needs of disabled people. As a result, special handholds, escalators, elevators were installed at the railway stations. All the new items of public transport are also appropriate for the transportation of people with special needs (Ua.football, 2011).

#### *Generation of scores*

The impact has the score “high” for relevance for host cities and “medium” for non-host cities, since the majority of improvements took place in the host cities. The impact’s rating is positive for both host and non-host groups of cities. Confidence score is “high” for host-cities,

and “medium” for non-host cities since the information used in the analysis was mostly related to the host cities only (see Table 5.14).

Table 5.14 Assigned scores for Quality of life of local residents impact

<b>Impact characteristic, possible score</b>	<b>Host cities</b>	<b>Non-host cities</b>
<b>Relevance (0; 0.5; 1)</b>	High (1)	Medium(0.5)
<b>Rating (-1; 0; 1)</b>	Positive (1)	Neutral (1)
<b>Confidence (0; 0.5; 1)</b>	High (1)	Medium (0.5)

**5.2.3 Volunteering**

*Analysis*

In order to evaluate the importance of EURO 2012 volunteering movement for the local communities the following aspects were analyzed: UEFA 2012 volunteer program, requirements for the volunteers, application and selection processes, locally created volunteer organizations, opportunities and benefits obtained by the volunteers. According to the UEFA requirements, 5,500 positions in both host countries were open for volunteers. The requirements for the applicant were the following: an application could be submitted by anyone regardless origin, a candidate had to speak English on a conversational level and must be at least 18 as of March 1, 2012. During the application period that lasted from June 14 till October 10, 2011 23,965 applications had been received from 142 countries, which was twice as many as for the previous Championship, and an absolute record for the number of applications submitted for volunteering during the Football Championship in the history of European football. 12,100 selected candidates were interviewed by the Local Organizational Committees in the host cities in order to identify 5,500 volunteers that will receive training during November 2011 – May 2012 (UEFA, 2011a, 2011b, 2011c, 2011f, 2010; Sport.bigmir, 2011; DW, 2011).

In addition to the number of volunteers required by the UEFA, there will be many locals assisting during the Championship. According to Ukrainian Volunteers’ Center (UVC, 2012), there will be no less than 12,000 Ukrainians volunteering at the event. Volunteers will be involved in the activities in different spheres including media, transportation, security, hospitality, IT, logistics, etc. (UEFA, 2011c; Sport.Bigmir, 2011; DW, 2011). Volunteering activities during the UEFA EURO 2012 would benefit individuals participating in the volunteering movement as well as the community as a whole. The volunteers would have an opportunity to develop new skills, to see the organizational process of the event from the inside, meet people from different countries and will receive gifts and certificates. At the

same time, volunteers will provide an essential contribution during the event and might stimulate the development of other volunteering movements in the country (UVC, 2012; Sport.Bigmir, 2011; DW, 2011).

### *Generation of the scores*

The score “high” was assigned to this impact for the “relevance” dimension since the recruiting and training of the volunteers is one of the obligatory elements of the preparation for the UEFA EURO 2012 and appearance of the volunteering movement is highly correlated with the fact of staging the event. The “positive” rating score was explained above, and since all the citizens could submit the applications and the possibility to participate were advertised in all the cities, the effect on both host and non-host cities was assumed to be equal. Confidence was estimated to be “high” since information was retrieved not only from official UEFA sources but also from the local media and the website of unofficial volunteering movement (see Table 5.15).

Table 5.15 Assigned scores for Volunteering impact

<b>Impact characteristic, possible score</b>	<b>Host cities</b>	<b>Non-host cities</b>
<b>Relevance (0; 0.5; 1)</b>	High (1)	High(1)
<b>Rating (-1; 0; 1)</b>	Positive (1)	Positive (1)
<b>Confidence (0; 0.5; 1)</b>	High (1)	High (1)

### *5.2.4 Residents' attitude towards the event itself*

#### *Analysis*

This impact captures the level of residents' support for the mega-sporting event with a specific focus on the residents of the host cities. It is based on the assessment of data retrieved from sociological researchers conducted by a number of local and international companies, i.e. Right & Bright Group, Sociological Group “Rating”, GfK, Ukrainian Marketing Group International (see Table 5.16).

Based on the multiple researches discussed above, Ukrainians in general show great support for the UEFA EURO 2012 (GfK, 2011; R&B, 2012). Although, respondents from hosting cities have shown different level of enthusiasm to the event, for instance, 89 percent of residents from Lviv have positive attitude towards the UEFA EURO 2012, while in Kyiv this figure is at the level of 84 percent (GfK, 2011). Besides, the expectations of the residents focus mainly on the improvement of the country's image, infrastructure development and increase of foreign investments (Sociological Group “Rating”, 2010; UMG International, 2011).

Table 5.16 Residents' attitude towards the UEFA EURO 2012

<b>Research group</b>	<b>Timing, sample</b>	<b>Main findings</b>
UMG International (2011)	August-September 2011, 1751 respondents	80,9% of respondents think that Euro-2012 will influence Ukraine in a positive way; 43,5% state UEFA EURO 2012 will positively affect the economic situation in Ukraine; 77% treat UEFA EURO 2012 as a positive boost for the image of Ukraine abroad
GfK Ukraine (2011)	January-February 2011, 1002 respondents	89% of Ukrainians support the UEFA EURO 2012; 61% expect from the UEFA EURO 2012 the modernization of infrastructure, 49% - closer relation with Europe and 48% - attraction of foreign investment to Ukraine, 46% - popularization of Ukraine in the world, 31% - improvement of social solidarity
R&B Group (2012)	February 2012, 2079 respondents	57% of respondents support Euro-2012 while only 60% state that Ukraine will be successful in hosting the UEFA EURO 2012
Sociological Group "Rating" (2010)	October 2011, 2000 respondents	60% of respondents believe that Ukraine will host the UEFA EURO 2012 rather successfully; 42% state that the UEFA EURO 2012 is the event that supports prestige of the country, 42% think the UEFA EURO 2012 will show Ukraine to Europe and the world

### *Generation of the scores*

The score "high" was assigned to this impact for the relevance dimension for host cities and "medium" for non-host cities since a direct link between hosting an event and its residents' perception is stronger in case of host cities. The "positive" rating score was explained above by the high level of support of the UEFA EURO 2012 among citizens of the country both in hosting and non-hosting cities. Confidence of the information was estimated to be "medium" since data was retrieved from sociological researches only, although triangulation was applied (see Table 5.17).

Table 5.17 Assigned scores for Residents' attitude towards the vent itself impact

<b>Impact characteristic, possible score</b>	<b>Host cities</b>	<b>Non-host cities</b>
<b>Relevance (0; 0.5; 1)</b>	High (1)	Medium(0.5)
<b>Rating (-1; 0; 1)</b>	Positive (1)	Positive (1)
<b>Confidence (0; 0.5; 1)</b>	Medium (0.5)	Medium (0.5)

## **5.3 Environmental impacts: development and application of sustainability strategy**

### *Analysis*

Official UEFA requirements regarding the environmental aspects of the preparation for and/or during the UEFA EURO 2012 were not found. Despite being responsible for "sustainability programs", the Local Organizing Committee EURO 2012 in Ukraine did not provide any guidelines regarding this issue either (Information center "Ukraine-2012", 2012a). Thus, this section aims to underline the neglect of environmental aspects during the preparation for the UEFA EURO 2012.

The importance of the inclusion of environmental standards during the preparation for the football mega-sporting events has been identified by the organizers and stakeholders of such events during the past decade. For instance, the Green Goal Legacy Report (Stahl, Hochfeld & Schmied, 2004) has been developed in order to minimize the impact on the environment by the FIFA World Cup in Germany in 2006, and Austria and Switzerland have emphasized environmental aspects in their EURO 2008 Sustainable Strategy (Budil et al., 2007) by setting environmental goals within the areas of environmental management, energy and climate protection, transport, resources and waste. Moreover, the EURO 2016 Tournament Requirements (UEFA, 2009c) contains “Social Responsibility and Environment” subsection with such sub-categories as: transport, site selection and construction, green infrastructure, water and waste management, and climate change.

Since no legal norms making environmental requirements obligatory for the UEFA EURO 2012 existed, the degree to which these issues were considered important during the preparation for the event mirrors the level of significance of these aspects for the government and society of Ukraine (Karazcun, 2012).

#### *Generation of the scores*

The score “high” for the relevance characteristic was assigned to the host cities since the major part of the construction work took place there and the large quantity of visitors which would cause increased water consumption, waste generation and transport related emissions is expected there. Non-host cities have obtained the score “medium” since they might be affected by the same factors but to a lesser extent. The rating of this indicator depends on the approach used by the organizers of the event towards the environmental aspects. An event of such a scale could have been used for promoting sustainable types of transportation, green infrastructure and technologies, innovative types of water and waste management. Since such arrangements were not made, the UEFA EURO 2012 will have negative impact on both host and non-host destinations. A confidence score of “low” was selected due to the lack of information on this matter (see Table 5.18).

Table 5.18 Assigned scores for Development and application of sustainability strategy impact

<b>Impact characteristic, possible score</b>	<b>Host cities</b>	<b>Non-host cities</b>
<b>Relevance (0; 0.5; 1)</b>	High (1)	Medium(0.5)
<b>Rating (-1; 0; 1)</b>	Neutral (-1)	Neutral (-1)
<b>Confidence (0; 0.5; 1)</b>	Low (0)	Low (0)

## 5.4 Summary of the results

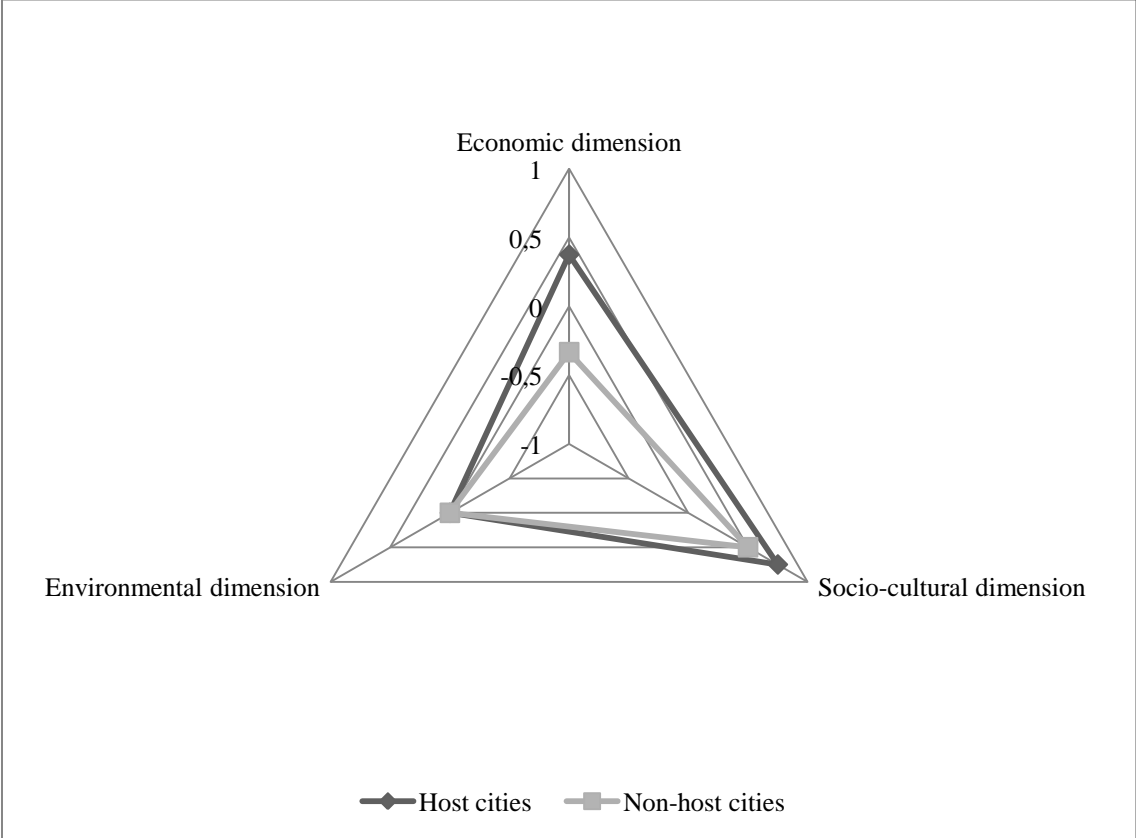
Table 5.19 Summary of the scores

	Host cities				Non-host cities			
<b>Economic dimension</b>	Relevance	Rating	Confidence	Total	Relevance	Rating	Confidence	Total
Destination promotion and development of tourism industry	1	1	1	1	1	0	1	0
Damage to reputation of the destination	1	-1	1	-1	1	-1	1	-1
Business development and investment opportunities	1	1	1	1	1	-1	1	-1
Legacy of infrastructure and facilities	1	1	1	1	0.5	0	0.5	0
Employment opportunities and skills developed	0.5	1	0.5	0.25	0.5	0	0.5	0
Economic benefits	1	1	0	0	1	1	0	0
				<b>0.38</b>				<b>-0.33</b>
	Host cities				Non-host cities			
<b>Socio-cultural dimension</b>	Relevance	Rating	Confidence	Total	Relevance	Rating	Confidence	Total
Community pride	1	1	0.5	0.5	1	1	0.5	0.5
Quality of life of local residents	1	1	1	1	0.5	1	0.5	0.25
Volunteering	1	1	1	1	1	1	1	1
Residents' attitude towards the event itself	1	1	0.5	0.5	0.5	1	0.5	0.25
				<b>0.75</b>				<b>0.5</b>
	Host cities				Non-host cities			
<b>Environmental dimension</b>	Relevance	Rating	Confidence	Total	Relevance	Rating	Confidence	Total
Development and application of sustainability strategy	1	-1	0	0	0.5	-1	0	0
				<b>0</b>				<b>0</b>



Table 5.18 shows the core elements of the TBL framework developed for this study: the set of impacts for economic, socio-cultural and environmental dimensions, and a scoring system, which includes relevance, rating and confidence characteristics, adopted for measuring the impacts. Figure 5.4 in turn is a graphic representation of the results. The dark grey line corresponds to the impacts of the event on the host cities and the light grey line – the impact on the non-host cities.

Figure 5.4 An overall impact of the UEFA EURO 2012 on Ukraine



The Figure 5.4 shows high positive scores on socio-cultural dimension for host and non-host cities in contrast to the economic dimension. The economic dimension is characterized by the most significant difference between impact scores for host and non-host cities: 0,38 and -0,33 respectively. The negative score for non-host cities could be attributed to the negative value of business development and investment opportunities indicator and damage to the reputation of the destination. In the case of host cities the negative result for damage to the reputation of the destination impact was outweighed by positive scores obtained by the other impacts.

The total score for a socio-cultural dimension does not differ to a large extent between host and non-host cities. An explanation of this fact is the nature of the socio-cultural effects of the mega-sporting event that occur on the country level rather than on host cities only. The

detailed evaluation of the environmental dimension was not possible to conduct due to the absence of environmental goals set by the organizers.

## **6. Conclusion and suggestions for further studies**

When applying the TBL approach for our study we have faced several methodological issues. First, the impacts and indicators used for an assessment of the effect of mega-sporting events are not set up. Thus, we had to select a list of the impacts and indicators from the multiple publications and adjust them to the specific needs of this study. The second issue was concerned with the final score aggregation. As a benchmarking event was not available for our research, we used the Scoring System developed by the University of East London (2010). We believe it is a suitable tool that could be applied for the future studies that face the same problem as we did.

However, the problems associated with the practical application of the TBL approach could be compensated by a result of the study which will provide a more comprehensive understanding of the mega-event impacts at three dimensions, i.e. economic, socio-cultural and environmental. In the case of the UEFA EURO 2012 in Ukraine, the TBL enriched our comprehension of its impacts. For instance, the obtained results for the economic dimension for non-host cities were negative, but, it could partially be outweighed by a positive total socio-cultural impact. Besides, the environmental dimension was totally disregarded at the preparation stage for the event by organizers, though, being a crucial element in terms of incorporation of sustainability concept into the hosting arrangements. Austria and Switzerland developed a Sustainable strategy for UEFA EURO 2008 and made a green championship. This is an experience Ukraine could have learnt from. The obvious fact is that if we conducted a study with a focus on the economic dimension only, being a predominant approach in the literature so far, we would have overlooked the other impacts the UEFA EURO 2012 would bring to Ukraine.

Since the UEFA EURO 2012 is co-hosted by Ukraine and Poland, we would recommend conducting a number of studies using the TBL approach for an assessment of impacts of the Championship. The first step could be an *ex-ante* study covering economic, socio-cultural and environmental dimensions for Poland. Then, two more studies should be conducted for both countries Ukraine and Poland, one – during an event and another one – *ex-post*. We suggest examples of impacts and indicators that could potentially be used together with the list used for this *ex-ante* (see Table 6.1). This will provide an excellent opportunity to make a

comparison of impacts between the countries at a different stage of economic development and observe the dynamics of each impact and dimension variation.

Table 6.1 Additional impacts and indicators

<b>Impact</b>	<b>Indicator suggested by literature</b>
<i>Economic dimension</i>	
Attending the event	<ul style="list-style-type: none"> <li>• number of tickets sold (Sherwood, 2007; UBC, 2011);</li> <li>• number of people present at the games (Sherwood, 2007; UBC, 2011).</li> </ul>
Media image of the host destination	<ul style="list-style-type: none"> <li>• frequency of host country mentioning in the international press (UBC, 2011).</li> </ul>
Breakdown of visitor spending	<ul style="list-style-type: none"> <li>• spending per visitor by the main type of expense – accommodation, food and drink, purchases (UBC, 2011).</li> </ul>
Economic impact on host community	<ul style="list-style-type: none"> <li>• direct inscope expenditure of the event (Sherwood, 2007);</li> <li>• net benefit per head of population (Fredline, 2005).</li> </ul>
<i>Socio-cultural dimension</i>	
Deferment and abandonment of public policies	<ul style="list-style-type: none"> <li>• the official names of public policies which are abandoned or postponed because of the mega-sporting event (UBC, 2011).</li> </ul>
Educational activities	<ul style="list-style-type: none"> <li>• number of people who received any type of educational training about the mega-sporting events (UBC, 2011);</li> <li>• the global budget for these activities (UBC, 2011);</li> <li>• the percentage of education activities to the overall budget of the mega-sporting event (UBC, 2011).</li> </ul>
Cultural program	<ul style="list-style-type: none"> <li>• number of events in the official cultural program that accompany the mega-sporting event (UBC, 2011);</li> <li>• number of locals who participate in preparation of the cultural program for the event (UBC, 2011);</li> <li>• cultural events and football related exhibitions (Budil et al., 2007).</li> </ul>
Reported complaints about racism, discrimination and violence during the event	<ul style="list-style-type: none"> <li>• number of reported incidents (Fredline, 2005; UBC, 2011).</li> </ul>
Attending of the games by locals	<ul style="list-style-type: none"> <li>• the price structure of the tickets (UBC, 2011);</li> <li>• the part of tickets that are affordable to the general public (UBC, 2011).</li> </ul>
<i>Environmental dimension</i>	
Transportation	<ul style="list-style-type: none"> <li>• proportion of spectators travelling by public transport, walking or cycling to stadiums (UEFA, 2009c);</li> <li>• accessibility of alternative transport means (UEFA, 2009c);</li> <li>• responsible parking services (UEFA, 2009c);</li> <li>• informational campaigns to encourage foreign visitors to use rail and bus transport (Budil et al., 2007).</li> </ul>

Continuation of the Table 6.1 Additional impacts and indicators

Impact	Indicator suggested by literature
<i>Environmental dimension</i>	
Food sold in the fan zones	<ul style="list-style-type: none"> <li>• sourcing food from environmentally responsible farming (UEFA, 2009c).</li> </ul>
Energy and water consumption	<ul style="list-style-type: none"> <li>• amount of energy used per attendee (Chernushenko &amp; UNEP, 2001; EcoRecycle Victoria, 2005; Sherwood, 2007);</li> <li>• volume of water used per attendee (Chernushenko &amp; UNEP, 2001; EcoRecycle Victoria, 2005; Fredline et al., 2005; Sherwood, 2007).</li> </ul>
Waste generation	<ul style="list-style-type: none"> <li>• mass of waste sent to landfill per attendee (Budil et al., 2007; Chernushenko &amp; UNEP, 2001; EcoRecycle Victoria, 2005; Fredline et al., 2005; Sherwood, 2007; UEFA, 2009c);</li> </ul>
Waste treatment	<ul style="list-style-type: none"> <li>• ratio of recycled waste compared with non-recycled waste (Chernushenko &amp; UNEP, 2001; EcoRecycle Victoria, 2005; Fredline et al., 2005; Sherwood, 2007).</li> </ul>

We also believe the study on the past championships, e.g. the UEFA EURO 2004 in Portugal or the UEFA EURO 2008 in Austria and Switzerland, using the TBL approach and its subsequent comparison with the results obtained from the studies on the UEFA EURO 2012 in Poland and Ukraine could deepen an understanding of the causal relationship between the mega-event and its impacts as well as the role the mega-event in the development of the hosting country.

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## APPENDIX

### Annex I

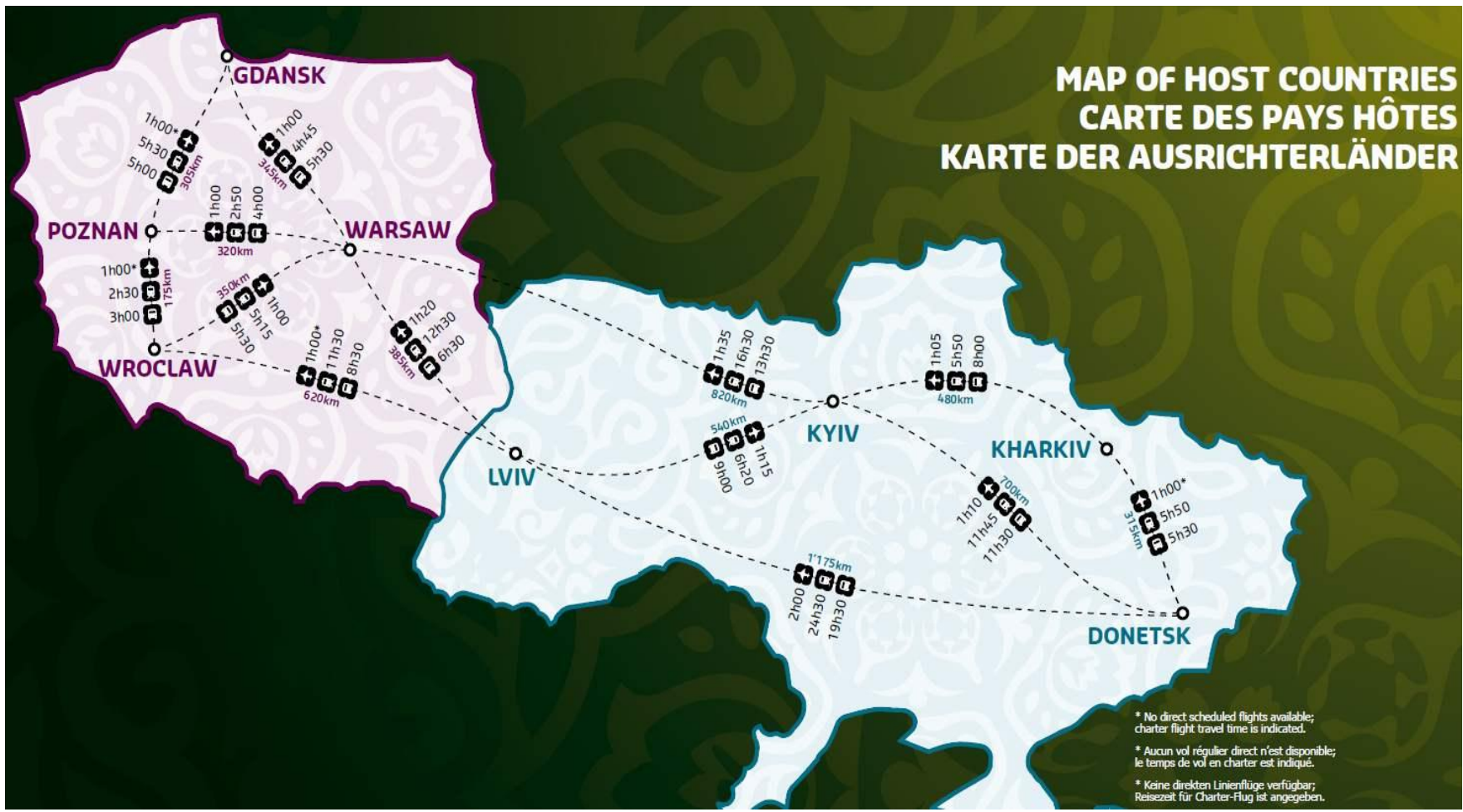
#### Hosts and Winner of the Final Round of the European Football Championship

Year	Host	Winner	Runner up
1960	France	USSR	Yugoslavia
1964	Spain	Spain	USSR
1968	Italy	Italy	Yugoslavia
1972	Belgium	West Germany	USSR
1976	Yugoslavia	Czechoslovakia	West Germany
1980	Italy	West Germany	Belgium
1984	France	France	Spain
1988	West Germany	Netherlands	USSR
1992	Sweden	Denmark	Germany
1996	England	Germany	Czech Republic
2000	Belgium & Netherlands	France	Italy
2004	Portugal	Greece	Portugal
2008	Austria & Switzerland	Spain	Germany
2012	Poland & Ukraine		

Source: UEFA (2012).

Annex II

Map of host countries and cities



Source: UEFA (2010a).

## Annex III

### The Match Schedule for the UEFA EURO 2012

Date	Time	Match	City	Group	Team 1	Team 2
<b>Friday, 8 June</b>	18.00 CET	1	Warsaw	A	Poland	Greece
	20.45 CET	2	Wroclaw		Russia	Czech Republic
<b>Saturday, 9 June</b>	18.00 CET	3	Kharkiv	B	Netherlands	Denmark
	20.45 CET	4	Lviv		Germany	Portugal
<b>Sunday, 10 June</b>	18.00 CET	5	Gdansk	C	Spain	Italy
	20.45 CET	6	Poznan		Republic of Ireland	Croatia
<b>Monday, 11 June</b>	18.00 CET	7	Donetsk	D	France	England
	20.45 CET	8	Kyiv		Ukraine	Sweden
<b>Tuesday, 12 June</b>	18.00 CET	9	Wroclaw	A	Greece	Czech Republic
	20.45 CET	10	Warsaw		Poland	Russia
<b>Wednesday, 13 June</b>	18.00 CET	11	Lviv	B	Denmark	Portugal
	20.45 CET	12	Kharkiv		Netherlands	Germany
<b>Thursday, 14 June</b>	18.00 CET	13	Poznan	C	Italy	Croatia
	20.45 CET	14	Gdansk		Spain	Republic of Ireland
<b>Friday, 15 June</b>	20.45 CET	15	Kyiv	D	Sweden	England
	18.00 CET	16	Donetsk		Ukraine	France
<b>Saturday, 16 June</b>	20.45 CET	17	Wroclaw	A	Czech Republic	Poland
	20.45 CET	18	Warsaw		Greece	Russia
<b>Sunday, 17 June</b>	20.45 CET	19	Kharkiv	B	Portugal	Netherlands
	20.45 CET	20	Lviv		Denmark	Germany
<b>Monday, 18 June</b>	20.45 CET	21	Gdansk	C	Croatia	Spain
	20.45 CET	22	Poznan		Italy	Republic of Ireland
<b>Tuesday, 19 June</b>	20.45 CET	23	Donetsk	D	England	Ukraine
	20.45 CET	24	Kyiv		Sweden	France
<b>Wednesday, 20 June</b>	Rest day, no matches					
<b>Thursday, 21 June</b>	20.45 CET	25	Warsaw	Quarter- finals	1A	2B
<b>Friday, 22 June</b>	20.45 CET	26	Gdansk		1B	2A
<b>Saturday, 23 June</b>	20.45 CET	27	Donetsk		1C	2D
<b>Sunday, 24 June</b>	20.45 CET	28	Kyiv		1D	2C
<b>Monday, 25 June</b>	Rest days, no matches					
<b>Tuesday, 26 June</b>	Rest days, no matches					
<b>Wednesday, 27 June</b>	20.45 CET	29	Donetsk	Semi- finals	Winner of # 25	Winner of # 27
<b>Thursday, 28 June</b>	20.45 CET	30	Warsaw		Winner of # 26	Winner of # 28
<b>Friday, 29 June</b>	Rest days, no matches					
<b>Saturday, 30 June</b>	Rest days, no matches					
<b>Sunday, 1 July</b>	20.45 CET	31	Kyiv	Final	Winner of # 29	Winner of # 30

Source: UEFA (2011c).

## Annex IV

### Recommended TBL impacts and indicators

Impact	Indicator
<i>Economic</i>	
Business leveraging and investment opportunities	Number of businesses hosted at event
	Category of business representatives hosted: Senior management, Middle management, Other
Destination promotion	Dollar value of positive, negative and balanced newspaper, television and radio coverage of the destination in the target area
	Number of visiting journalists from target area
Economic impact on host community	Direct inscope expenditure of the event
Employment opportunities and skills development	Number of full time equivalent jobs created
	Number of people given training as part of the event
Legacy of infrastructure and facilities	Dollar value of new infrastructure and facilities established for the event
<i>Social</i>	
Celebration of community values	Percentage of community believing event enhances their sense of community
Community pride	Number of positive letters to editor in local newspaper during event period
	Impact on community pride
Quality of life of the host community	Impact in the quality of life of the host community as a whole
Quality of life of local residents	Impact on the quality of life of individual local residents
<i>Environmental</i>	
Education and promotion of environmental programs	Amount spent on promotion of environmental programs as percentage of event related expenditure
	Existence of an environmental and education plan
Energy consumption	Amount of energy used for event
	Estimate of energy saved for transport to and from the event
	Percent of energy that comes from renewable sources
Water consumption	Net water consumed (minus water recycled) per event visitor
	Volume of water used for the event
Waste generation	Mass of waste sent to landfill
	Ration of recycled waste compared with non-recycled waste
	Mass of solid waste and per visitor

Source: based on Sherwood (2007:178-187).

## Annex V

### Recommended TBL indicators

Economic indicators	Social indicators	Environmental indicators
Benefit/cost ratio= $\frac{\text{Net visitor expenditure} + \text{Net event expenditure}}{\text{Net additional public sector investment (grants)} + \text{Net private sector investment (sponsorships)}}$	Resident perceptions of impacts on quality of life	Energy consumed at the venue
$\frac{\text{Average visitor trip expenditure}}{\text{Average domestic overnight trip expenditure}}$	% of locals who attend the event	Energy consumed in transport to the venue
Net benefit per head of population	Crime reported associated with event / crowd management incidents	Water consumed at the venue - waste water recycled
	% of local businesses contracted to supply goods and services to events	Waste generated at the venue – waste recycling
	Efforts made to reduce negative externalities e.g. extra public transport provided	
	Traffic counts OR dollar value of time lost in traffic	
	Value of access to new facilities developed	
	Value of access to facilities denied to locals during event	
	Quantity and quality of media exposure	
	Locals who volunteer at event – skill development, social opportunities, altruism	
	% locals employed in event	
	Involvement of local children in event – promotion of interest in event theme	

Source: based on Fredline et al. (2005:18-19).



## Annex VI

### Indicators used for the Pre-Games London Olympics 2012 Impact Study

<b>Economic impact</b>	<b>Socio-cultural impact</b>	<b>Environmental impact</b>
Employment by economic activity	Poverty and social exclusion	Water quality
Employment indicators	Education level	Greenhouse gas emissions
Size of companies	Crime rates	Air quality
Public Transport	Health	Land-use changes
Accommodation infrastructure	Nutrition	Protected areas
Accommodation occupancy rate	Sport and physical activities	Public open-air leisure centers
Tourist nights	School sports	Transport networks
Airport traffic	Available sports facilities	Solid waste treatment
Hotel price index	Top-level sportsmen and women	Greenhouse gas emissions of Olympic Games
Real estate market	World and continental championships	Olympic induced transport infrastructure
Foreign direct investment	Results at Olympics and World Championships	New waste and wastewater treatment facilities
Structure of public spending	National anti-doping effect	
Public debt	Political involvement in the organization of the Games	
Jobs created in Olympic and context activities	Votes connected with the Olympic Games	
Size and quality management of contracted companies	Consultation with specific groups	
Structure of OCOG Revenues	Opinion polls	
Structure of OCOG Expenditure	Participation of minorities in Olympic Games and Paralympic Games	
Total operating expenditure (Olympic activities)	Homelessness, low rent market and affordable housing	
Total capital expenditure (Olympic activities)	Olympic education activities	
Total capital expenditure (context activities)	Volunteers	
Total wages paid (Olympic activities)	Perceptions about people with disabilities in society	
Employability of people with disabilities	Support network for people with disabilities	
	Accessibility of public services	

Source: based on UEL (2010:12-13).

## Annex VII

### Absolute number of hotels and hotel rooms in Ukraine, 2000-2010

Name of the region	Total number of hotels				Total number of hotel rooms			
	2000	2005	2009	2010	2000	2005	2009	2010
ARC	89	78	96	104	5570	5982	7384	7523
Cherkaska	36	36	59	65	1215	1092	1855	1980
Chernigivska	52	51	64	61	822	927	1470	1438
Chernivetska	18	12	28	31	943	785	1453	1533
Dnipropetrovska	84	106	103	121	2941	4323	4489	5273
Donetska	73	69	79	77	3240	3153	3274	2928
Gitomirska	37	31	45	44	1155	950	1546	1569
Hersonska	47	34	131	135	1247	995	8327	9028
Hmelnitska	30	22	29	31	763	728	957	1094
Ivano-Frankivska	34	33	37	38	1188	1142	1560	1587
Kharkivska	76	51	51	42	2328	1905	1790	1651
Kirovogradska	21	17	16	18	520	578	631	859
Kyivska	46	39	47	56	1369	1331	1743	2135
Luganska	43	56	94	101	1851	1866	2333	2691
Lvivska	55	100	155	159	2526	3927	5116	5359
Mikolaiivska	44	30	121	122	1143	702	6641	7338
Odeska	96	79	80	81	3674	3262	3817	4146
Poltavska	65	45	46	45	1647	1234	1419	1377
Rivnenska	23	22	23	23	1018	1200	1165	1175
Sumska	46	44	36	36	898	842	1071	1070
Ternopolska	27	29	39	38	1187	1094	1118	1100
Vinnitska	32	25	22	21	1166	784	755	674
Volinska	32	26	30	31	1137	996	1139	1258
Zakarpatska	39	38	69	67	1395	1462	2621	2512
Zaporizka	59	40	30	30	1823	1520	1611	1472
<b>Total</b>	1308	1232	1684	1731	51012	51686	76019	79833

Source: based on SSSU (2011:120-122).

## Annex VIII

### Changes in the number of hotels and hotel rooms, 2000-2010

Name of the region	Total number of hotels, percent change			Total amount of hotel rooms, percent change		
	2000-2005	2005-2009	2009-2010	2000-2005	2005-2009	2009-2010
ARC	-12.4	23.1	8.3	7.4	23.4	1.9
Cherkaska	0.0	63.9	10.2	-10.1	69.9	6.7
Chernigivska	-1.9	25.5	-4.7	12.8	58.9	-2.2
Chernivetska	-33.3	133.3	10.7	-16.8	85.1	5.5
Dnipropetrovksa	-5.5	14.5	-2.5	-2.7	3.8	-10.6
Donetska	-16.2	45.2	-2.2	-17.8	62.7	1.5
Gitomirska	-27.7	285.3	3.0	-20.2	736.9	8.4
Hersonska	-15.2	20.5	19.1	-2.8	30.9	22.5
Hmelnitska	-26.7	31.8	6.9	-4.6	31.4	14.3
Ivano-Frankivska	-32.9	0.0	-17.7	-18.2	-6.0	-7.8
Kharkivska	-19.1	-5.9	12.5	11.1	9.2	36.1
Kirovogradska	-15.2	20.5	19.1	-2.8	30.9	22.5
Kyivska	30.2	67.9	7.4	0.8	25.0	15.3
Luganska	81.8	55.0	2.6	55.5	30.3	4.7
Lvivska	-31.8	303.3	0.8	-38.6	846.0	10.5
Mikolaiivska	-17.7	1.3	1.2	-11.2	17.0	8.6
Odeska	-30.8	2.2	-2.2	-25.1	14.9	-2.9
Poltavska	-4.3	4.5	0.0	17.9	-2.9	0.8
Rivnenska	-4.3	-18.2	0.0	-0.2	27.2	-0.1
Sumska	7.4	34.5	-2.6	-7.8	2.2	-1.6
Ternopolska	-21.9	-12.0	-4.5	-32.8	-3.7	-10.7
Vinnitska	-21.9	15.4	3.3	-12.4	14.4	10.5
Volinska	-2.6	81.6	-2.9	4.8	79.3	-4.2
Zakarpatska	-32.2	-25.0	0.0	-16.6	6.0	-8.7
Zaporizka	-5.8	36.7	2.8	1.3	47.1	5.0
<b>Total</b>	-5.8	36.7	2.7	1.3	47.1	5.0

Source: own calculations based on SSSU (2011:120-122).

## Annex IX

### Main indicators of the labor market in Ukraine, 2000-2010

Name of the region	2000						2009						2010					
	Economically active population		Employed people		Unemployed people		Economically active population		Employed people		Unemployed people		Economically active population		Employed people		Unemployed people	
	on average, thousands	in % to the population of the age group	on average, thousands	in percent age to the population of the age group	on average, thousands	in % to the population of the age group			on average, thousands	in % to the population of the age group	on average, thousands	in % to the population of the age group	on average, thousands	in % to the population of the age group	on average, thousands	in % to the population of the age group	on average, thousands	in % to the population of the age group
ARC	989.8	61.2	909.9	56.2	79.7	8.1	972.2	64.4	905.7	60.0	66.5	6.8	964.7	64.5	904.5	60.5	60.2	6.2
Cherkaska	605.9	59.3	534.9	52.3	71.0	11.7	629.8	64.3	561.7	57.3	68.1	10.8	627.3	64.9	564.9	58.4	62.4	9.9
Chernigivska	586.9	64.8	520.5	57.5	66.4	11.3	540.0	65.6	479.8	58.3	60.2	11.1	536.2	66.2	480.1	59.2	56.1	10.5
Chernivetska	354.0	53.6	293.6	44.5	60.4	17.1	415.2	62.3	376.3	56.5	38.9	9.4	418.0	62.7	382.4	57.4	35.6	8.5
Dnipropetrovksa	1735.8	63.7	1534.3	56.3	201.5	11.6	1666.5	64.2	1981.3	57.3	129.4	7.8	1659.6	64.9	1 541.9	60.3	117.7	7.1
Donetska	2315.2	63.8	2153.2	57.6	230.3	9.7	2186.9	63.2	1981.3	57.3	205.6	9.4	2166.6	63.7	1 983.7	58.3	182.9	8.4
Gitomirska	624.8	61.9	548.0	54.3	76.8	12.3	621.8	65.3	524.7	56.9	66.6	10.7	621.1	65.9	560.3	59.5	60.8	9.8
Hersonska	556.4	62.8	479.3	54.1	77.1	13.9	538.0	64.0	579.0	58.5	51.1	9.5	534.9	64.4	488.8	58.9	46.1	8.6
Hmelnitska	652.7	63.0	562.9	54.4	89.8	13.8	640.1	64.6	561.7	57.3	61.1	9.5	635.5	64.7	580.6	59.1	54.9	8.6
Ivano-Frankivska	653.3	64.6	584.7	57.8	68.8	10.5	578.1	57.0	755.0	57.7	51.8	9.0	577.8	57.0	530.3	52.3	47.5	8.2
Kharkivska	1463.5	65.9	1272.4	57.3	191.1	13.1	1371.1	63.3	1 265.6	58.5	105.5	7.7	1365.2	63.9	1 267.3	59.3	97.9	7.2
Kirovogradska	511.1	61.5	435.2	52.4	75.9	14.9	480.3	62.4	432.7	56.2	47.6	9.9	473.5	62.4	431.2	56.9	42.3	8.9
Kyivska	847.2	62.8	739.0	54.8	108.2	12.8	821.2	62.8	755.0	57.7	66.2	8.1	817.6	63.2	757.9	58.6	59.7	7.3
Luganska	1135.3	57.5	1008.3	51.1	127.0	11.2	1111.6	61.5	1 026.2	56.7	85.4	7.7	1094.1	61.6	1 015.4	57.1	78.7	7.2
Lvivska	1249.5	65.2	1082.7	56.5	166.8	13.3	1185.5	62.5	1 085.0	57.2	100.5	8.5	1190.0	62.9	1 096.7	58.0	93.3	7.8
Mikolaiivska	586.4	61.8	501.0	52.8	85.4	14.6	590.0	62.4	535.2	58.2	54.8	9.3	586.1	64.5	536.7	59.1	49.4	8.4
Odeska	1151.3	62.1	1015.0	54.7	136.3	11.8	115.5	61.0	1 040.2	56.9	75.3	6.8	1112.5	61.3	1 044.5	57.5	68.0	6.1
Poltavska	748.1	62.5	672.3	56.2	75.9	10.1	721.0	63.2	647.1	56.7	73.9	10.2	714.0	63.4	644.8	57.3	69.2	9.7
Rivnenska	491.7	59.2	431.8	52.0	59.9	12.2	528.4	63.2	461.5	55.5	66.9	12.7	532.0	64.0	471.2	56.7	60.8	11.4

*Continuation of the Annex IX Main indicators of the labor market in Ukraine, 2000-2010*

Sumska	603.5	62.6	513.8	53.3	89.7	14.9	562.3	62.5	500.1	55.5	62.2	11.1	556.2	62.7	497.0	56.0	59.2	10.6
Ternopolska	475.1	58.1	409.4	50.1	65.7	13.8	475.9	59.6	422.1	52.9	53.8	11.3	482.1	60.6	431.3	54.2	50.8	10.5
Vinnitska	919.1	72.1	839.4	65.9	79.7	8.7	776.1	63.6	693.5	56.9	82.6	10.6	771.2	63.9	694.3	57.5	76.9	10.0
Volinska	540.0	72.0	486.2	64.8	53.8	10.0	472.5	63.4	428.0	57.4	44.5	9.4	474.1	63.6	433.6	58.2	40.5	8.5
Zakarpatska	569.6	62.9	503.3	55.6	66.3	11.0	582.6	63.2	524.7	56.9	57.9	9.9	582.2	63.1	531.8	57.7	50.4	8.7
Zaporizka	924.4	62.7	807.4	54.8	117.0	12.7	897.2	63.8	824.2	58.6	73.0	8.1	892.6	64.3	825.7	59.5	66.9	7.5
<b>Total</b>	<b>22830.8</b>	<b>63.2</b>	<b>20175.0</b>	<b>55.8</b>	<b>2655.8</b>	<b>11.6</b>	<b>22397.4</b>	<b>63.3</b>	<b>20 191.5</b>	<b>57.7</b>	<b>1 958.8</b>	<b>8.8</b>	<b>22051.6</b>	<b>63.7</b>	<b>20 266.0</b>	<b>58.5</b>	<b>1 785.6</b>	<b>8.1</b>

*Source: own calculations based on SSSU (2011:138-149).*

## Annex X

### Training of employees, 2000-2010

Name of the region	2000		2009		2010	
	total amount of people who received training, thousands	percentage to the total number of employees	total amount of people who received training, thousands	percentage to the total number of employees	total amount of people who received training, thousands	percentage to the total number of employees
ARC	27.6	5.6	34.2	8.6	16.2	7.8
Cherkaska	17.2	4.2	16.5	6.0	22.0	6.6
Chernigivska	14.9	4.3	15.7	6.6	10.5	6.8
Chernivetska	9.5	4.8	10.0	6.7	18.0	7.1
Dnipropetrovksa	100.1	9.3	103.0	11.0	15.1	12.4
Donetska	137.2	9.6	123.6	10.4	118.5	11.5
Gitomirska	22.9	5.9	17.2	6.5	135.0	6.6
Hersonska	14.8	4.9	17.0	8.1	58.8	7.7
Hmelnitska	19.1	4.2	21.9	8.7	15.6	8.7
Ivano-Frankivska	17.8	5.8	22.1	9.2	53.3	9.6
Kharkivska	52.3	6.6	58.1	8.8	12.4	8.7
Kirovogradska	19.2	6.2	19.9	9.5	24.3	9.1
Kyivska	26.0	5.8	23.4	6.4	22.8	6.2
Luganska	52.7	7.7	49.0	8.8	19.3	9.0
Lvivska	36.1	5.4	38.6	6.7	50.3	7.1
Mikolaiivska	23.8	6.9	18.4	7.4	41.5	6.9
Odeska	25.3	4.2	31.5	6.1	16.9	6.4
Poltavska	27.8	5.7	38.7	10.2	34.9	10.6
Rivnenska	19.7	6.3	18.7	8.2	39.0	9.3
Sumska	22.3	5.8	21.9	8.2	20.9	9.0
Ternopolska	9.8	3.5	12.0	6.3	23.4	6.7
Vinnitska	25.0	4.9	21.8	6.6	6.5	6.8
Volinska	12.9	4.7	14.3	6.7	22.2	7.1
Zakarpatska	11.6	4.7	12.2	5.8	17.3	7.3
Zaporizka	50.5	8.8	52.3	11.2	15.4	11.2
<b>Total</b>	<b>856.3</b>	<b>6.5</b>	<b>890.4</b>	<b>8.3</b>	<b>943.9</b>	<b>8.6</b>

Source: own calculation based on SSSU (2011:172).

## Annex XI

### Capital investment in Ukraine, UAH million in real prices; 2000-2010

Name of the region	2000	2009	2010
ARC	784	5536	6781
Cherkaska	330	3040	2798
Chernigivska	431	1588	1756
Chernivetska	141	2602	1817
Dnipropetrovksa	2252	13254	12570
Donetska	2901	12985	11072
Gitomirska	256	2299	3019
Hersonska	282	2087	1684
Hmelnitska	455	3471	2912
Ivano-Frankivska	605	3447	4262
Kharkivska	1373	8315	7302
Kirovogradska	271	2766	2440
Kyivska	947	9955	11263
Luganska	1030	4378	4706
Lvivska	1061	6708	8061
Mikolaiivska	460	4022	3775
Odeska	1348	9959	8009
Poltavska	1438	7691	7317
Rivnenska	365	2696	2316
Sumska	597	2185	2223
Ternopolska	199	1428	2109
Vinnitska	365	2670	3754
Volinska	278	2415	1740
Zakarpatska	332	1915	2170
Zaporizka	1190	4650	7336
Ukraine	23629	151777	150667

Source: own calculations based on SSSU (2011:201).