

A LOOK AT OLYMPIC COSTS

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Every fourth year the Summer Olympic Games draw considerable worldwide attention. The Games are analyzed from a performance, cultural, social, philosophical, and political point of view. The economic aspects are usually drowned in a media blizzard of gold medals, world records, and, at times, political demonstrations. Yet few aspects of the Games are more important than the revenues generated and the costs incurred in hosting the Games.

It has been implied by all Olympic historians that there has been tremendous growth in both the revenues generated and the commensurate costs of hosting the Summer Olympic Games. The reasons given have usually been that the Games are a chance for wealthy countries to show off their prestige and power, to have the grandest Games yet. Or it is an opportunity for an emerging nation to display its ability to play host to the rest of the world in an athletic coming-out party. And, with more sports-minded people and more leisure time there is continued pressure to add sports to the already arbitrary list of 22 that now make up the Olympic summer schedule. For all these reasons it has been assumed that costs have skyrocketed over the 20th century. But how fast have the costs grown? Are they really more expensive than, say 30 years ago.

The primary purpose of this paper is to use Summer Olympic Games finances to answer the above questions and to illustrate a variety of micro- and macro-economic concepts for first year economics students. The author hopes that the timeliness of the subject matter will enhance classroom interest. The research format draws a number of surprising observations and conclusions about hosting the quadrennial international affair. Incidentally, there is no attempt to provide a comprehensive view of the costs of the Olympic Winter Games.

The macroeconomic concepts include:

a) Constant \$ vs. Nominal \$ Costs

Olympic costs are always expressed in the values of the year hosted. From a historical perspective it is unfair to consider that the cost of \$2 million dollars in 1948 even remotely resembles \$2 million dollars in 1988. It is necessary to adjust Olympic costs by using a price index. For simplicity I've chosen the Department of Labor's Consumer Price Index (CPI-W) as the deflator and all costs will be expressed in 1982 dollars, the CPI benchmark year.

To summarize, the price index compares the Olympic cost of each Games to the costs had they occurred in the base or reference year. Much of the increase in hosting costs have been illusionary since they are partly a result of inflation.

b) Foreign Exchange Rates

The rate that national currencies exchange for one another. This is set by supply and demand forces of the exchange rates are flexible or floating or set by government intervention in a system of rigidly fixed exchange rates.

c) Per Capita Values

For many purposes, a more meaningful measure of costs is per capita costs. Total costs may conceal or misrepresent changes in the structure of the Olympic Games (e.g., number of nations, number of sports, women allowed to compete). So the number of Olympic athletes grew rapidly for many reasons. Olympic costs may be relatively constant if they increase at the same rate as the number of participants.

d) Accounting & Economic Costs

Accountants see costs as explicit. Economists see them a bit differently and would include implicit values and opportunity costs. This distinction is made early to beginning economics students. An example of opportunity cost may be the next best opportunity owners may have to earn income on a piece of property if the same property was not used to build an Olympic stadium or village. Because of the degree of difficulty in estimating implicit Olympic costs, the explicit values will be used.

LITERATURE SEARCH

No comprehensive reports on the financing of Olympic Games have been published. Indeed the author searched a variety of popular books on modern Olympic history and found no references to even a comparison of costs from one Olympiad to another. Only a few contained hints of Olympic hosting costs and none provided any detailed data nor analysis. In this category I have included: *An Approved History of the Olympic Games* (Henry, 1948), *The Story of the Olympic Games* (Kieran/Daley, 1973), *The Complete Book of the Olympics* (Wallechinsky, 1991), *All That Glitters is Not Gold* (Johnson, 1972), *A Political History of the Olympic Games* (Kanin, 1981), and *The Olympic Games in Transition* (Segrave/Chu, 1988).

All provided hints of Olympic costs and snippets of financial information, yet no comparisons. All implied tremendous revenues and cost growth in the hosting of the Games since Baron de Coubertin revived an ancient tradition in 1896.

Many books have been written about the conduct of specific Summer Olympic Games and a bit more financial information falls out of them. Generally these books deal with the first modern Olympic Games (Athens, 1896), the most recent Games (Seoul, 1988), the most controversial (Berlin, 1936), and the most profitable (Los Angeles, 1984). *The First Modern Olympics* by Richard Mandell (1976) provides the briefest insight into the cost of hosting the Games. *The Greatest Olympics* by Kim Un-Yong (1989) contains a financial chapter. A pair of books are available on the Berlin Olympics of 1936, yet both are virtually devoid of information: *The Nazi Olympics* by Richard Mandell (1971) and *Olympiad 1936: Blaze of Glory for Hitler's Reich* by Judith Holmes (1971). Two books are available on the conduct of the very profitable 1984 Summer Olympic Games of Los Angeles. *Made in America* by Peter Ueberroth (1985) contains sketchy financial information. And *Making It Happen: Peter Ueberroth and the 1984 Olympics* by Kenneth Reich is a bit less biased on Olympic costs.

But, in total, the above mentioned books relied on a wide variety of accounting concepts and provided little in the way of financial information. Much more useful were the annual reports published by the city organizing committees after each Olympic Games. There was an "official" report in 1896 (next to impossible to obtain) and not another until 1908. And there is not a facility outside the International Olympic Committee (IOC) headquarters in Lausanne, Switzerland, which contains all the reports.

Two major sources in the U.S. include the library of Dr. John A. Lucas, an Olympic historian at the Pennsylvania State University, and the holdings of Olympic research guru, Dr. William Mallon, an orthopaedic surgeon in Durham, North Carolina. Both graciously made their collections available and much of this paper's information relied on these sources. Yet, not all the "official" Olympic reports contained the desired information, many giving financial information a cursory glance. In fact one report provided absolutely no financial information (1932, Los Angeles). With the help of *The New York Times* microfilm research the author was able to 'piece together' enough information to draw some tentative conclusions and illustrate a number of basic economic concepts.

Since much of the Olympic cost information in 'official' reports was expressed in the currency of the host nation it was necessary to research information on exchange rates with the U.S. dollar. The author was unable to find any comprehensive work on U.S. exchange rates dating to the beginning of the century. *The New York Times* microfilm was used for each Olympic year.

Data on general price information was available back to 1941 on an official (U.S. Department of Labor) basis, and private estimates of U.S. inflation and price indices was available for earlier years. Finally, U.S. Department of Commerce and private publications were used for the Gross National (Domestic) Product (GNP/GDP) of host nations. *Economic Statistics: 1900-1983* (Facts-On-File, 1983) provided many of the GNP/GDP estimates of host nations.

CONCEPTUAL DIFFICULTIES

The author is convinced that it has been conceptual difficulties as well as a paucity of organized and published data which has led to the present situation. We are 100 years into the modern Olympic era yet no presentation/comparison/analysis of Olympic costs exists.

A few of the conceptual problems are readily identified (Pound, 1991). It is, for example, important to identify those costs which relate directly to the Games and those which are of a capital or investment nature. This decision is so basic that bidding to host the Games may turn on it. For example, if a city has an old but well situated stadium and proposes to demolish it and construct anew and the new stadium will be owned by the city for another 30 years and leased to professional teams, is the entire rebuilding cost an Olympic cost? Or should only that fraction of costs be applied to Olympic use?

A more crucial problem deals with handling infrastructure costs. If a city had planned to upgrade its highway and communication facilities and hosting the Olympic Games just accelerates its schedule of work so as to be ready for Opening Ceremonies, just how much of the expenditure should be regarded as a cost of the Games?

The point is that these and many other questions about Olympic expenses are much better addressed by accountants. These are 'expenses' and there are accepted accounting practices to apportion expenses. But from an economist's standpoint all 'costs' incurred before and during the Olympic Games will be considered Olympic 'costs.' If cities were unwilling to incur all costs (however and to whomever they are apportioned) then there would be no Games in the first place. This approach might not please accountants, yet, in light of sketchy financial information, will allow us to get a long term perspective on the issue. And we won't be mired in a morass of fractional accounting expenses.

DELIMITATIONS OF DATA

There are two areas where the study is limited because of limitations of data. First, as mentioned earlier, Olympic cost data has, at times been unavailable so estimates have been used. And when official numbers are available, various definitions of costs have been used.

Second, since the modern Olympics are older than modern data collection in many nations, estimates of national income are unavailable. For example, the United States had been sending teams to the Olympic Games for 36 years before the 72nd Congress (1932) requested the Secretary of Commerce to prepare a report on national income and 25 years before the National Bureau of Economic Research (NBER) first published national income material in 1921 (Studenski, 1958). This paper had originally intended to offer a comparison of percentages of a nation's GDP spent of the Games. Much of the older GDP data was simply unavailable.

CHRONOLOGY OF OLYMPIC COSTS

1896 - Athens

Three hundred and eleven (311) athletes competed in the first modern Olympics 5 to 16 April 1896. It was so cold that it even snowed once (at the Summer Olympics!). The initial Olympic host was an unstable relatively new state in search of political legitimacy (Kanin, 1981). The country was bankrupt at the time. The "Greek" royal family was actually a Danish royal house eager for an Olympic boost in popularity. And with the help of a gift from wealthy industrialist Georg Averoff of one million drachmas (*ca* \$120,000 (US) in 1896 dollars), and the sale of souvenir stamps and medals the Games were an enthusiastic success. The total cost was 3,740,000 drachmas (Johnson, 1972), approximately \$448,000 (US) in 1896 purchasing power.

1900 - Paris

The second Olympic Games were held in Paris, de Coubertin's hometown, in 1900, as an appendage to the World Exhibition. They ended an athletic and aesthetic disaster. In mid-March the organizers announced they had sold \$1,000,000 worth of tickets to the fair. The Olympic events were spread over 5 months and most athletes were unaware they were competing in the Olympic Games. No separate report of the Olympics was provided and all expenses were subsumed into the cost of conducting the International Exposition.

1904 - St. Louis

If the 1900 Games were an embarrassment, the 1904 Games were a disaster (Kanin, 1981). The Games were originally scheduled for Chicago but when financial difficulties arose Chicago became the first city to give the Games back to the IOC. With a push from President Theodore Roosevelt the Games were switched to St. Louis and held in conjunction with another world's fair, this the St. Louis World's Fair Exhibition celebrating the 100th anniversary of the Louisiana Purchase.

St. Louis proved more inept than Paris and most European nations stayed home. Even the Baron de Coubertin did not attend. Many events contained only Americans. The organizers built a 1/3rd mile cinder track at Washington University, the major "Olympic cost." Again there was no separate budget for the Olympic Games portion of the fair.

1906 - Athens

The Olympic Movement was in the need of a shot in the arm. The Greeks suggested a 10th anniversary (Interim or Intercalated) Games. Although Coubertin opposed them and the IOC later declared them unofficial, they were successful and probably saved the movement. The Greeks persuaded Averoff, again, to refurbish the stadium he had built in 1896. This time the world paid attention. Twenty nations attended and there was expanded press coverage. The official report did not mention costs. Yet it is felt that since most events (track & field, wrestling, gymnastics) took place in the main stadium, the Games cost little more than those of 1896.

1908 - London

These Games were originally awarded to Rome, but the eruption of Mount Vesuvius in 1906 buried several towns and put a financial strain on the Italian government. London offered and provided a well organized affair. There was much bickering about English officials and the Games probably set a record for protests. Most of the events were held in Shepherd's Bush Stadium, a large expanse which accommodated running, swimming, cycling, wrestling, gymnastics and soccer matches. Officials claimed a profit of £6,377. The major expense in a £15,000 budget was "Entertainment Expense" of £5,271 (34%)! Only 28% of revenues came from gate receipts as the British relied heavily on donations to conduct the Games. The cost to the British government of building the main stadium was not included in the 'official budget' and would have added an additional £60,000 to the budget. My estimate is that the 1908 Olympic cost was approximately £81,000, or 394,000 1908 dollars.

1912 - Stockholm

The Stockholm Games were generally judged to be one of the finest of the modern era. Well organized, over 2500 athletes from 28 nations competed. These were the Olympics of Jim Thorpe, the American Indian who gave up his decathlon and pentathlon medals for charges of professionalism. At the time of this paper's presentation, data was not available concerning the costs of the 1912 Olympics.

1916- Berlin

Germany had been eager to host the Games. They bid for the 1912 Games but deferred to Stockholm in exchange for the 1916 award. The Germans planned an even larger show than Stockholm but ran into financial difficulties finally getting \$150,000 in Olympic appropriations from the Reichstag (Kanin, 1981). But in 1914 German youth marched off to war and the Games were canceled.

1920- Antwerp

The Games were awarded to Antwerp, Belgium, as a sort of compensation for the World War I infliction. War losers Germany, Austria and others were barred. The Belgians had but a year to prepare for the Games yet the government managed to construct a 30,000 seat stadium (Johnson, 1972). An aquatics stadium seating 10,000 spectators was also constructed. Ticket prices topped at 30 cents but few attended until the gates were thrown open to schoolchildren. So little money was available that the Belgian Olympic Committee did

not prepare an official report, making it difficult to assay the cost of hosting the event. [*Editor's Note: An official report was prepared but not widely distributed.*]

All nations struggled with expenses. Visiting delegations were still responsible for their own transportation and accommodations. The American Olympic Committee spent \$148,563 (N.Y. Times, Oct 14, 1920) on uniforms, meals, a rusty Army transport (the Princess Matoika) and accommodations (YWCA for women, school barracks for men).

1924- Paris

Unlike the first Paris Olympics, the second was well attended as a record 44 nations showed although the Germans were still barred. Crowds ranged up to 60,000 daily. But the preparation costs were high so French insurance companies insured receipts up to 10,000,000 Francs. The figure indicates an approximate costs of hosting the Games. In August the N.Y. Times (Aug 8, p. 9) noted that the total receipts came in at 5,496,610 Francs indicating a huge loss. A number of disagreeable incidents among spectators and teams flawed the Paris Olympics and did not make the Olympic experience easier on the French.

1928- Amsterdam

Holland, a neutral in World War I, seemed to be a perfect choice. The Germans were invited back to the Olympic movement. The American team was led by General Douglas MacArthur who kept his team sequestered on board their transport liner (a total of 42 days). The Dutch had erected separate stadiums or arenas for most sports. The new athletics stadium covered 9.7 acres and seated 40,000. They also built boxing and fencing buildings and a swimming stadium, all of which were treated as costs in the Dutch Olympic Report. The Dutch government underwrote about one half of the costs with grants and loans. Interestingly, the Olympic Income Statement provides several categories labeled 'Various Costs.' In all, the 1928 Games cost \$1.183 million and sustained a minimal loss, \$18,000 (Report of American Olympic Committee, 1928).

1932- Los Angeles

For the first time in modern Olympic history the head of the government, Herbert Hoover, did not show up. Los Angeles was faced with two major problems, a worldwide depression and geographical isolation (Wallechinsky, 1984). The city had built a Coliseum several years earlier with 30 miles of seats (105,000) for \$1,700,000 (Johnson, 1972). But organizers did not include that in their expenses since the stadium had been built in anticipation of hosting the Summer Olympics eight years earlier. Los Angeles was also the first to provide a athletes 'village,' since a necessity in hosting the Games.

The Organizing Committee never furnished financial information (not one sentence!) in their final report. Newspaper accounts claimed over 1 million spectators and \$1,000,000 in profits "after all expenses are paid and all bonds are retired." (N.Y. Times, Aug. 17, 1932, p.2)

1936- Berlin

If the 1932 affair in Los Angeles was an extravaganza, the Nazi Games of Berlin four years later were a SUPER extravaganza.

The Games had been awarded to Berlin in 1931, before Hitler's rise to power. But the National Socialists (Nazi's) recognized the Games propaganda potential and spared no

expense. The most ever, 4000 athletes and 49 nations took part. No finer athletic grounds, arenas and village had ever been prepared. The German Organizing Committee (GOC) even 'televised' the affair to local theaters.

The GOC 4.5 million admissions to various venues and ticket receipts of 7.5 million marks. The administrative profit exceeded 1 million marks. (N.Y. Times, Aug. 17, 1936, p. 11). Since most of the capital expenses and numerous services were provided by the Nazi government, it is impossible to pinpoint the entire cost, including capital expenditures, of the Berlin Games. The municipal government of Berlin issued an 'Olympic financial report' itemizing a cost of 16.5 million marks used exclusively for Olympic decorations, street cleaning, paving and traffic infrastructure (roads and bridges). The national government never did itemize its cost yet there are a number of private estimates which place the total for plant, equipment and operations as high as 30 million 1936 dollars (Holmes, 1971).

1940- Tokyo

Tokyo had won the bidding for the 1940 Games before relinquishing them in 1938. Interestingly, they released their budget of 20,142,427 yen, worth over 39 million in 1982 dollars. The Tokyo budget included all capital expenditures (athletics, swimming, yachting, rowing, shooting, equestrian areas) directly related to the competition. The city of Tokyo would cover approximately 1/3rd of the costs.

Helsinki was subsequently chosen to host the 1940 Games which were then canceled by World War II.

1944- London

These Games were canceled by World War II.

1948- London

The British undertook their second Olympics with more warning than they had in 1908. There was much grumbling that the project was a waste of money considering that Britain was still recovering from the war. King George VI reigned over a drizzling affair of 4,100 athletes from 59 countries. World War II losers, Germany and Japan, were not invited to participate.

The British proceeded on the assumption that the Organizing Committee should not go into debt (Kanin, 1981). The financial report was released 16 months (!?) after the Games and showed a £29,000 profit. Housing and meals had been the major expense (21%) as the British spent little in sprucing up facilities. Total costs were 742,268 pounds sterling, about 12 million 1982 dollars, just one/twentieth the cost of the Berlin Games.

1952- Helsinki

Four thousand, nine hundred (4,900) athletes from 69 countries including Soviets for the first time, participated in a charming, modest and efficiently run Olympics. The Organizing Committee budget did not take into account spending by the Finnish state, the city of Helsinki and other municipalities connected to the Games. Their guiding principal was that the state and municipalities "undertook solely such works as would be of lasting benefit to the country. . . . on the other hand the Organizing Committee was to pay for works and procurement for the Games of a more or less temporary nature." (Official Report, Helsinki, 1952). The state financed a new airport, laid new telephone cable between Finland and Sweden, constructed highways and railroads.

There is no way of telling even the approximate cost of these ventures. The 'on books' costs amounted to 1,580 million finnmarks and the Committee reported a 49 million mark loss. Exchange rates were not available at the time of the writing of the paper.

1956- Melbourne

For the first time the Summer Olympics were staged in the Southern hemisphere. Melbourne was so remote that one had to go back to 1932 to find a Games with fewer participants. Australian quarantine laws caused the equestrian events to be held in Stockholm and I've made no attempt to search for the Swedish budget. East and West Germany entered a combined team.

The Australians lost 300,000 pounds, an amount covered ultimately by the Commonwealth government and the State of Victoria. Construction costs, estimated at \$9 million (N.Y. Times, March 4, 1956), including the Melbourne Cricket Grounds (main stadium) were not included in the operating budget which came to 2,060,000 pounds (ca 4.6 million dollars). If one included the construction program, Melbourne's cost climbed to \$13 million or about 50 million in 1982 purchasing power.

1960- Rome

Even the Pope watched some of the contests as Romans were caught in Olympic frenzy. The setting was extremely hot yet splendid for over 5000 athletes from 83 nations. They were the last Games in which South Africa was allowed to take part prior to 1992. Olympic construction provided much needed urban renewal to Rome. The city of Rome spent \$64 million for highways, the Olympic village, swimming pools, bridges, beautification projects and the Estadio Olimpico.

The Italian Olympic Committee (yet another IOC) amazingly reported that expenditures of \$7.2 million were exactly matched by \$7.2 million in gate receipts and the sales of radio and TV rights. (N.Y. Times, Sept. 25, 1960)

1964- Tokyo

The 1964 Summer Games are considered one of the best ever. One reason was that they were, even to this day, the most expensive ever. There were few snafus as the Japanese were determined to make them perfect. Losing face was unforgivable in the Orient. Japan poured Yen into projects and Tokyo provided matchless facilities to 5000 athletes from 93 countries. It was estimated that Japan spent \$1.926 billion on Olympic organization and construction (N.Y. Times, Sept. 27, 1964). The figure excluded four elevated expressways, over 50 miles of roads and an 8 mile monorail to Haneda airport.

The Tokyo Olympic Organizing Committee (TOOC) reported ticket sales of \$5.172 million. The Games served as a vehicle in which an emerging power could flex its fiscal muscle. In terms of constant costs these Games were twice as expensive as any other Summer Olympics. Constant costs per athlete resulted a a figure in excess of one million dollars!

1968- Mexico City

Held in Mexico City in late October, these Games are best remembered for the deaths of hundreds of rioting students, a Black power salute, sex tests and high altitude. But they were an opportunity for a Latin American nation to host 5,500 athletes from 112 countries and

Mexico rushed to complete facilities by Opening Ceremonies. Some claim they never made the deadline.

The Mexicans lumped all Olympic expenses in a \$175 million dollar budget. \$98 million represented the installation of stadiums, villages and city work projects. The remaining \$77 million were for the conduct of the Games themselves. At the conclusion of the Games the two Villages were converted into condominiums. Major income was provided by the Mexican government (\$56 million), TV rights fees paid by ABC (\$4.5 million) and ticket sales.

1972- Munich

Hoping to erase the memories of the 1936 Nazi Games, the West Germans preparations were global and immaculate. The Federal Republic of Germany (50%), the state of Bavaria (25%) and the city of Munich (25%) bore the costs. Seven thousand (7,000) plus athletes from 122 nations participated. Even more press were on hand. Unfortunately these Games are remembered for the Palestinian killings of Israeli athletes. An ensuing battle left all hostages and terrorists dead. The Games were postponed for 34 hours and most of the one million plus spectators (including the author) were dazed.

The Official Report of the Organizing Committee included all the capital expenditures including sports facilities, student dwellings, day care centers, cultural facilities, improvements in roads, not to mention a spanking new, clean and efficient subway system. The total bill came to 1,972 million DM (*ca* 611 million dollars), 75% of which were the aforementioned capital expenditures. The costs were four times the size of the Mexico City Games. After Munich, security became a major budget item expense.

1976- Montreal

The 1976 Olympic Games were hit by a boycott of black African nations protesting the inclusion of New Zealand. But the competition for 6,000 athletes from 92 nations was superb. Yet naïveté, poor planning and outright corruption plagued Montreal which has yet to pay its Olympic bills. An inquiry blamed Montreal mayor Jean Drapeau for a financial debacle. The main stadium sat unfinished at the time of the Opening Ceremonies, was never completed, and in 1991, had begun to crumble, forcing its closure. The Montreal experience opens another long-run concept, that of long-run spillover costs associated with the Games.

Montreal taxpayers do not have fond memories of the 1976 Games. The Organizing Committee carried the construction costs in their operating budget. In Canadian dollars, the total expenses (\$1.42 billion) exceeded receipts (\$430 million) by almost \$1 billion dollars. With such a financial legacy few cities were willing to bid for the Olympic Games after 1976.

1980- Moscow

The 1980 Summer Games were hit by another boycott, this one led by American President Jimmy Carter in protest for the Soviet invasion of Afghanistan in December, 1979. Carter took numerous Western governments with him and competition in many events suffered as 81 nations sent 4,300 athletes. But mostly American athletes suffered.

The hosts cleaned up Moscow, prepared for an influx of visitors who did not materialize, and generally ran a cold and efficient Games. The Moscow Games did not result in an opening of tightly sealed Soviet borders. Only about a quarter of the 300,000 expected visitors showed up in Moscow and the organizers lost a considerable amount of income. The totalitarian state covered many of the costs including renovation of Lenin Stadium and 69 other

sports facilities, construction of hotels and the improvement of the Metro System. It is nearly impossible to estimate all the costs. Moscow Mayor Vladimir F. Promyslov said (N.Y. Times, June 7, 1980) that Moscow had spent "about \$2 billion on the Games."

1984- Los Angeles

The Soviet Bloc returned the boycott favor four years later. More than 7,300 athletes from 140 nations competed. Many medals went cheap. But no matter, for Americans went wild over the Games and Los Angeles Olympic Organizing Committee (LAOOC) commissioner Peter Ueberroth kept a tight rein on purse strings while selling endorsements and 'official' sponsorships for the Games. The LAOOC comically called 'Lost and out of control' by the press was anything but. They relied on existing facilities, built little, and spread the Games over the entire Southern California region. The weather was perfect, there were no terrorists and few realized/cared that the Eastern Bloc countries were absent.

As it turned out the Los Angeles Olympics made a whopping \$222.7 million profit (Reich, 1985). Television rights, commercial sponsorship and ticket sales resulted in most of the \$768 million in revenue. Total expenses came to \$546 million, 73% of which were administrative costs. Ueberroth was named Time magazine's 1980 Man of the year and more cities began bidding for future Games.

1988- Seoul

Small and fearless, Seoul bid and won the 1988 Games before the successful Los Angeles experience. They were the first Games since 1972 without a major boycott as 159 countries and 8,465 athletes participated. Ironically, North Korea was a non-participant as a state of war continued to exist between the neighboring Koreas. Strict officiating and marvelous ceremonies marked the Seoul Games.

Upon completion of the Games the SLOOC (Organizing Committee) announced a book profit of \$139 million (\$847.7 million in expenses). However this figure did not include cash contributions and apartment sales of Olympic housing. If these are added the total profit exceeds \$497 million. The Kyonggi Provincial Government and the SLOOC in total spent another \$3.2 billion (Yong, 1989) on facilities and the International Broadcasting Center (IBC). Total costs, then, neared \$4 billion.

1992- Barcelona

At the writing of this paper there appears no major boycott on the horizon. Most of the world's 170 national Olympic Committees intend to compete in Barcelona in July-August, 1992. The 62 year old main stadium at Montjuic Olympic Park has been modernized. The main Olympic Village located in the Poble-Nou district on the waterfront is nearing completion. Far from completion are the rings of roads connecting the Village with the competition venues.

About 14,000 athletes are expected. The COOB (Organizing Committee) budget reached \$1.4 billion by January 1, 1992 and 72% of it covered building and renovating Olympic facilities. The city of Barcelona is spending an additional \$5 billion on Olympic inspired projects (the ring roads, telecommunications, hotels and apartments. Using my comprehensive approach, the total cost in Barcelona may exceed \$7 billion. In constant \$ this will be the second most expensive Games ever.

1996- Atlanta

Although more than four years away the Organizing Committee (hard at work) estimated (in early February, 1992) operating costs of \$1.4 billion and have a projected surplus of \$132 million in an AP wire story. Atlanta expects, because of the increasing number of recognized countries, to play host to over 16,500 athletes. There are few firm estimates yet on infrastructure cost.

FINDINGS

It is very difficult to accurately account for Olympic Games costs, even after the fact. The problem is a question of how to handle capital investment, much of which depends upon the amount and quality of existing facilities and infrastructure available as well as national pride. In several cases governments have poured billions into the construction of stadiums, transportation and communication facilities and more. Indeed, a stadium must surround the track, a parking lot must surround the stadium, roads leading to the parking lot are necessary, and so on. Many of these works, it should be admitted, may have to wait indefinitely but for the Games. Even though Organizing Committees have variously treated these costs, some including them in their budgets, others not, and even though past IOC presidents like Lord Killanin believed that infrastructure should never be included in hosting costs, I have included them, since, as an economist, it makes more sense to do so than not. They are directly related to the Games.

Now, what have we found? First, by using only current dollar figures, the Games of Barcelona in 1992 will be the costliest ever. The initial cost, back in 1896 to Athens, was just under one half of a million dollars. In Barcelona the bills, (Table 1) including much needed infrastructure, are likely to top \$7 billion. But this is all illusionary. Inflation and the number of athletes account for most of the increase.

Second, when current dollar costs are adjusted for inflation (Table 2) there are some surprising findings. There have been a pair of enormous increase in costs, the first occurring when the National Socialists offered us the 1936 Berlin Olympics. Real costs were more than 30 times as great as any previous Olympics (1932, Los Angeles) and approximately four times as great as all previous Summer Olympic Games (1896-1932) **COMBINED**. The Nazi's spent (in 1982 dollars) \$217 million dollars, a figure that was barely exceeded by Rome twenty four years later. It becomes obvious here that there were overriding political reasons for the expenditures.

And, when the Games moved to the Orient for the first time in 1964 the costs were 25 times as great as any previous affair. In constant dollars the Japanese spent over \$6 billion, a figure that has not been exceeded nor will likely to be exceeded by the end of the 20th century. Berlin and Tokyo are the blips on the screen. Interestingly, the least expensive modern Olympic Games in a quarter of a century were the Los Angeles Games of 1984. Because there was virtually no major construction the Games cleared a record \$222 million in profit.

When one examines the constant cost per athlete (Table 3) the initial Games of Athens in 1896 appear expensive at \$17,000 each. This figure is not exceeded until the Nazi Games of 1936 (\$53,000). In 1964 the constant cost ballooned to well over a million dollars per athlete. No subsequent Olympic Games have even approached even one half the cost. Recently costs have been averaging approximately \$400,000 per athlete. This can be explained by all the above reasons as well as the higher standards demanded by the competitors (better tracks & pools), as well as the requirements of officials, the media and spectators.

RECOMMENDATIONS

Although Berlin (1936) and Tokyo (1964) had costs that were truly Olympic, this topic needs further research and must be paid attention to by cities which intend to bid for future Summer Olympic Games. Specifically more effort must be put into culling data from earlier Games. It is true that it may well be impossible to collect financial information from century old affairs, especially early Olympic Games that were attached to World's Fairs (1900 and 1904). Yet every effort should be made to provide a continuous time series of specific costs.

Second, it would prove useful if the same study was done with just operating budgets. Frankly, there was less information here than that of 'total' costs. Third, the percent of Gross Domestic Product that is devoted to hosting the Games may well tells us something about their importance (for cultural, political, sporting, or any other reason. A time series of Olympic GDPs is necessary.

Finally, there has been no attempt in this small project to address the issues of Olympic revenues nor Olympic profits. The forms of revenues have changed greatly in the past century and this study may also be useful to cities who intend to host the Olympic Games.

TABLE ONE
OLYMPIC GAMES COSTS

Year	Host City	Currency	Revenues	Costs	Profits	
1896	I	Athens	drachmas	\$448,400		
1900	II	Paris	francs			
1904	III	St. Louis	dollars			
1906	---	Athens	drachmas			
1908	IV	London	pounds	L21,591	L15,214	+L6,377
1912	V	Stockholm	kroners	\$1.165m	\$1,183m	\$18,760
1916	VI	Berlin		(cancelled)		
1920	VII	Antwerp				
1924	VIII	Paris	francs	F5.496m	caF10.0m	-F4.504m
1928	IX	Amsterdam	guilders	\$1.165m	\$1.183	0
1932	X	Los Angeles	dollars	\$2.0m	\$1.0m	+\$1.0m
1936	XI	Berlin	reichmarks	\$30.0m		
1940	XII	Tokyo	yen	Y20.1m	Y12.0m	+Y8.1m
1944	XIII			(cancelled)		
1948	XIV	London	pounds	L761,688	L742,268	+L29,420
1952	XV	Helsinki	finnmarks	FM1,531.5m	FM1,580.5m	-FM49.0
1956	XVI	Melbourne	pounds	L2.06m	L1.76m	-L.30m
1960	XVII	Rome	lira	\$7.2m	\$7.2m	0
1964	XVIII	Tokyo	yen		Y2.0b	
1968	XIX	Mexico City	peso		\$150m	
1972	XX	Munich	deutchmarks	DM1,286m	DM1,972m	-DM686m
1976	XXI	Montreal	Can dollars	\$430m	\$1,420m	-\$990m
1980	XXII	Moscow	ruble	\$2.0.b		
1984	XXIII	Los Angeles	dollars	\$768m	\$546m	+\$222.5m
1988	XXIV	Seoul		\$1,342.9m	\$847.17m	+ \$497m
1992	XXV	Barcelona	pesos		\$1.4b	
1996	XXVI	Atlanta	dollars	\$p1.5b	\$p1.4b	+\$p132m

Legend: p = projected

TABLE TWO
CONSTANT \$ OLYMPIC COSTS
(1982 = 100)

Year	Host City	Current \$ Olympic Costs (millions \$)	US-CPI 1982 = 100	Constant \$ Olympic Cost (mil 1982 \$)
1896	I Athens	\$.448	8.3	\$5.397
1900	II Paris	na	8.3	na
1904	III St. Louis	na	8.9	na
1906	--- Athens	na	8.9	na
1908	IV London	.394	8.9	4.107
1912	V Stockholm	na	9.6	na
1916	VI Berlin	na	----	na
1920	VII Antwerp	na	20.0	na
1924	VIII Paris	.518	17.0	3.047
1928	IX Amsterdam	1.183	17.1	6.918
1932	X Los Angeles	1.000	13.6	7.352
1936	XI Berlin	30.000e	13.8	217.391
1940	XII Tokyo	5.473	14.0	39.092
1944	XIII London	17.5		
1948	XIV London	2.944	24.0	12.266
1952	XV Helsinki	na	26.5	na
1956	XVI Melbourne	13.614	27.1	50.236
1960	XVII Rome	71.200	29.6	240.540
1964	XVIII Tokyo	1,926.000	31.0	6,212.903
1968	XIX Mexico City	175.000	34.8	502.873
1972	XX Munich	611.852	41.8	1,463.760
1976	XXI Montreal	1,382.668	56.9	2,429.996
1980	XXII Moscow	2,000.000e	82.4	2,427.185
1984	XXIII Los Angeles	546.000	103.9	525.505
1988	XXIV Seoul	4,047.000	118.3	3,420.963
1992	XXV Barcelona	7,000.000p	137.9a	5,076.142
1996	XXVI Atlanta	1,400.000	-----	-----

Legend: a = December, 1991
p = projected
e = estimate

Source: U.S. Bureau of Census, *Statistical Abstract of the United States, 1991*, U.S. Department of Commerce (111th ed), Washington, D.C., 1991, p. 478 (series #770, CPI, annual averages of monthly data). Above data from 1896 to 1956 adapted from: U.S. Bureau of Census, *Historical Statistics of the United States: Colonial Times to 1970*, Kraus International Publications, White Plains, N.Y., 1989, pp. 210-211 (Series E 135-166, CPI, All Items, 1967 = 100). Current \$Olympic Costs from Table 1.

TABLE THREE
CONSTANT \$ PER CAPITA COSTS
(1982 = 100)

Year	Host City	Constant \$ Olympic Costs (mil 1982 \$)	Nations	Athletes	Constant \$ Per Athlete
1896	I Athens	\$5.397	13	311	\$17,353
1900	II Paris	na	22	1,330	
1904	III St. Louis	na	12	687	
1906	--- Athens	na	20	884	
1908	IV London	4.107	23	2,035	2,018
1912	V Stockholm	na	28	2,547	
1916	VI Berlin	(cancelled)			
1920	VII Antwerp	na	29	2,607	
1924	VIII Paris	3.047	44	3,092	985
1928	IX Amsterdam	6.918	46	3,014	2,295
1932	X Los Angeles	7.352	37	1,408	5,221
1936	XI Berlin	217.319	49	4,066	53,447
1940	XII Tokyo	39.092	(cancelled)		
1944	XIII London	(cancelled)			
1948	XIV London	12.266	59	4,099	2,992
1952	XV Helsinki	na	69	4,925	
1956	XVI Melbourne	50.236	67	3,342	15,031
1960	XVII Rome	240.540	83	5,348	44,977
1964	XVIII Tokyo	6,212.903	93	5,140	1,208,736
1968	XIX Mexico City	502.873	112	5,531	90,919
1972	XX Munich	1,463.760	122	7,147	204,807
1976	XXI Montreal	2,429.996	92	6,085	399,341
1980	XXII Moscow	2,427.185	81	5,353	453,425
1984	XXIII Los Angeles	525.505	140	7,344	71,555
1988	XXIV Seoul	3,420.963	159	8,465	404,130
1992	XXV Barcelona	5,076.142p	na	na	na
1996	XXVI Atlanta	na	na	na	na

Legend: p = projected
na = not available

Source: Number of nations and athletes from *The Complete Book of the Olympics*, David Wallechinsky, 3rd edition (London: Aurum, 1991).

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