奥林匹克政治与经济周期：一个经济管理与财政政策的模型

摘要：为便于分析准备和举办奥林匹克运动会的成本与收益，奥林匹克经济周期这一概念得以提出，主要指一国基于利益最大以及正外部性两个动因所采取的经济行为模式，这一概念还具有其他的涵义。在本文中，将考察一国在奥林匹克经济周期的各个阶段，包括前奥林匹克阶段、奥林匹克阶段以及后奥林匹克阶段中的成本与收益。其中一章会特别研究奥林匹克举办权的申办，与此同时，本文将深入考察经济与政治周期的特征、规律及其互动。

关键词：奥林匹克运动会；经济影响；国民经济；政治经济周期；经济周期；国际奥委会；成本-收益分析；投资；基础设施；投资回收

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Olympic Political Business Cycle: The Models Of Economic Administration And Finance

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Abstract: For the analysis of costs and benefits from preparation and carrying out of Olympic Games the new concept of an Olympic business cycle is introduced. This concept shows the business activity of the state, society and business for achievement of two basic purposes: to get the maximum profit and to achieve positive externalities. The existing concept of an Olympic cycle has other sense and purpose.

The concept entered by authors allows to consider costs and benefits of the state and business at different stages of Olympic business cycle which includes pre-Olympic, Olympic and post-Olympic stages. A special paragraph devoted to the election procedure of the Olympics Capital. In the article features and laws of economic and political business cycles (within the limits of an Olympic business cycle) interaction are also investigated.

INTRODUCTION

The life quality greatly depends on the level of the country's economy and its social sector. Olympic Games is the brightest part of the sporting movement. The study of this event impact on the industry, politics, science, culture, religion, etc. is becoming increasingly important. Consideration of

this issue to evaluate the costs and benefits and effectively allocate financial resources of the host-country.

The fact that the Russian resort city of Sochi was elected as the capital of the Olympic Winter Games in 2014 is giving a greater significance attaches to the study of this problem. Each new Olympic Games not only gives a powerful impetus to the development of host-country sport industry, but also have a significant impact on its economy.

1. HISTORY

In our work under the economy of the Olympic Games should be understand aggregated behavior of households, firms, government bodies, etc., or the other words - all the individual components that make up the economy as a whole.

In analyzing the impact of the Olympics on the host-country national economy it is necessary to introduce the concept of defining the period of high state, society and business activity, giving the impulse to the economy and aimed at achieving two main objectives in the Games preparation: to maximize the gains and reach positive externalities. Private business is more interested in first goal, the State is more interested in achieving the second one. The introduction of such concepts will help clearly define the period of higher economic activity in each Olympic Games host-country and to use this definition in the works for the Olympic theme.

The analysis of literature and Internet resources have shown that in the Olympic movement, there is no certain time periods, except the Olympics, which does not include the selection phases of business activity. In some works of A.V. Ponyavin mentions the concept of the Olympic cycle3. It refers 4-year period between the Olympics Games, which in fact is the Olympics. Online sources also mentioned the concept of the Olympic cycle, which includes 7-year period of time during which the host-city and host-country are preparing for a world sporting championship and holds it for 2 weeks. The cycle begins at the time of the Games capital announcing and ending at the Olympic Games closing ceremony. This definition may not be used in our analysis, as well as doesn't include all phases of business activity.

The existing definitions of the Olympic cycle which concerns a sport preparation, can not be used in our analysis because they do not reflect the behavior of economic agents of the host-country on preparation period and did not reveal the mechanism of macroeconomic factors influence on the host-country economic growth.

So let's try to use the known category of .business cycle. (.the economic cycle.), which the Olympic Games host-country is facing.

The theory of economic growth and the theory of business cycles relate to the theory of economic dynamics. The theory of economic cycles explains the movement of the economy and examines the causes of fluctuations in economic activity over time.

K. Marx was one of the first economists who began to pay close attention to this issue. He distinguished four phases of the cycle of successive one another: 1) the crisis, 2) depression, 3) reviving, 4) recovery.

There are also other classifications. The US National Bureau of Economic Research (NBER)

provides: peak (peak, boom), contraction (recession), bottom (depression), Renewal (extension). However, the theory proposed by K. Marx has the largest number of supporters. That is why we will use it for further analysis.

In modern economic science the following types of economic cycles are most often used for analysis and comparisons: Kitchin's cycle (2-4 years); Juglar's cycle (7-12 years), Kuznets's cycle (16-25 years); Kondratyev's cycle (40-60 years) ; Forrester's cycle (200 years), Toffler's cycle (1000-2000 years).

Let's try to use the economic definition of "business cycle" in the Olympic Games analysis. The business cycle is the fluctuations in economic activity. These fluctuations occur around a long-term growth trend, and typically involve shifts over time between periods of relatively rapid economic growth, and periods of relative stagnation or decline[1]. Thus, the Olympic business cycle is the period of time between the country's decision to fight for the right of the Olympic Games hosting and the point of recession in economic activity related to the Games. During this period the variation in levels of economic activity in the host-country national economy is caused by the preparation to the Olympic Games. At various stages in the development of the international Olympic Movement, Olympic business cycle varies in length (see Table 1): from 3-4 years at the beginning of XX century to 10 years now days.

In the Olympic business cycle can be defined a 3 phase:

- ◎ pre-Olympic stage - from the date of filing a formal application from the city and the country to host the Olympic Games till 30 days before the start of the Olympic Games;
- ◎ Olympic stage - from 30 days before the start of the Olympic Games till 30 days after the closing date of the Olympic Games at the official closing ceremony; .
- ◎ post-Olympic stage - from 30 days after the closing date of the Olympic Games at the official closing ceremony till the end of next season (the summer - for the Olympics and the winter -for the Olympic Winter Games) after completion of the Olympic Games.

So, referring to the location of Olympic business cycle in economic cycles, it is important to note that it coincides with the length of Juglar economic cycle, which is associated with the cycle of attracting investment into the economy, which directly influences on the GDP growth, which is one of the main macro-economic factors. Another feature of the Olympic business cycle compared with the classical understanding of business cycles is that the Olympic business cycles in the Olympic Games host-country do not replace each other but a unique specific business cycle.

Table 1 Olympic business cycle length (years)

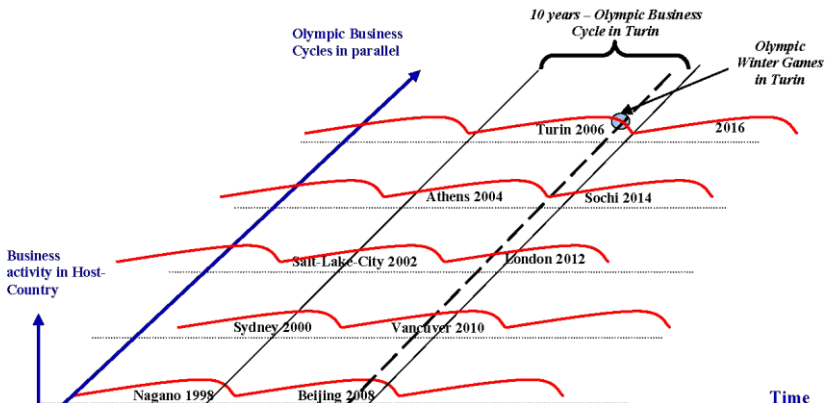
The Games of Olympiad					Olympic Winter Games
1896	Athens (Greece)	no data	no data	3-4	
1904	Saint-Luis (USA)	no data	no data	3-4	
1912	Stockholm (Sweden)	no data	no data	3-4	

1920	Antwerp (Belgium)	no data	no data	3-4					
1924	Paris (France)	no data	no data	3-4	1924	Chamonix (France)	no data	no data	3-4
1932	Los-Angeles (USA)	1923	1923	10	1932	Lake-Placid (USA)	1928	1929	5
1948	London (Great Britain)	1948	1948	1	1948	St. Moritz (Switzerland)	1948	1948	1
1952	Helsinki (Finland)	1946	1947	7	1952	Oslo (Norway)	1946	1947	7
1960	Rome (Italy)	1954	1955	7	1960	Squaw-Valley (USA)	1954	1955	7
1964	Tokyo (Japan)	1958	1959	7	1964	Innsbruck (Austria)	1958	1959	7
1972	Munich (Germany)	1965	1966	8	1972	Sapporo (Japan)	1965	1966	8
1980	Moscow (USSR)	1973	1974	8	1980	Lake-Placid (USA)	1973	1974	8
1988	Seoul (South Korea)	1980	1981	9	1988	Calgary (Canada)	1980	1981	9
1992	Barcelona (Spain)	1985	1986	8	1992	Albertville (France)	1985	1986	8
2000	Sydney (Australia)	1992	1993	9	1998	Nagano (Japan)	1990	1191	9
2008	Beijing (China)	1999	2001	10	2006	Turin (Italy)	1997	1999	10
2016		2007	2009	10	2014	Sochi (Russia)	2005	2007	10

Calculated by the author on the materials from: www.gamesbids.com uwww.olympic.org

It is necessary to emphasize that the Olympic business cycles for the International Olympic movement, by contrast, have one after another Olympic business cycle(in different countries) and in parallel for different countries. The reason is: 5 Olympic Games host-cities and countries at one moment are on one of the Olympic business cycle stages. Their number is equal to 5 because the Olympic business cycle equal 10 years (as noted earlier), and the new host-city and country are determined by 1 every 2 years. For example, at the time of the Olympic Winter Games in Italy (Turin, 2006), also the following Olympic business cycles were in dynamics: in China (Beijing, 2008), Canada (Vancouver, 2010), Great Britain (London, 2012) and Russia (Sochi, 2014) (see Figure 1).

Figure 1. Interrelation of Olympic Business Cycles in different countries: Olympic movement case (schematically).



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If the Olympic business cycles, all the countries of the Olympic Games to build one after another, taking into account that some of them are parallel to each other, then we get the scheme of interrelationship of individual Olympic business cycles (for individual countries) in relation to the international Olympic movement (see Figure 1). The end of Olympic business cycle of one host-country means the beginning of a new Olympic business cycle, but for other Olympic Games host-country (for example, the Olympic business cycle in Russia began after the completion of the cycle for Greece). Thus, a cycle has a classical sense inside the international Olympic movement. The peculiarity here is that IOC economic development significantly lower compared with the possibilities of the Olympic Games host-country economic development. Thus there are 5 Olympic business cycles in which the IOC has been actively involved as a party, partially financed by The Organizing Committee of Olympic Games and receive a share of the profits. These funds is costing on the new Olympic Games, or, in other words, to participate at a certain time in current Olympic business cycles. The funds come in the form of investments in the organization of the Games.

A political business cycle and the economic business cycle should be considered as part of the Olympic business cycle. It needs to clear understanding at what moment in the Olympic Games organizing the greatest accumulation of institutional and economic resources are requires. The political business cycle has arisen based on the idea of the classical business cycle and represents the cycle of economic and political activity of government between elections[2].

As part of the Olympic business cycle, under the political business cycle we mean the activity of the State to monitor the preparation to the Olympic Games. The economic business cycle was described above. To understand the nature of their behavior at different stages of the Olympic business cycle, look at its main stages in details.

2. OLYMPIC BUSINESS CYCLE STAGES

2.1. Pre-Olympic Stage

This stage can be divided on two pre-stages: participation in election procedure and Olympic Games organizing.

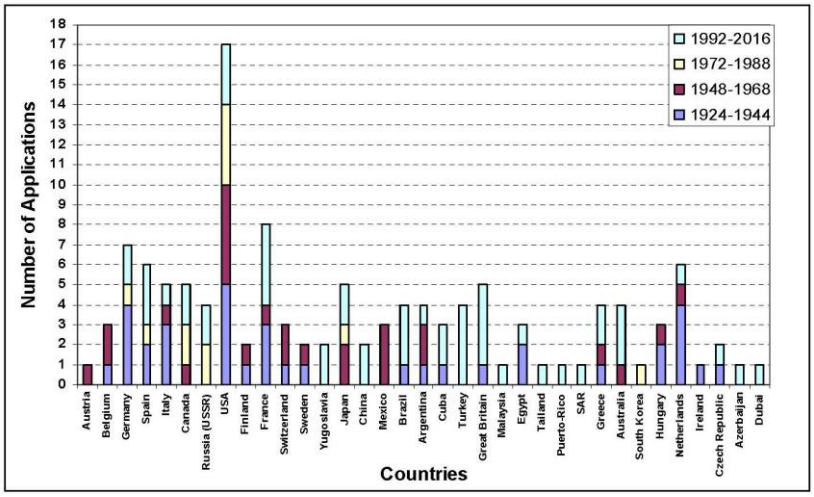
Participation in election procedure. The interest to Olympic Games organizing is very high last years (see Figures 2 and 3).

The geography of the countries applying for the Olympic Games in recent years has grown

significantly: Azerbaijan, Thailand, South Africa, Malaysia (Games of Olympiad), Poland, Slovakia, Kazakhstan (Olympic Winter Games), etc.

Recently, the IOC more rigorous approach to the choice of the new Olympic Games capital. This is illustrated in table 2, which shows that in the last 15 years a large number of applicants were rejected on the first procedure stage and the status of candidate city was given a less number of participants (less than 50%).

Figure 2. Number of Candidate Cities to Host The Games of Olympiad (1896-2016)



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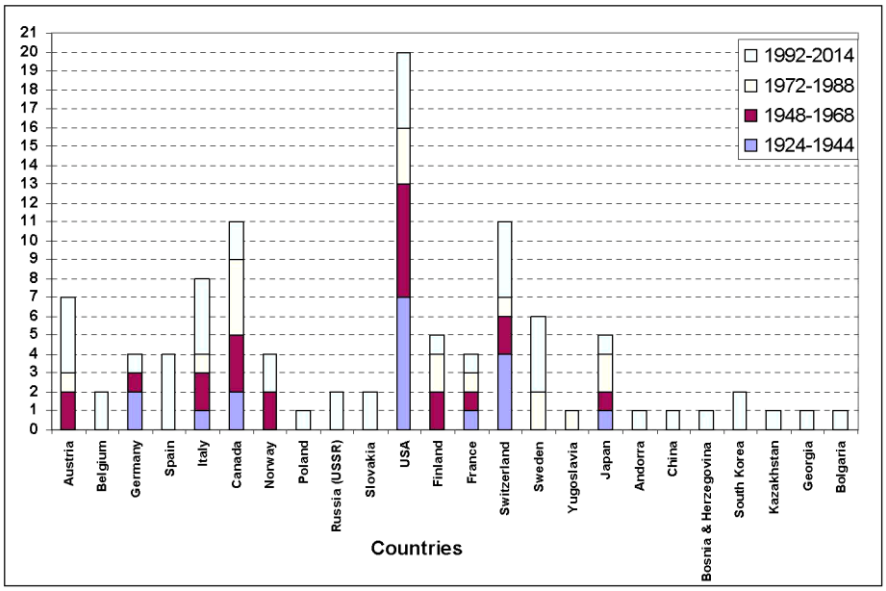
It is very interesting that in the history of the modern Olympic Games organizing (from 1896) the right to host the Games of Olympiad or Olympic Winter Games was granted to the cities from high developed countries, which form now the so-called Club .G8.: USA (8 times hosted the Games, GDP per capita = 45800), France (5 times, GDP per capita = 41500), UK (3 times, GDP per capita = 42700), Germany (3 times, GDP per capita = 40400), Canada (3 times, GDP per capita = 43500), Italy (3 times, GDP per capita = 35900), Japan (3 times, GDP per capita = 34300).

Figure 3. Number of Candidate Cities to Host Olympic Winter Games (1924-2014)



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This data shows that only rich and high developed countries can organize Olympic Games.

But we should not forget that none of the IOC projects to improving Olympic Games universality in the world do not compare themselves with the Olympic Games organizing. It is very important for developing countries. Olympic Games can also give additional impulse to the growth of this developing country.

Table 2.

Dynamics of Applicant and Candidate Cities to Host the Olympic Games (1992-2016)

Games of Olympiad				Olympic Winter Games			
Years	**Number of Applicant Cities**	**Number of Candidate Cities**	**% of attrition**	**Years**	**Number of Applicant Cities**	**Number of Candidate Cities**	**% of attrition**
1992	6	6	**0**	**1992**	7	7	**0**
1996	6	6	**0**	**1994**	4	4	**0**
2000	5	5	**0**	**1998**	5	5	**0**
2004	11	5	**54**	**2002**	4	4	**0**
2008	10	5	**50**	**2006**	6	2	**66**
2012	9	5	**44**	**2010**	8	3	**62**
2016	**6**	**4**	**33**	**2014**	7	3	**57**

Calculated by authors on the base of www.olympic.org u www.gamesbid.com

cities from developing countries was equal approximately . - 23% (20 cities). Only 9 cities representing developing countries reached the final vote (with assignment of .candidate-city.) which equal approximately 10% of the total number of candidate-cities. Among them, for example, were Buenos Aires and Rio de Janeiro - cities of the countries (Argentina and Brazil respectively) with more than 200 million people population. These cities pretended to host the Games more then one time. Istanbul and Sofia can be also called here. But none of them became the capital of the Olympic Games except Rio de Janeiro which was elected only last year after several attempts. Beijing (China, 2008) and Sochi (Russia, 2014) are the representatives of the countries that have reached some significant advances in the economy in recent years.

International Olympic Committee has developed a special system of Applicants and Candidate cities estimation. Candidature Acceptance Procedure includes 11 indicators:

1. Government support, legal issues and public opinion (including compliance with the Olympic Charter and the World Anti-Doping Code*);
2. General infrastructure
3. Sports venues
4. Olympic Village(s)
5. Environmental conditions and impact
6. Accommodation
7. Transport concept
8. Safety and security

9. Experience from past sports events

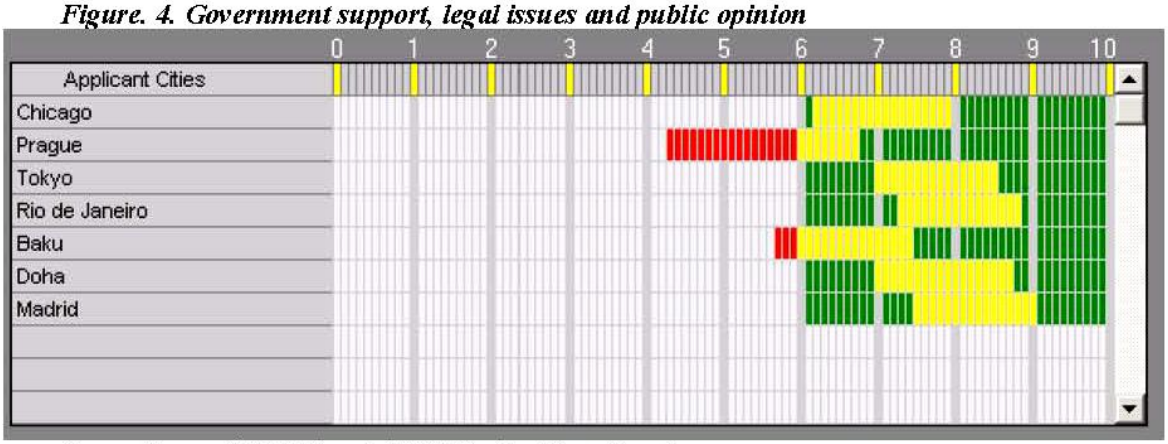
10.Finance

11. Overall project and legacy

* The Working Group has commented on the Applicant Cities' compliance with theWorld Anti-Doping Code, but not assigned grades.

Each indicator can be in diapason from 1 to 10. But the acceptable minimum is six. If city receives less than 6 then this indicator is colored in matrix in red color. It is the signal that city has not enough developed in this sphere. Let's illustrate this procedure on the example of Games of XXXI Olympiad 2016. We start with the first indicator which include government support, legal issues and public opinion (see Figure 4).

Figure. 4. Government support, legal issues and public opinion

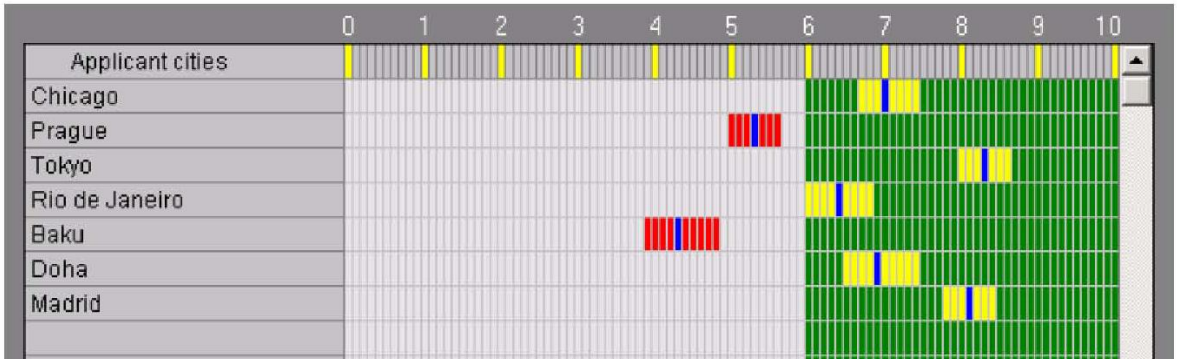


Source: *Games of XXXI Olympiad 2016 Working Group Report*

As we can see on the Figure 4 Prague and Baku have not enough support by 1st indicator according to members of Working Group. Full list of estimation is presented in Appendix 1.

All the results are summarized in the final decision (Figure 5). As you can see Prague and Baku were not recommended by Working Group. This decision has preliminary status and other cities could also be declined on the last stage. For example, Doha was also declined as a candidate city for the Games of XXXI Olympiad in 2016.

Figure. 5. Final Result of Working Group Report for estimation of Games of XXXI Olympiad 2016 Applicant Cities.



This procedure always do inside of IOC. But international sport analytical agencies also have their own ratings. They analyze the same indicators by themselves and present Bid indexes. The Bid Indexes of GamesBids Agency on the eve of 2014 and 2016 Olympics final voting are presented in the Tables 3 & 4.

Table. 3.

Bid Index on the eve of 2014 Winter Olympics final voting

CITY	HIGH	LOW	CHG	INDEX
PyeongChang	64.99	55.72	+00.09	**64.99**
Salzburg	65.35	60.63	-01.31	**62.62**
Sochi	63.17	56.71	+02.22	**63.17**

Source: www.gamesbids.com

Table. 4.

Bid Index on the eve of 2016 Olympics final voting

CITY	HIGH	LOW	CHG	INDEX
Chicago	61.24	58.78	+1.23	61.24
Madrid	59.50	57.80	0.00	57.80
Rio-de-Janeiro	61.61	59.73	-0.19	61.42
Tokyo	61.41	59.20	-0.18	59.02

Source: www.gamesbids.com

Bid Index includes the lowest and highest estimation and the last changes. In Table 3 we can see that Sochi left off Pyeong Chang but demonstrated the highest level of Bid Index Increase. It became the crucial factor for the win.

Rio de Janeiro was the leader on the eve of final voting but there was a small decrease of index. Nevertheless it was not influenced on the final result and Rio de Janeiro was elected as the Capital of 2016 Olympics.

Olympic Games organizing. The second pre-stage of pre-Olympic stage is concerning directly to the Olympic Games preparation. To hold the Games in the modern scientific and technical level

organizers are facing with two major challenges: the first is to organize the Games as a sporting event, and second - to improve the infrastructure of the Olympic Games host-city and region and reach positive externalities.

Major expenses for Olympic Games hosting can be divided into organizational costs and to establish a logistical base (construction of stadiums, swimming pools, sports bases, the Olympic Village, press center, etc.). A major line of the budget is spending on Olympic Games infrastructure improving. Usually this costs not included in formal Olympic Games budget. Most often, these costs indirectly related to the Games, and funded by the federal, regional and local budgets (sometimes in conjunction with Organizing Committee equity financing).

Infrastructure development contributes to the economic recovery of the city and region, where the Games is take place. The full development of the area (transportation and communications, expansion of roads, construction of public services and hotels) create conditions for country economic growth and improve its industrialization.

2.2. Olympic Stage

The main costs on this stage are: transport operations, athletes power, utility costs, rent, security, organization of mass entertainment.

The main merit of the Olympic Games to host-country economy is to enhance the economic activity of economic agents, as well as to attract attention of the world community (including financial) to the host-country at all stages of the Olympic business cycle.

State revenues which usually carries the highest costs in Olympic Games organizing consists of a direct income of Organizing Committee and higher economic activity at the Olympic and post-Olympic stages of Olympic business cycle. Earnings here can be obtained from: tax income, unemployment decrease (unemployment costs decrease and employment growth), employment of additional workforce, aggregate demand increasing, number of tourists growth etc.

2.3. Post-Olympic Stage

Post-Olympic stage is very important for the analysis of Olympic Games payback. This stage is the least researched, but the most promising, as it relates to the use of all Olympic infrastructure after the Olympic Games. His success is directly related to how accurately and correctly use the program throughout the infrastructure. Its duration is approximately equal to one year in which high business activity in the economy is continuing. The major revenue items are included: income from the sale of real estate used for accommodation of athletes, delegates and journalists, commercial use of some sports facilities, etc.

For example, the costs on the Sochi Olympic Winter Games of 2014 formally equal to 1,9 billion dollars. But Russian Federal Program of Sochi development as a sea and mountain resort includes an additional finance of infrastructure development - 12 billion dollars. In accordance with this program 62% of its implementation will be allocated from the state budget, and 38% will be held by investors[3]

Some of the Games infrastructure costs are very high, but they are not formally included in the Olympic Games costs in host-country. This allows organizers to declare the Games fast payback, which allows to host-country to raises the status all over the world.

$$Y_t = \alpha + \beta * Y_{t-1} + \theta$$

β – is the coefficient shows the rate of increase of GDP per capita in Olympic Games host-countries.

Table 5.

β –coefficient of GDP per capita increase during Olympic business cycle and 10 years before

	β Olympic Business Cycle	β 10 years before Olympic Business Cycle
China 2008	**1,31**	**0,93**
Italy 2006	**1,14**	**0,56**
Greece 2004	**1,23**	**0,93**
USA 2002	**0,99**	**0,95**
Australia 2000	0,60	1,01
Japan 1998	0,69	1,10

Thus, a clear understanding of what the costs are taken into account in Games profitability should be: with high probability can be said that the Games was profitable, if take into account only the costs which directly connect with the Olympic Games. Given how much is usually spent on infrastructure development of Olympic cities and areas it is very difficult to say were they financially successful or not. Nevertheless, we can say that during the Olympic Games there is a large-scale social externality. Infrastructure development plays an important role for residents of the capital of the Games, and to the outside world, as well as the infrastructure will be able to enjoy not only the guests and participants of the Games, but also residents of the event city. It is clear that built road or subway line, for example, would have a great value to people every day to get to work, regardless of the Olympic Games. New or reconstructed airport, and modern customs terminals makes the state more accessible outside the country.

It is very interesting to make a small econometrical analysis of GDP per capita in host-countries during the Olympic business cycle. Let's make a regression by the data of GDP per capita during the Olympic business cycle and 10 years before of it. The results show that the growth rate of GDP per capita in host-countries during the Olympic business cycle is higher than in 10 years period before the cycle (see Table 5).

Thus, during the period of Olympic business cycle the rate of GDP per capita increase is higher than in this countries during the relevant period in the past.

Fig. 6. Summary of Gross Spending Related to the 2010 Games

Source: 2010 Winter Olympic and Paralympic Games Report

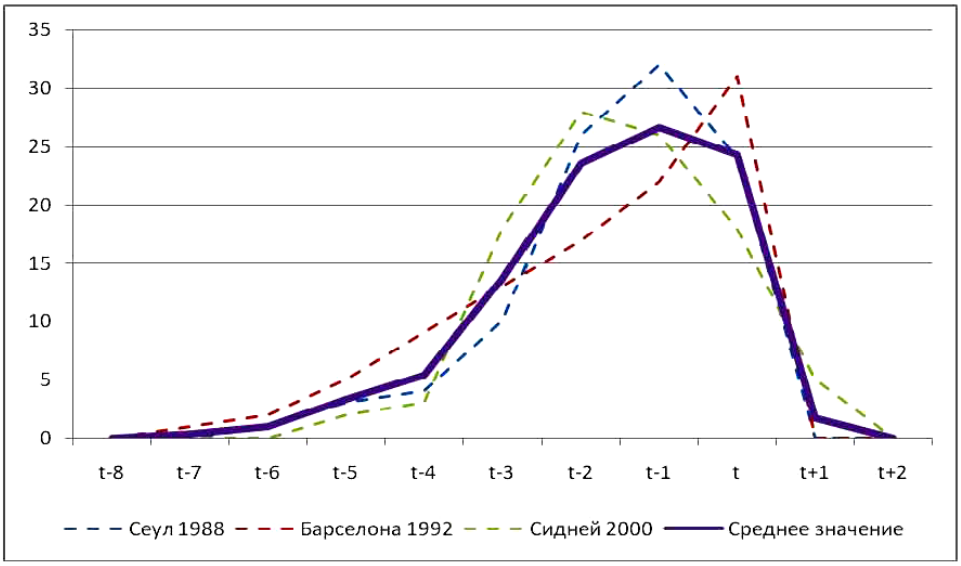
3. OLYMPI WAVE

The theory of the Olympic political business cycle was presented in our paper on Ist Congress of Sport Economics in Pantheon Sorbonne in Paris, 2009. Now we would like to make a correction of the theory using the collected data of some Olympic Games.

Gross Spending Related to the 2010 Games and Distribution of the investments for the Olympic Games are presented on the Fig. 6 and Fig. 7.

We can see that the biggest part of the costs is required 4-6 years before the Olympics. This fact proves our theory about the costs distribution during the Olympic business cycle. From the other side, as statistics shows (see Fig. 7) the largest number of investments is really made 3-1 years before the Games.

Fig. 7. Distribution of the investments for the Olympic Games (%)



Created by: *authors on the base of Preuss H. The Olympics. Handbook on the Economics of Sport. Edited by Wladimir Andreff abd Stefan Szymanski. Edward Elgar Publishing, UK, 2009*

Thus we should correct our model and increase economic activity during the period of 3-1 years before the Games and decrease the political activity during the period of Olympics hosting (see Fig. 8).

The mechanisms of administration plays an important role during the Olympic business cycle[4]. High-quality effective management and planning allows to make profitable and success Olympic Games.

Olympic Games hosting gives an impulse to the economy of their countries and also aims to achieve two main objectives: profits maximizing and positive externalities maximizing[5]

Private business is more interested in achieving the first objective, state – the second one.

All sources of events and infrastructure funding, which come from the state, regional and local (municipal) levels, constitute public financing. All private domestic and foreign expenses are private

Table 5.

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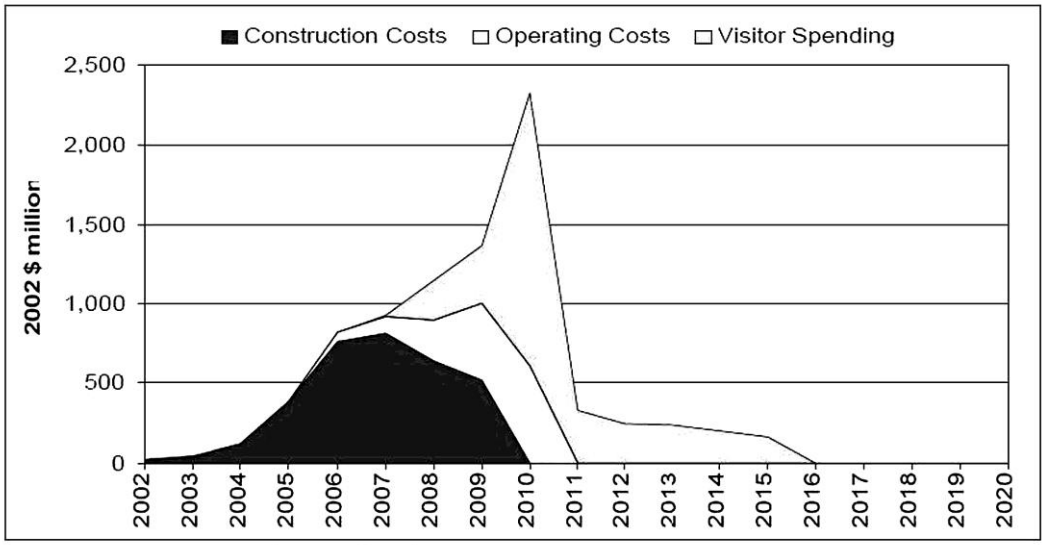
Thus, during the period of Olympic business cycle the rate of GDP per capita increase is higher than in this countries during the relevant period in the past.

Fig. 6. Summary of Gross Spending Related to the 2010 Games



Source: *2010 Winter Olympic and Paralympic Games Report*

funding. Value of public and private funding can be divided into 3 basic models of administration and financing, which can be applied to any Olympic Games:

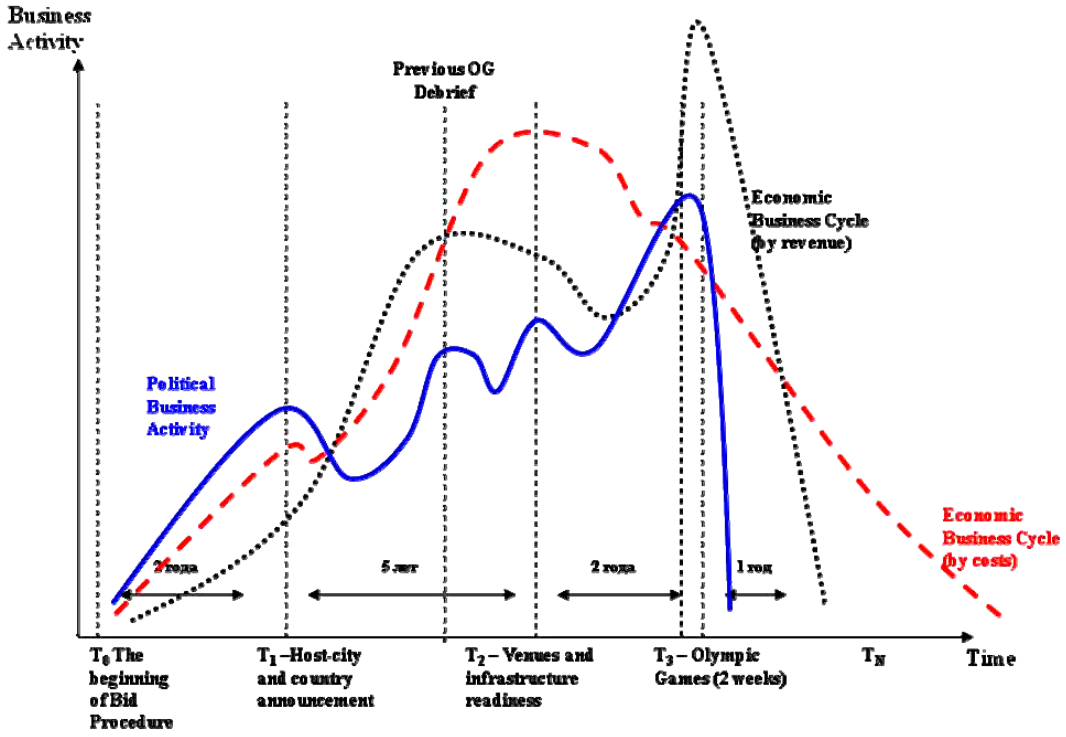
1) model of public administration and financing (the share of public participation more than 67%);

2) the mixed model of administration and financing (the share of public participation from 33% to 67%);

3) model of private administration and financing (the share of public participation less than 33%)

Figure 9 shows what model of administration and finance was typical for the Olympics Games in 1972-2008.

Fig. 8. Political and economic business activity inside the Olympic business cycle (a typical issue)



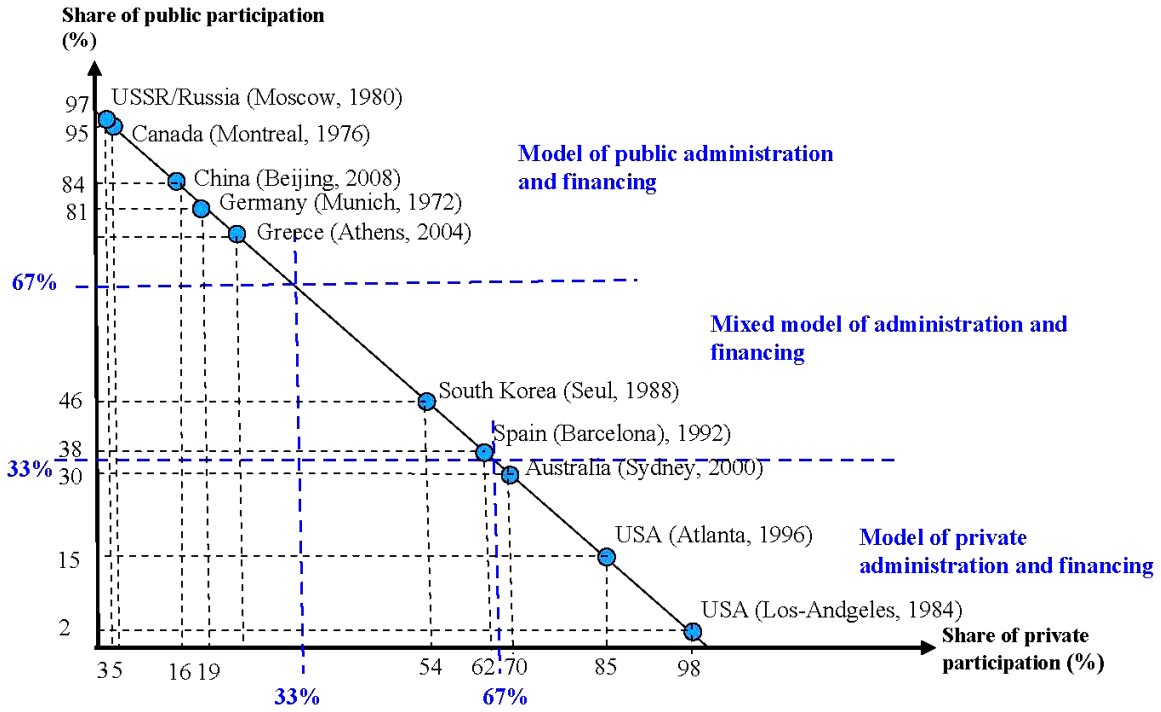
Created by: *authors*

Let us consider which of these models is used in Russia in the 2014 Sochi Olympic Winter Games organization. Determine whether in this world's best practice organizing of the Games, or Russia is trying to build its own technology of Olympics administration.

Usually it is divided 4 main levels of administration and financing: the state of the Olympic Games host-country, the region/ district, the city (the capital of the Games) and the private sector. All of these levels will be involved in Sochi Olympics organizing: the President and the Government of Russia, Krasnodar Region Administration, Sochi Administration and private sector (see Figure 10). The Games Organizing Committee is usually responsible for Games preparation. In Russia it is the "Sochi 2014" Organizing Committee[6].

In the history of the Olympic Games used a variety of ways of formation and functioning of the Games Organizing Committees: the principle of business management in private company (Los Angeles, 1984[7]), the formation of the Organizing Committee through the public hearings (Calgary, 1988[8]), working closely with government agencies for infrastructure development (Athens, 2004, Sochi 2014[9]).

Figure 9. Administration and financing models of summer Olympic Games in 1972-2008.



Created by: *Preuss, Holger. Economics of the Olympic Games. Hosting the Games 1972-2000. Sydney: Walla Walla Press in conjunction with the Centre for Olympic Studies, The University of New South Wales, 2000, 291 p.; КовальВ.И. Олимпиада 80 (экономическийаспект), .ЗНАНИЕ., Москва, 1978 (Koval V.I. Olympics 1980 (economic aspects). Moscow, 1978, in Russian); Прицельныйолимпийскийогонь // Эксперт, Москва, август 2004 (Direct Olympic fire // Expert, August 2004, in Russian); Игрыкончились // Smart Money, 28.07.2008, № 27 (117) (The Games ended // Smart Money, 28.07.2008, № 27 (117) , in Russian).*

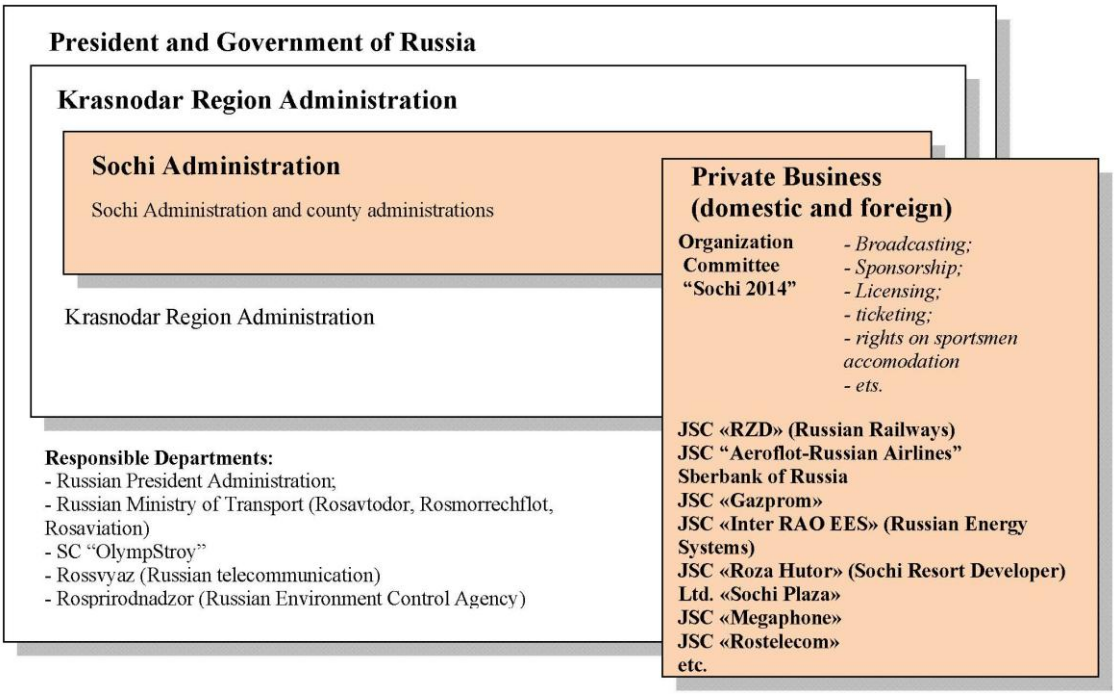
In Russia a State Corporation was founded – SC "OlympStroy". It is responsible for region infrastructure development (most of which will be built from scratch).

Analogue of creating state corporations were specially created organizations for the preparation of the Games in Sydney, Athens and Turin, which reports directly to governments. This scheme is fully justified itself in a massive need for infrastructure development. A similar scheme is also used in the organization of the Games of XXX Olympiad in London, where a key role (besides LOCOG) is playing the Olympic Development Agency (ODA)[10]

The scheme of organization and holding of the Olympic Games due to business, as it usually happens in the USA, has never been considered in Russia. The choice was made not between

businessmen and officials but between one official and another (State Manager)[11].

Fig. 10. The main levels of administration in organizing 2014 Sochi Olympic Winter Games.



Olympic Winter Games 2014 in Sochi is extremely important for Russia. Provided opportunity of Olympics organizing allow Russia to realize the ambitious construction plans in Sochi and surrounding areas of the Black Sea coast with virtually zero competitive international sport and tourism resort. It will give investment impulse to the development of regional economy, attract private capital and foreign investments, create the high-tech products production and a macroeconomic environment for economic growth. The total investment in international and domestic partnership (partners are presented in Annex 1) could make about $700 million. It could be the largest in the history of the Olympic sponsorship. Generally Russia is planning to spend 13 billion dollars on it.

It should be noted that in a high proportion of public participation in administration and financing 2014 Games in Russia is successfully learn to preconditions for private sector development.

In early June 2009 it was announced that the state budget funds for the activities of the Sochi 2014 Organizing committee in 2009-2010 will not stand out at all. At current moment sponsors funds are able to replace the state financial part in 2009-2010 budget to 100%. In any case, the State will continue implementation of its obligations to the IOC in 2011 and re-start funding from the federal budget. Now Russian Government focuses on building the institutional preconditions for the effective functioning of the preparation process for the Sochi Olympics.

Thus we can see that Russian Government together with the Sochi 2014 Organizing committee is trying to implement the world's best practice in the Games organizing with some features – private business oriented management on the state level.

4. INFLUENCE OF THE OLYMPIC GAMES TO THE NATIONAL ECONOMY

The influence от the Olympics host country economy can be characterized for following factors:

1) production growth (construction, sports paraphernalia, pins, complementary goods, sports equipment, food);

2) employment growth, lower unemployment:

- ◎ temporary: construction workers, the additional hotel and transport service volunteers;
- ◎ constant: the staff and management of hotels, restaurants and technical personnel;

3) the growth of tourism:

- ◎ turnover of the hotel business;
- ◎ increasing load transportation routes (air, railway, bus etc.);

4) the expansion of the banking sector:

- ◎ lending to the population and small and medium-sized businesses;
- ◎ exchange transactions (including banking - non-cash);

5) value of income tax, sales tax,

6) increase in effective demand, etc.

The impact of sport on the GDP can be calculated as the sum of sports sector profit and investment in sports sector in the country. Similar calculation method can be applied to assess the impact of the Olympics for host country's GDP conduct. Multiplying the this value for the corresponding multiplier the sum of direct and indirect impact of the Olympics on GDP can be obtained. Thus we can calculate how domestic investments in the Olympics host country increases the growth of goods or services output. For example, it was estimated that sport has direct impact on the economies of Europe (EU-25[12]) in the amount of 41 billion Euro (0,46% of GDP), with taking into account the multiplier - 45 billion Euro (0,51% of GDP). Sport in the narrow sense influence on the economy with the result of 313 billion Euros (3.53%) of the total GDP of the EU, and the sport in the broadest sense - 407 billion Euros (3.65% of GDP)[13]

We now analyze the average number of employees in the economy, conducted the Olympics for the past 20 years (see Table 6).

Table 6

Olympic business cycle influence on the annual employment in countries hosted Olympic Games in 1990-2006 (mln.)

Host country	Years								
	1990	1995	2000	2001	2002	2003	2004	2005	2006
France (Albertville 1992)	22,3	22,2	23,3	23,8	23,9	24,6	24,7	н/д	н/д
Norway (Lillehammer 1994)	2,0	2,1	2,3	2,3	2,3	2,3	2,3	2,3	н/д
USA (Atlanta 1996, Salt-Lake-City 2002)	119	125	135	135	136	138	139	142	н/д
Japan (Nagano 1998)	62,5	64,6	64,5	64,1	63,3	63,2	63,3	63,6	н/д
Australia (Sydney 2000)	7,8	8,2	9,0	9,1	9,2	9,5	9,6	10,0	н/д
Greece (Athens 2004)	н/д	н/д	н/д	н/д	н/д	н/д	н/д	н/д	н/д
Italy (Turin 2006)	21,5	20,2	21,2	21,6	21,9	22,1	н/д	22,6	н/д
China (Beijing 2008)	639	681	721	730	737	н/д	н/д	н/д	н/д

Source: *Rosstat. 2007.*

The table shows that employment had increased during the Olympic business cycle in each country. This is particularly evident in those countries where data for the full Olympic business cycle available: Australia (2000) - an increase from 7.8 million to 9.1 million, Japan (1998) - an increase from 62.5 million to

64.5 million, Italy (2006) - an increase from 20.2 million to 22.6 million attendees. And in Japan immediately after the Olympic business cycle in 1999, the number of employed in the economy began to decline. Of course, we must make allowances for the fact that there is population growth in these countries which doesn't depends on the Games. But, first of all, the growth was not so intensive, and secondly, the population growth inside the Olympic business cycle can increase the number of employed people much more later.

At the same time, the total number of unemployed people in the Olympics host countries decreased inside the Olympic business cycle (see Table 7).

The data shows that unemployment in Italy during the Italian Olympic business cycle fall down from 2,6 mln. (2000) to 1,8 mln. (2006). The same situation was in Australia where unemployment decreased from 0,75 mln. to 0,67 mln. During 1995-2001. Unemployment growth was fixed only in Japan. It started to increase in 1999 when Japanese Olympic business cycle (1989-1999) finished. The number of unemployed people reached 3,1 mln. in 2004 compare 2,1 mln. in 1995. But this exclusion from our preposition could be explained by the economic crises in Japan at the end of XX century.

The crises took place because of the growth of bed debts, delayed structural modernization of Japanese industries and decrease of private sector average demand.

Table 7

Olympic business cycle influence on the annual unemployment in countries hosted Olympic Games in 1995-2008 (thousand)

Host country	Years							
	1995	2000	2001	2002	2003	2004	2005	2006
Norway (Lillehammer 1994)	107	81	84	92	107	106	111	н/д
USA (Atlanta 1996, Salt-Lake-City 2002)	7404	5655	6742	8378	8774	8149	7591	н/д
Australia (Sydney 2000)	751	608	667	637	607	571	535	н/д
Greece (Athens 2004)	н/д	н/д	н/д	н/д	н/д	н/д	н/д	н/д
Italy (Turin 2006)	2638	2495	2267	2163	2096	н/д	1889	н/д
China (Beijing 2008)	н/д	н/д	н/д	н/д	н/д	н/д	н/д	н/д
Canada (Vancouver 2010)	1402	1084	1164	1272	1289	1234	1173	н/д

Source: *Rosstat. 2007.*

Let us pay your attention that the growth of unemployment took place during this period in other European countries which didn't host the Olympics. For example, unemployment in Austria between 2000 and 2005 increased from 139 up to 208 thousand people, in Belgium from 308 up to 380 thousand people (2004), in Hungary from 263 up to 304 thousand people, in Germany from 3 127 up to 4 583 thousand people etc. But there were few countries where unemployment decreased: Finland (from 253 down to 220 thousand people), Lithuania (from 274 down to 133 thousand people)[14].

Table 8

Real wages indicators during Olympic business cycles in countries hosted Olympic Games in 1992-2008 (%, 1995=100%)

Host country	Years						
Norway (Lillehammer 1994)	н/д	н/д	н/д	н/д	н/д	н/д	н/д
USA (Atlanta 1996, Salt-Lake-City 2002)	112	112	112	112	114	н/д	н/д
Australia (Sydney 2000)	110	н/д	110	н/д	110	н/д	н/д
Greece (Athens 2004)	н/д	н/д	н/д	н/д	н/д	н/д	н/д
Italy (Turin 2006)	н/д	н/д	н/д	н/д	н/д	н/д	н/д
Canada (Vancouver 2010)	106	110	112	113	115	н/д	н/д

Source: Rosstat. 2007.

The analyzed data also shows that during the Olympic business cycle employment growth accompanied by the growth of real wage in the economy.

As we can see from Table 8 real wage indicator increased in above countries. Between 1995 and 2005 Japan, Australia, USA Greece and Italy were on different stages of Olympic business cycle. Japanese Olympic business cycle took place in 1989-1999 years, Australian – 1991-2001, USA – 1993-2003, Greece – 1995-2005, Italian – 1997-2007. Compare to 1995 real wage index increased up to 110% in Australia, 114% in USA and down 99% in Japan. Data of the Table 8 also shows that real wage indicator in China and Canada which entered in Olympic business cycles later (in 1999 and 2001 simultaneously) also was continued to rise.

The dynamics of gross capital assets was always positive, except for Japan (see Table 9). Countries such as Australia and the USA continued to show high growth of capital assets, even after Olympic business cycles in these countries (after 2001 and 2003, respectively). Canada, for which the Olympic business cycle began in 2001, showed very high positive dynamics - 144% in 2001 and 180% in 2005 (compared to 1995).

One of the factors which influence on aggregate production and supply is capital assets. In Table 9 the dynamics of capital assets in 1992-2014 host countries is presented.

Table 9

Capital investments dynamic during the Olympic business cycles in countries hosted Olympic

Games in 1992-2014 (in constant prices, %, 1995=100%)

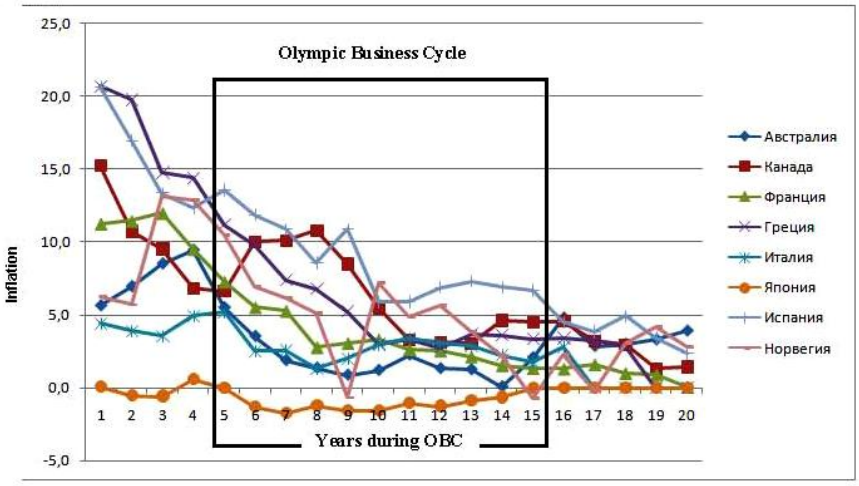
Host country	Years						
	2000	2001	2002	2003	2004	2005	2006
Russia (Sochi 2014)	79,8	87,9	90,4	103,0	116,0	125,6	н/д

Source: *Rosstat. 2007.*

Figure 11 shows the 20-year dynamics of inflation in countries that have organized the Olympic Games. From 5th to 15th years is the period of Olympic business cycle in particular country. For example, for Spain it is the time period from 1978 to 1998 (where 1983-1993 - Olympic business cycle), for Japan - from 1984 to 2004 (where 1983-1993 - Olympic business cycle) etc. Years 1-5 and 16-20 are given just to understand the overall trend indicator.

Thus we can see that inflation significantly decreased during the Olympic business cycle (see Fig. 11). This fact can be explained by the fact that in preparation for the Games drastically increased the production of goods and services required for their organization.

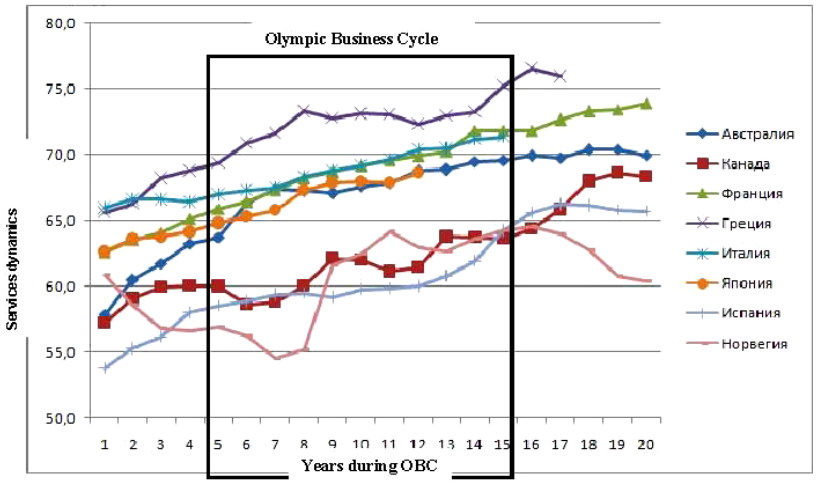
Fig. 11. Inflation dynamics during the Olympic business cycles in countries hosted Olympic Games in 1988-2006



Created: *on the base of World Bank data*

This assumption is confirmed by Figure 12. It shows that the size of the service (expressed in value added as percent of GDP) increased annually in these countries.

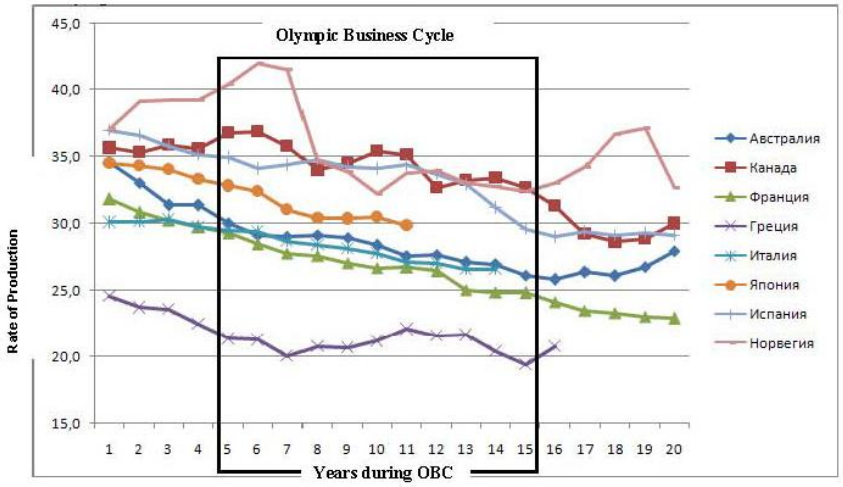
Fig. 12. Services dynamics (value added in % of GDP) during the Olympic business cycles in countries hosted Olympic Games in 1988-2006



Created: *on the base of World Bank data*

It should be noted that the volume of production (expressed in value added as percent of GDP) reduced during the Olympic business cycles in host countries (see Fig. 11).

Fig. 13. Rate of production (value added in % of GDP) during the Olympic business cycles in countries hosted Olympic Games in 1988-2006



Created: *on the base of World Bank data*

Demand is one of the key macroeconomic factors that affect economic growth. It includes the growth of consumer, investment and government spending and domestic and foreign investments to the economy.

Dynamics of households final consumption expenditures in countries that host the Games in 1998-2010 years is shown in Table 10.

Table 10

Expenditures on final household consumption during the Olympic business cycles in countries hosted Olympic Games in 1992-2010 (in constant prices, %, 1995=100%)

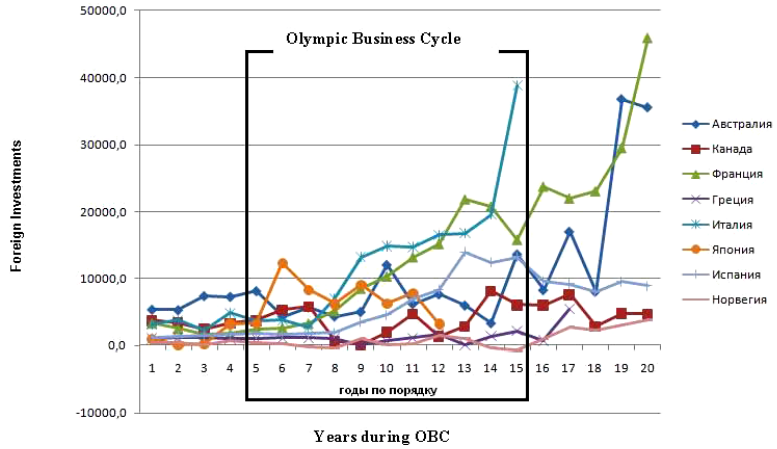
Host country	2000	2001	2002	2003	2004	2005	2006
Norway (Lillehammer 1994)	123	126	130	133	141	145	н/д
USA (Atlanta 1996, Salt-Lake-City 2002)	124	127	131	134	139	144	148
Australia (Sydney 2000)	122	125	130	137	143	147	н/д
Greece (Athens 2004)	114	118	122	127	133	138	н/д
Canada (Vancouver 2010)	119	122	126	130	134	139	145

Source: *Rosstat. 2007.*

Let's analyze the dynamics of foreign investments in countries which organized the Games of Olympiads or Olympic Winter Games from 1988 to 2006 (see Fig. 14).

For all countries a stable foreign investments took place on the eve of the start of Olympic business cycle. Their level of investments was almost the same - without fluctuations. For most countries (except Norway and Greece) foreign investment fluctuations and its gradual increase coincides with the start of the Olympic business cycle. In the second half of Olympic business cycle very high levels of investment were demonstrated in Australia, Italy and France.

Fig. 14. Foreign Investments during the Olympic business cycles in countries hosted Olympic Games in 1988-2006 (mln. $)

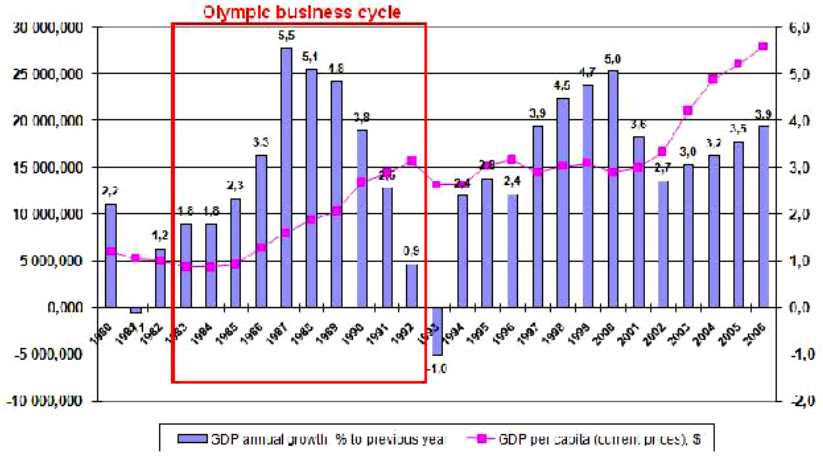


Created: *on the base of World Bank data*

These examples suggest that the profitability of the Games largely depends on attracting funding for their private investors: the larger the share of private investments in Games financing, the greater possibility that the Games will pay off. The role of the state here is to create the institutional preconditions for attracting private business to participate in the Games organizing and financing, as well as in macroeconomic management in various stages of the Olympic business cycle.

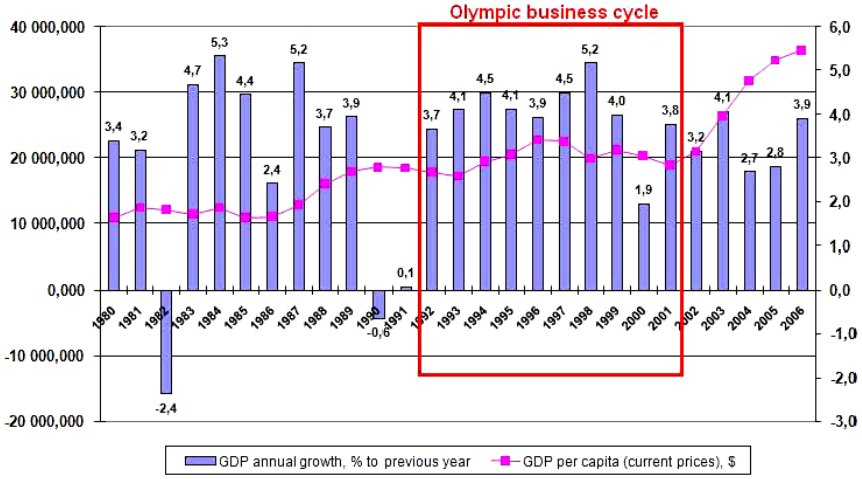
Figure 15. Spain's (a) and Australia's (b) GDP per capita and GDP growth in dynamics (1980-2006)

a) Spain



Created by: World Bank, International Monetary Funds

b) Australia

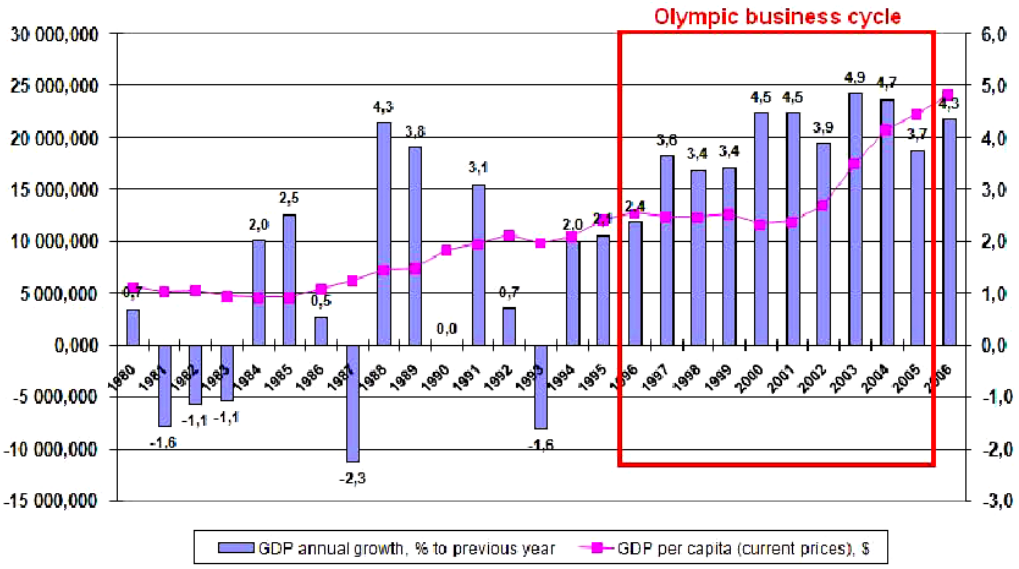


Conversely, if the government pays more attention to externalities (improving the image of the state, creating the conditions for tourism development, raising the healthy generation) then the Games most often are unprofitable or barely recovered.

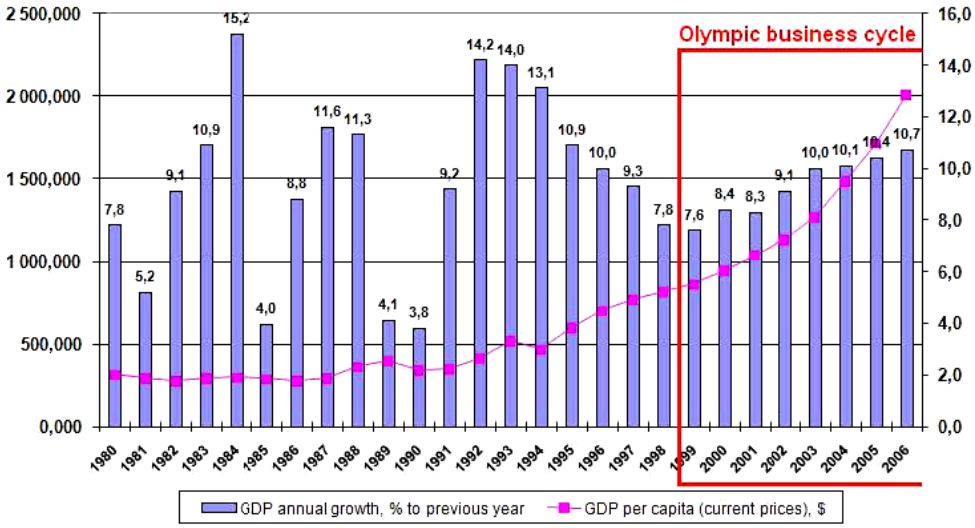
However, it is important to note that situation could be radically opposite for the country's economy: the more the state invests in the preparation of the Games (high share of the budget), the more likely that externalities (the main objective of the State) will be maximal, and during the Olympic business cycle and after the Games economic growth and GDP growth rate will be higher (see Fig. 16) in comparison with the Olympic business cycles and the period after the elections in countries where funding has prevailed share of private capital (see Fig. 15).

Figure 16. Greece's (a) and China's (b) GDP per capita and GDP growth in dynamics (1980-2006)

a) Greece



б) China



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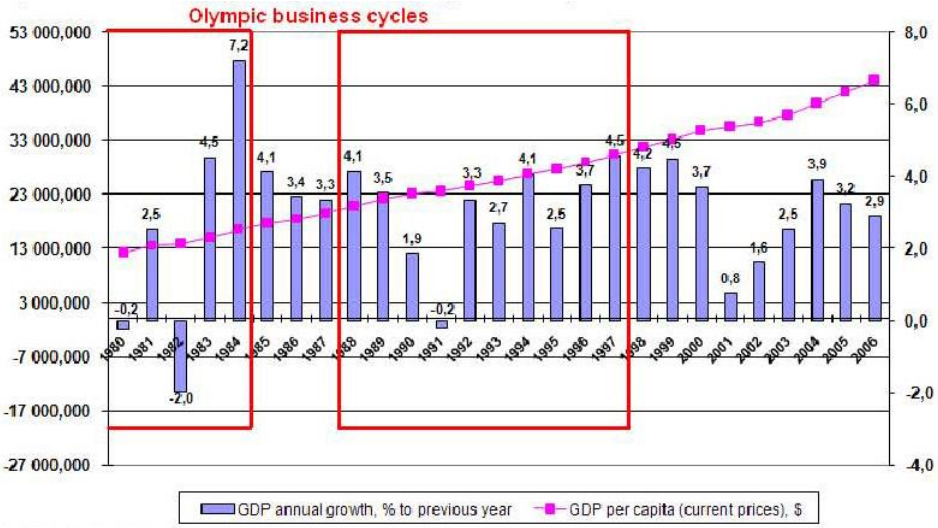
The figure 15a shows that Spain's GDP growth rates (the share of public capital - 38%) were highest in the middle of the Olympic business cycle. After completion of the Olympic business cycle growth again increased, but did not reach the previous level. For Australia (share of public capital - 30%) growth rate during the Olympic business cycle were quite high - an average of 4% (15b). At the end of the Olympic business cycle growth rates have fallen. This confirms the idea that for the host-country economy is influenced because of the Games not so strong and it is usually short-lived when a high share of private capital is taking place.

In countries where the share of public capital has prevailed, the situation was different. The break-even point on this Games mostly was not achieved, but their influence for national economy was high and had a long-term perspective. For example, high rates of Greece GDP growth were noted just at the beginning of the Olympic business cycle and continued after its completion.

Figure 17. USA GDP per capita and GDP growth in dynamics (1980-2006)



Created by: *World Bank, International Monetary Funds*

In China, where since the early 90-ies of the XX century witnessed the negative dynamics of the annual GDP growth, a positive trend of this indicator starts from the beginning of the Olympic business cycle (see Fig. 16).

It should also be noted that analysis of different models of administration and financing must also take into account the size of the economies themselves. This assumption can be considered by the example of the U.S. economy.

Olympic Games of 1984 and 1996 in the United States had no noticeable effect on the economy in view of the fact that the ratio of the budget of the Games and the U.S. budget was too small. GDP per capita in the United States was growing steadily, but the GDP growth rates ranged (see Fig. 17).

Thus the effectiveness of the Olympic business cycle can be understood in two ways. On one hand, as a direct return of costs of Games organizing and hosting. This conditions is good especially for private firms. On the other hand, effectiveness means that through the Games the preconditions for long-term and sustainable economic development were created. If the model of private administration and financing were used during the Games organizing the payback on the Games means a success for the organizers and investors. The citizens of the host-country, with high probability, slightly feel the economic impact of this case. If the model of public administration and financing was used then the budget of the Olympic Games for more than 2/3 financed from public sources. This suggests that the state wants to use the Olympic games, mainly as a way to improve infrastructure, to stimulate aggregate demand and improve the quality and standard of people living. Often these efforts can not be fully reflected in the short run. They tend to have long-term effect.

5. SUMMARY.

The effectiveness of the Olympic business cycle can be understood in two ways. On one hand, as a direct return of costs of Games organizing and hosting. This conditions is good especially for private firms. On the other hand, effectiveness means that through the Games the preconditions for long-term and sustainable economic development were created. If the model of private administration and

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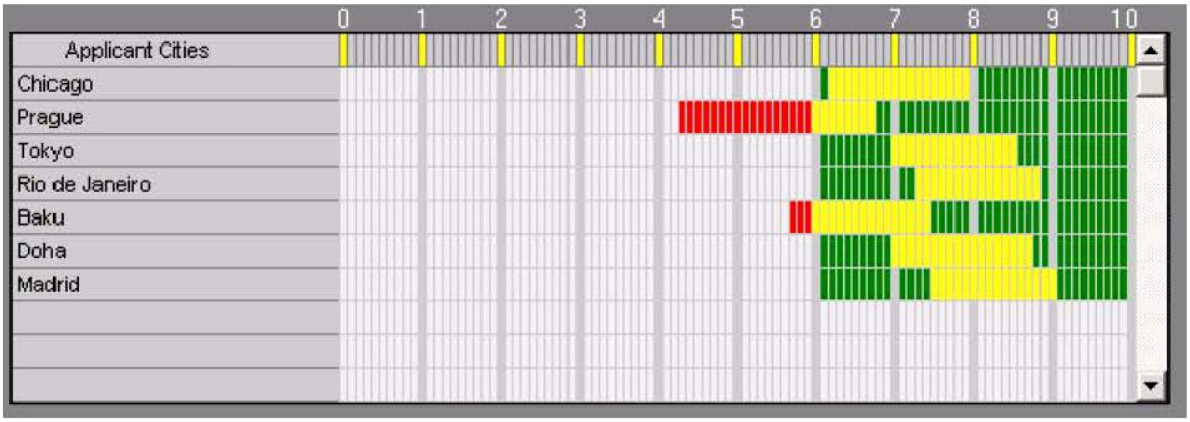
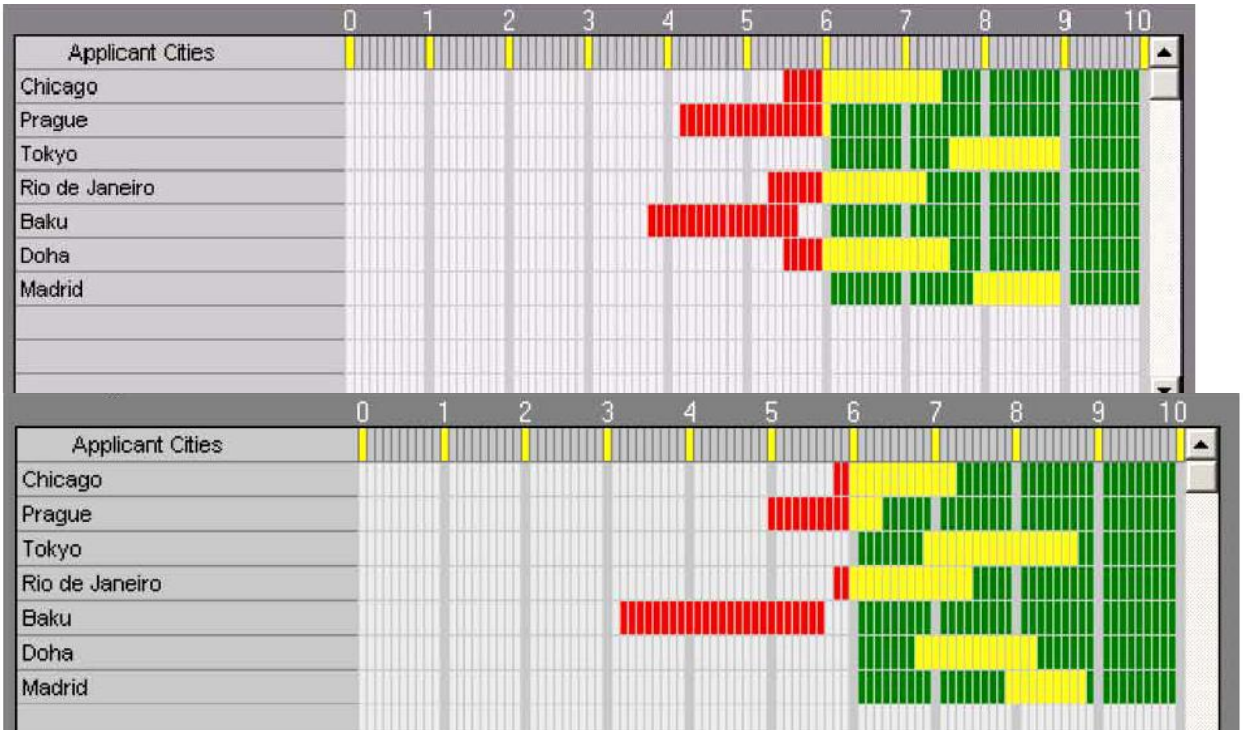
APPENDIX 1

Indicators of Candidature Acceptance Procedure for the Games of XXXI Olympiad in 2016[15].

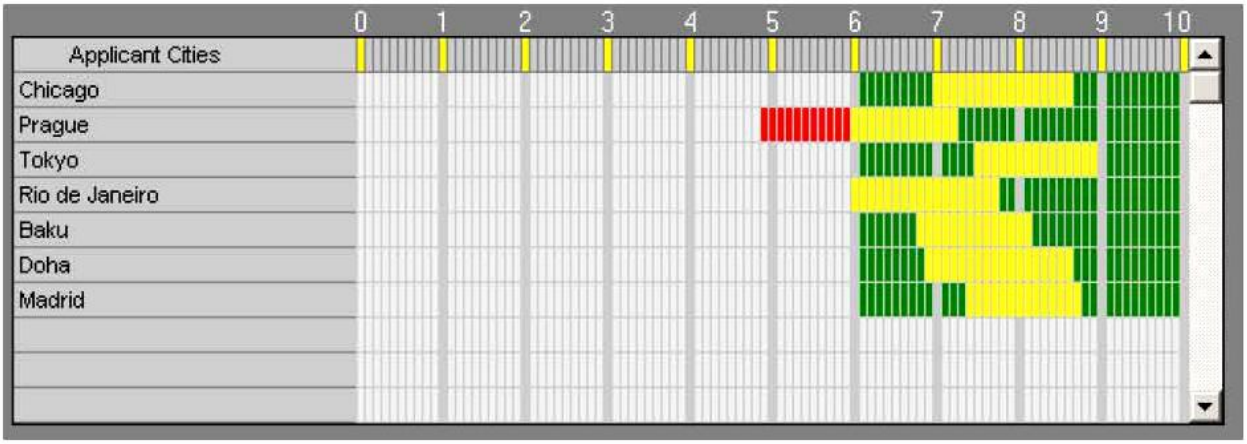
1. Government support, legal issues and public opinion (including compliance with the Olympic Charter and the World Anti-Doping Code*);



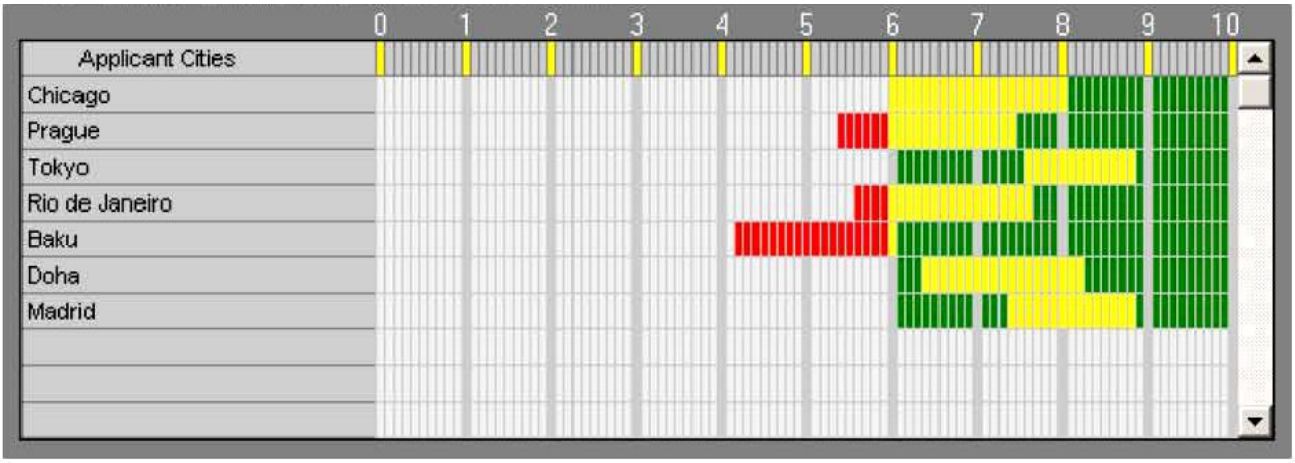
2. General infrastructure



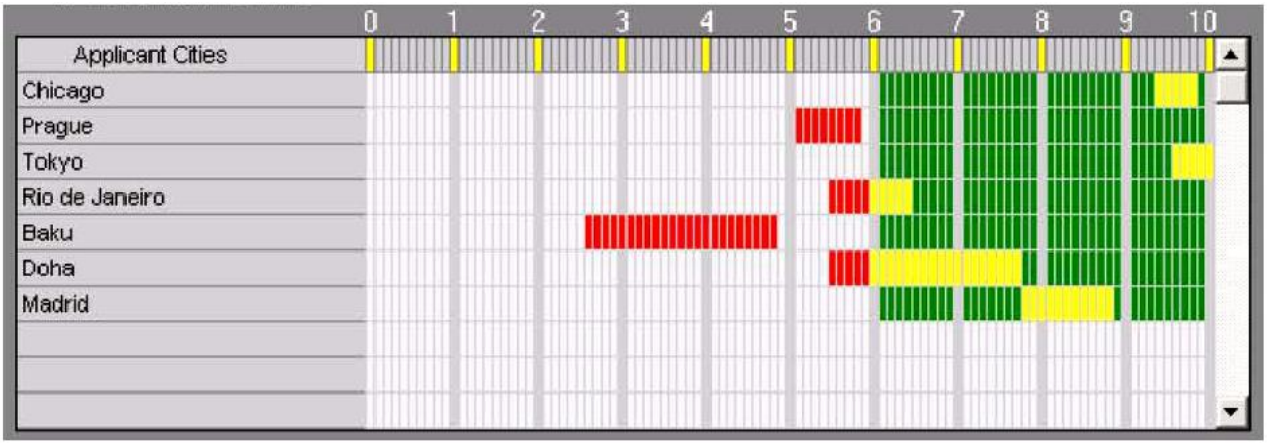
4. Olympic Village(s)



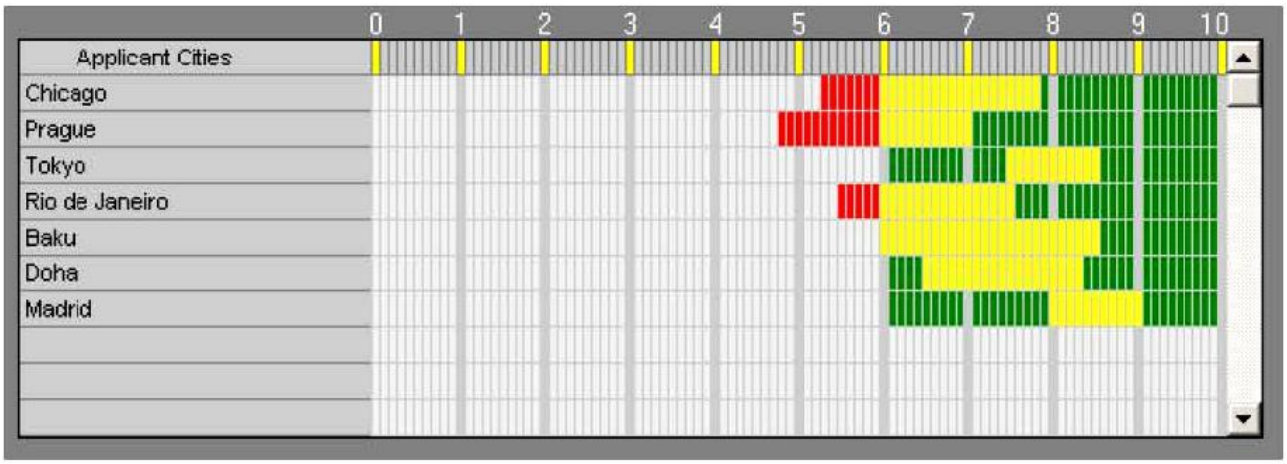
1. Environmental conditions and impact



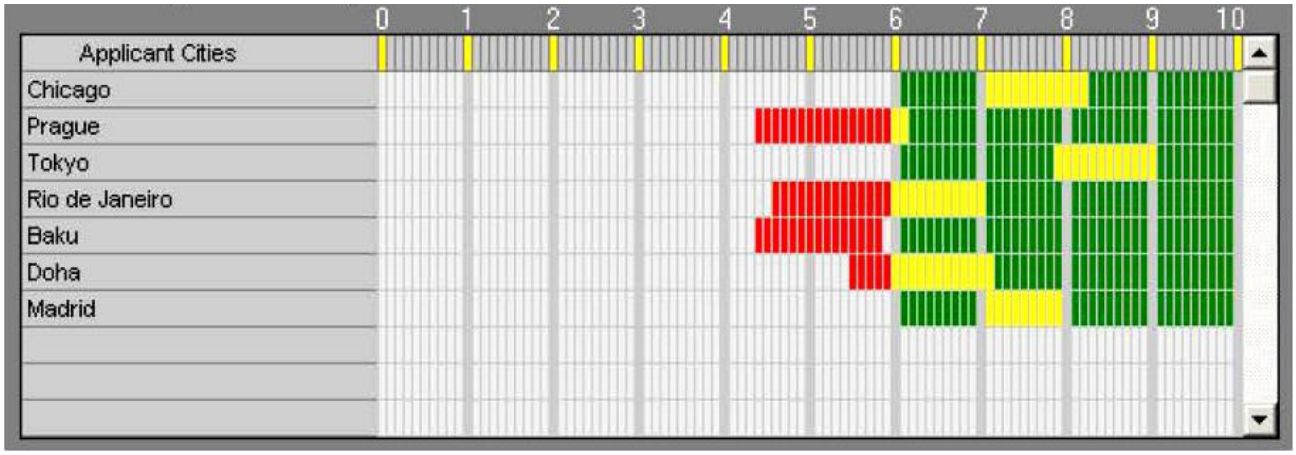
2. Accommodation



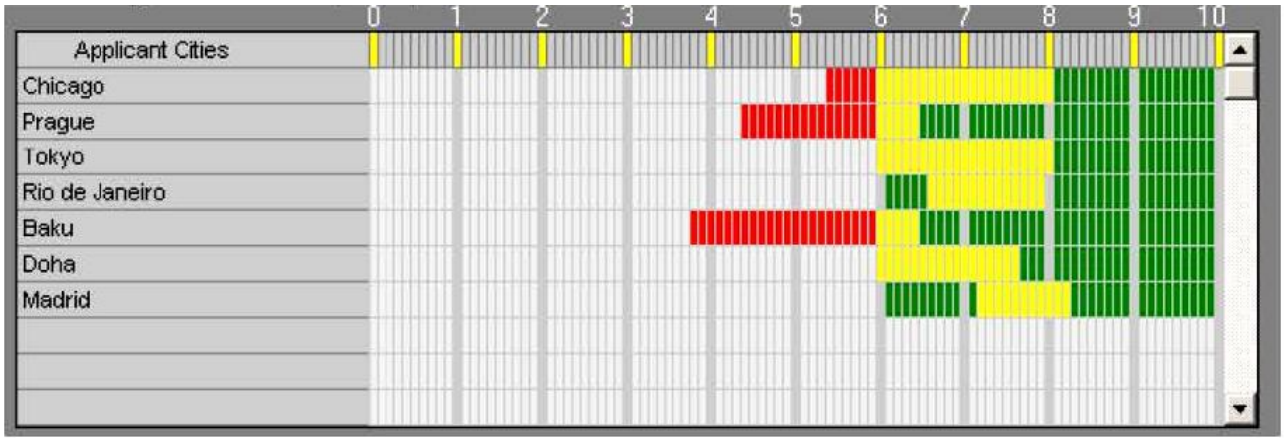
7. Transport concept



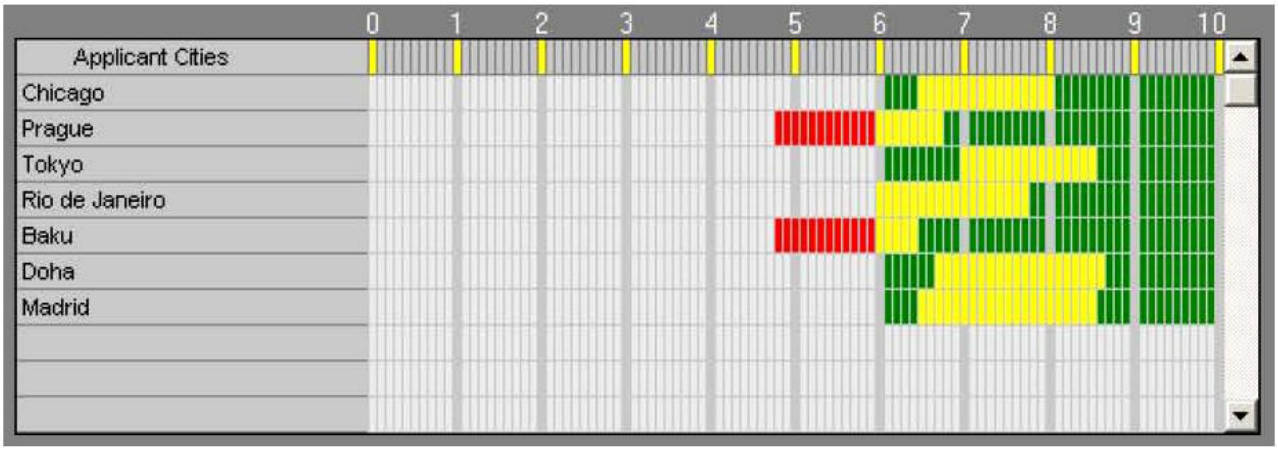
8. Safety and security



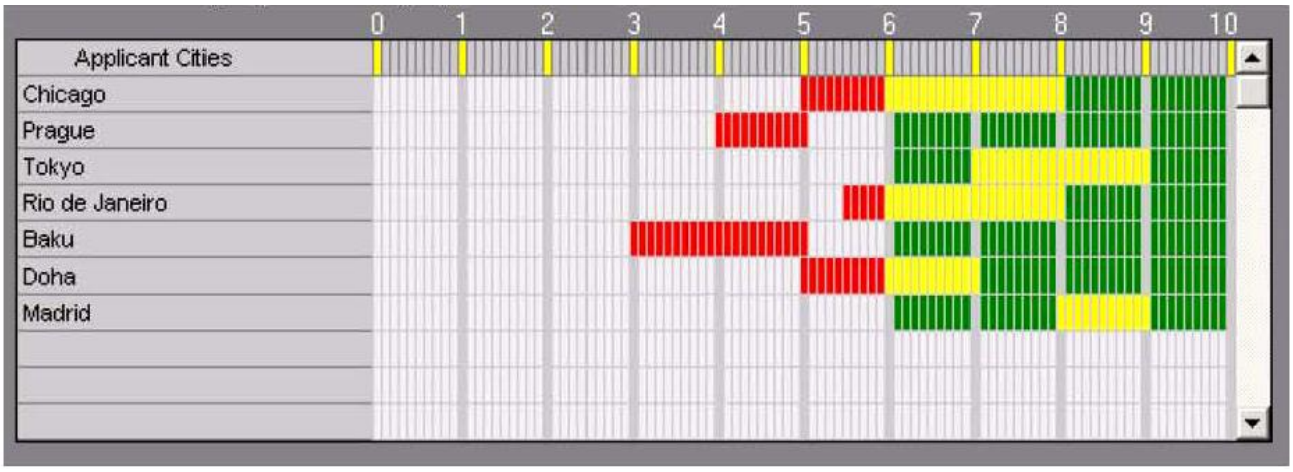
9. Experience from past sports events



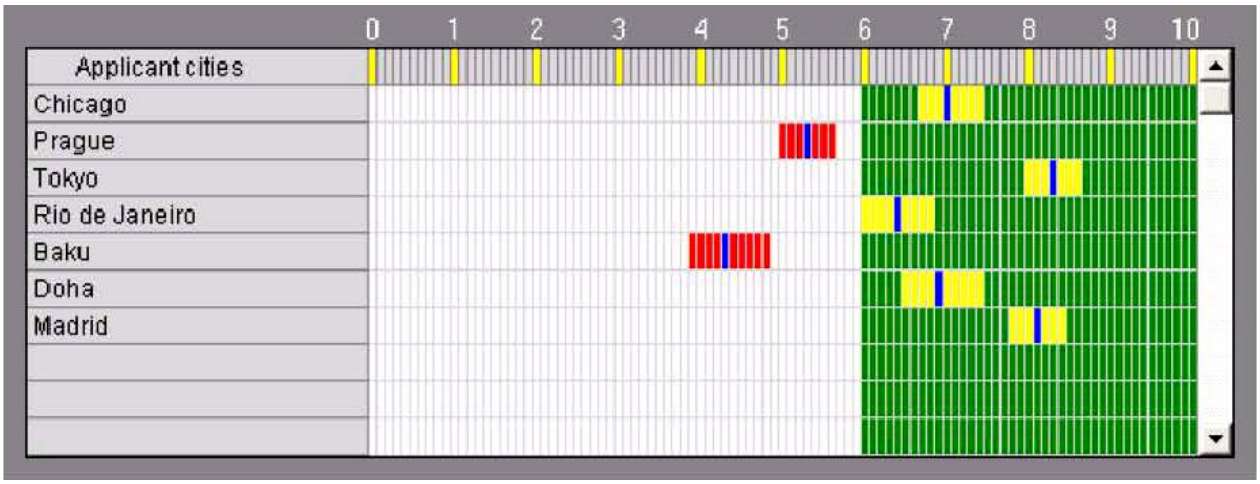
10. Finance



11. Overall project and legacy



FINAL RESULT



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