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ECONOMIC EFFECTS OF HOSTING THE OLYMPICS

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ABSTRACT

The Olympic games have recently been criticized as an economic burden instead of a once heavily coveted international sporting event. While many have studied the economic benefits of the Olympic games, the purpose of this thesis is to specifically focus on particular economic indicators in years of hosting the largest sporting event of the world. This thesis explores the history of eleven different games held in ten different countries. It studies the respective Gross Domestic Product, National Net Income per Capita, and Unemployment Rate of each country before and after hosting the games while considering historical events. This thesis assesses changes in GDP per Capita growth rates, Net National Income per Capita growth rates, and Unemployment rates for host countries in the both the year of the games and the subsequent year. This study compares the economic effects of hosting the Olympics in both small and large economies. Finally, this thesis concludes that the economic effect of hosting the Olympics cannot be evidenced on a national level through the selected indicators.

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Chapter 1

Introduction

Since the modern Olympics began in 1896, host cities have become the center of global interest for the year of the events. The games are considered to be the largest and most prestigious sports competition, with over 200 nations participating according the official website of the Olympics. Hosting the Olympic Games encourages investment in transportation and infrastructure and typically attracts a significant amount of foreign visitors. This opportunity to catch the eye of global business leaders and create political support for infrastructure projects are seen as major benefits of hosting the Olympics.

However, many critics now question the effect of hosting the Olympics. In the 2014 New York Times Article “Does Hosting the Olympics Actually Pay Off?” Benyamin Appelbaum states, “there is strikingly little evidence that such events increase tourism or draw net investment.” The article also quotes Philip Porter, an economist at the University of South Florida that studied the impact of sporting events. Porter told Appelbaum, “every time we’ve looked- dozens of scholars, dozens of times- we find no real change in economic activity.” For certain cities and regions, sports investments rarely deliver their financial promise. According to Malkoutzis’s 2012 article for Bloomberg Business, Greece taxpayers had to foot 7 billion Euros to host the 2004 Athens Olympics which did not include extra projects such as a new airport and metro system.

Recently, Western cities and democracies have been passing on opportunities to host the Olympics. Gregory mentioned in a 2015 Time article that more democracies are taking a pass on

the opportunity to host the Olympics, including the drop out of Boston in the 2024 bidding process. Widespread local opposition to Boston's Olympic bid pressured the city to remove the 2024 bid. Kilgore's 2015 article in the Washington Post states, "more recently, both in America and foreign democracies, the Games have been viewed as a problematic financial drain, met with hostility by citizens wary of corruption and misused public funds." China and Kazakhstan were the final two contenders to host the 2022 Olympics, which supports some theories that only non-democratic countries with centralized power will host the Olympics in years to come.

If hosting the Olympics is indeed an economic gamble, more and more cities may face opposition to host the Games as Boston experienced. There will be a major change in the types of countries and cities that will host future events. However, there still remains glory, prestige, and national attention associated with the Olympics that may keep countries interested in hosting the largest sporting event in the world. Developing countries could still view hosting the Olympics as an opportunity for their nation to finally be in a national spotlight. There have been many studies trying to determine the economic effect of hosting the Olympics. A mere google search results in dozens of scholarly essays, journals, and periodicals that relate to economic studies regarding the Olympics. Many scholars have tried to determine whether or not there is an economic benefit to hosting the Olympics in many different forms. Studies range from addressing tourism benefits, long-term effects, regional economic implications, and budgeting problems.

The purpose of this paper is to determine if hosting the Olympic games significantly helps the economy of the host nation enough to be seen through three selected economic indicators. This thesis intends to address the economic effect of hosting the Olympics on a national level. My research will examine three economic performance indicators of ten recent

host countries of the Olympics in order to determine if there is a nationally recognizable benefit of hosting the games as well as addressing any other significant factors that could have had an impact on the host country at the time of the games. My thesis will then assess changes in GDP, Net Income, and Unemployment for host countries in both the year of the event and the subsequent year. This thesis will also compare the economic effects of hosting the Olympics on GDP growth and Net National Income growth in small economies versus large economies. The goal of my thesis is to draw and justify conclusions regarding the impact of hosting the Olympics on GDP, National Net Income, and Unemployment. This thesis concludes that the economic effect of hosting the Olympics cannot be evidenced on a national level through the selected indicators.

Chapter 2

Literature Review

Since the Olympic games are the largest international sporting event in the world, there have been many studies and debates regarding the impact of hosting the events. Some literature focuses on the impact of one specific game for that individual country. Independent consulting firms assess and estimate the number of jobs created by hosting the Olympics, or assess net revenues for the specific host city during the games. For example, InterVISTAS Consulting claimed that the 2010 Vancouver Games lifted the country's output by \$10.7 billion

and created 244,000 jobs. Many firms like InterVISTAS Consulting use an input-output model to describe the relationship amongst different sectors of the economy and the Olympic games. These models track the supply chain effects of a tourist's purchase on the host city's economy. For example, a meal purchased impacts a local farm that supplies the food as well as the company that manufactured chairs and tables for that individual restaurant. A multiplier is created through these models to track how the purchase of this meal works its way through the rest of the economy, and how much output is created through that purchase. For my study, I decided to not focus on an individual city or local economy. Instead, these types of studies inspired me to assess an overall national impact from the events instead of specifically addressing tourism spending or the number of jobs created.

Evangelia Kasimati and Peter Dawson reviewed the impact of the 2004 Athens Olympic Games on the Greek Economy. Their study uses a small aggregate macro econometric model to determine if the Olympics is an event that could actually boost the economy of the host city by creating benefits that outweigh the cost of hosting. Kasimati and Dawson conclude that the impact effects are strong during the preparation years of hosting the games and the year that the games took place, but the long-term effects are modest. Although I was not interested in specifically focusing on one Olympic event or using a complex macroeconomic model, this study inspired me to assess the impact of the games during different time periods in my thesis. My study, however, focused on the year of the games and the year immediately following the games instead of the preparation years.

Other studies focus on the effect of the nomination of hosting the games. In a 2006 study for Applied Economics Letters by Veraros, Kasimata, and Dawson conclude that the effect of the nomination of Athens as a hosting city for the 2004 Olympics had a positive effect on the Athens

Stock Exchange (ASE). Although I did not focus on the stock market performance of the host countries in my study, this specific literature inspired me to look for trends in other national economic indicators.

Many studies focus on the impacts of Olympics on exports and tourism. Fourie and Santana-Gallego's 2010 study applied the gravity model to analyze the effects of various mega events, including the Olympics, on tourism. Their results conclude that mega-events do, in fact, promote tourism but the gain depends on many factors including the host country's level of development. Song's 2010 study on the impacts of Olympics on exports and tourism uses a gravity model on international trade to assess the flows between two countries. His results conclude that the Summer Olympics have positively affected both exports and tourists. However, his results suggest that the effects on exports are slow but for a long period of time, and that the effects on tourists are immediate and not long lasting. All of the various studies on exports and tourism discouraged me from specifically focusing on tourism and exports. However, these studies inspired me to review economic indicators such as GDP that include exports.

The literature that most inspired the methodology that I used for my thesis was Bruckner and Pappa's 2015 study "News Shocks in the Data: Olympic Games and Their Macroeconomic Effects." Bruckner and Pappa analyzed 188 countries that bid for the Olympic games from 1950-1999. Bruckner and Pappa used panel fixed estimation techniques to examine how changes in private consumption, government consumption expenditures, the price level, and the exchange rate are related to hosting and bidding for the Olympic games. This study found that government spending significantly increases four years prior to hosting the Olympic events, and that host nations experience a significant increase in investment and private consumption five years before the games. Although I was not interested in the portion of the study focused on nations that lost

the bid to host the events, this study motivated me to assess changes in economic indicators that could easily be influenced by changes in investment and both private and public spending.

Although this study found increases in spending and investment leading up to the games, my thesis specifically focuses on the year of the hosted events and the year immediately following.

In summary, my study will differ from others because I will only assess the impact of hosting the Olympics on three national economic indicators. My study does not specifically focus on tourism impacts, government spending, or the exact number of jobs created.

Additionally, my thesis only assesses national economic impacts instead of focusing on the implications of hosting the games for cities or local economies. The goal of my thesis is to try to determine if there is a broad, overall economic impact on hosting the Olympics that can be evidenced through noticeable changes in national economic indicators.

Chapter 3

Methodology

This thesis will start by focusing on eleven recent Olympic games, starting with France in 1992. The table below lists the countries examined in detail for this thesis. The United States will be studied twice, once for hosting summer games in Atlanta and once for hosting winter games in Salt Lake City.

Table 1: List of Host Countries Studied

Year	City	Country
1992	Albertville	France
1992	Barcelona	Spain
1994	Lillehammer	Norway
1996	Atlanta	United States
1998	Nagano	Japan
2000	Sydney	Australia
2002	Salt Lake City	United States
2004	Athens	Greece
2006	Turin	Italy
2008	Beijing	China
2010	Vancouver	Canada

I chose these ten specific countries because I wanted to examine the time period five years before and after hosting the Olympic games, eliminating recent hosts including the United Kingdom and Russia. By assessing only ten countries, I was able to address other factors that might have had an impact on the host country's economic performance surrounding the time period of the games including global economic events, political implications, and other significant events or factors that might have had an influence on the country. I chose recent host countries because my interest in this topic was sparked by the new criticism and skepticism regarding the benefits hosting the Olympics as addressed in my introduction. I also selected this time period because

my research was able to assess the economic performance of the United States twice, comparing the national effects of hosting two different types of Olympic games in two very different cities.

My thesis will specifically focus on GDP growth, National Net Income per Capita, and Unemployment rates of each of the host countries. GDP was chosen as an economic indicator because a rise in GDP signals growth in the economy which typically means an increase in productivity. I wanted to determine if the investment of hosting the Olympic games caused significant enough improvement in productivity to have an impact on overall national GDP growth. Net national income was selected in this study to determine if hosting the Olympics creates a noticeable impact on the incomes of households, businesses, and the government of the host country. Unemployment rates were chosen to be analyzed to conclude if the jobs created involved with the investment of hosting the Olympics spurred enough results to be noted on a national rate.

This thesis will begin by evaluating each Olympic host country individually. It will study the history of each of the Olympic games selected, including broadly addressing any major opinions regarding the apparent success or failure of the games. This report will then explore specific economic effects of hosting the Olympics on a national level for each country studied by assessing the major economic indicators noted. I chose to analyze each country's GDP, national net income, and unemployment rates because I intend on focusing on whether or not there is a positive national impact of hosting the Olympics rather than focusing on any economic benefits of just the host city. This thesis will then determine if hosting the Olympics significantly improved the economic performance indicators chosen. GDP, National Net Income, and Unemployment Rates will be reviewed for each country individually in the time period of the respective Olympic Games.

This thesis will then assess changes in GDP, Net Income, and Unemployment in the year of the Olympics and the year immediately following the events. The scope of this part of the research will include twenty recent host countries. The study will then compare the change in economic indicators for countries with a smaller economy to countries with large economies in the year of the hosted Olympic games and the year immediately following. The changes in economic indicators for Greece, Norway, and Austria will be compared to the overall average changes in the indicators for the other countries reviewed in this study. Finally, this thesis will determine if the impact of the Olympics events is recognizable through changes in these particular measures of a nation's economy.

Chapter 4

Economic Indicators

For each of the ten countries studied, I chose to examine three economic indicators over a ten year period beginning five years before the Olympic games and ending five years after the events. The first economic indicator reviewed is GDP growth as an annual percentage taken from World Bank national accounts data and OECD National Accounts data files. This indicator is the annual percentage growth rate of GDP at market prices based on constant local currency. The aggregates are then based on constant 2005 U.S. Dollars. The World Bank national accounts data defines Gross Domestic Product (GDP) as: “the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products.” The calculation is made without taking any deductions for depreciation of assets or depletion of natural resources.

The second economic indicator selected for this thesis is the Adjusted net national income per capita in constant 2005 U.S. Dollars. The data was taken from World Bank national accounts data and OECD National Accounts data files. The World Bank defines adjusted net national income as: “Gross Net Income minus consumption of fixed capital and natural resources depletion.”

The third economic indicator selected for analysis is Unemployment. I chose to assess the employment rate during the early stages of selecting this particular thesis topic, after reading articles about jobs created during the 2012 London Olympics. According to Prynne’s article in the UK Evening Standard, the Olympics boom created 100,000 jobs in London. The article stated,

however, “some economists expressed fears that most of the new jobs are part-time or temporary roles linked to the Olympics, and unemployment will start rising again over the winter” (Prynn, 2012). According to Hamilton’s Bloomberg Article “U.K. Unemployment Unexpectedly Falls on Olympics Boost,” the jobless total measured by the International Labor Organization fell to 8% in the second quarter from 8.1% in the three months through May leading up to the summer games. This thesis will assess if hosting the Olympics will have an overall effect on the Unemployment Rate on the host nation. For my analysis I chose to study the Unemployment rate as a percentage of total labor force taken from the International Labour Organization. The International Labour Organization defines unemployment as: “the share of the labor force that is without work but available for and seeking employment.”

When assessing changes in GDP growth in the year of the games and the year immediately following the events, I chose to compare GDP per capita growth and adjusted net national income per capita growth as annual percentages. This data was collected from the World Bank National Accounts data and OECD National Accounts data files. GDP per capita is the same Gross Domestic Product described above divided by midyear population.

Chapter 5

France

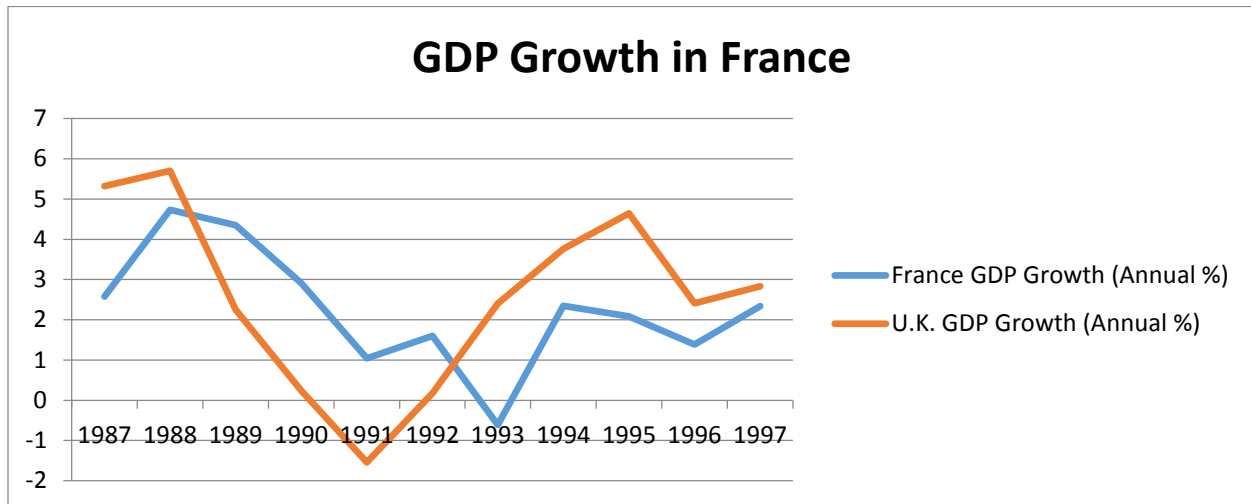
The 1992 Winter Olympics were celebrated from February 8th to February 23rd in Albertville, France. These games were officially known as the XVI Olympic Winter Games. Only 18 of the 57 Olympic events were held in Albertville, while the rest were hosted in nearby resorts. These winter games were the last to be held in the same year as the summer games. The games featured 1,801 athletes from 64 participating countries.

Unfortunately, the 1992 Winter Olympic games went 135% over budget resulting in a \$57 million deficit that was covered by the French government. (Riley, 2014). The central and regional government covered a \$1.2 billion cost of improving the infrastructure of the area including building and renovating highways, railroads, hospitals, and cultural centers in the area. Renovations and upgrades for transportation throughout the broad geographic area used in the games ended up costing more than planned. For the Albertville games, the honor of hosting the Olympics for the French taxpayer was also paired with an increased bill. Ski resorts near Albertville also ended up suffering with increased amounts of debt in hopes that the games would have increased tourism benefits for them. In Pralognan, La Vanoise an ice rink that cost \$6 million was built and never used (Riding, 1992). However, many of the debt projects were problems that were eventually solved by local and regional governments.

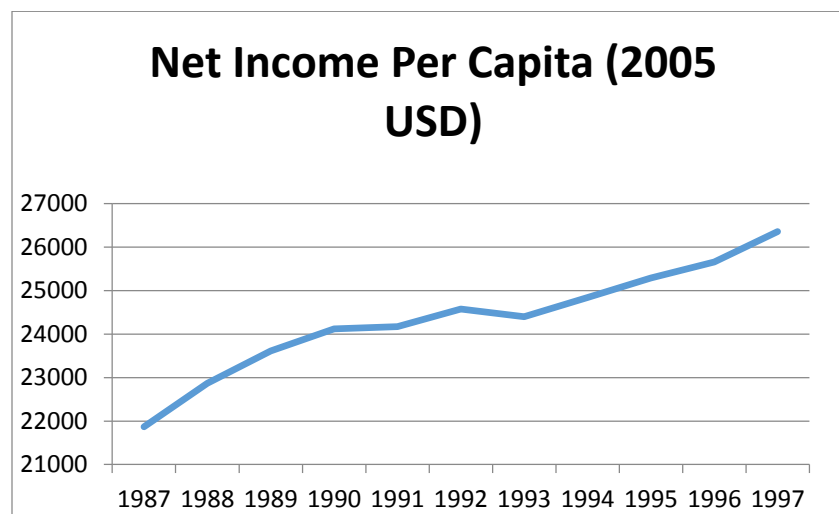
Table 2 below shows France's GDP Growth as an annual percentage from 1987 to 1997. This table compares France's GDP growth to that of the United Kingdom in the same time period. France's GDP displayed negative growth after hosting the Olympics, declining 0.6127% immediately after the Olympic games. France did not witness positive GDP growth until the

following year with 2.345% growth in 1995. According to the World Bank database, France has only seen three years with negative GDP growth from 1960 until 2015.

Table 2: GDP Growth in France



France's Net Income Per Capita also displays negative growth in the year after hosting the Olympic games in Albertville. The table below shows France's Net Income Per Capita in 2005 U.S. Dollars from 1987 to 1997. From 1992 to 1993 the Net Income per Capita decreased by 0.73%. This decrease in the net income per capita combined with the decrease in GDP growth indicates national economic effects in the time period in which France hosted the Olympic games.

Table 3: Net Income Per Capita in France

The table below displays France's Unemployment Rate from 1987 through 1996.

Unemployment rates started increasing in 1991, the year prior to hosting the Olympic games. The rates continued to rise for three years following the games. Even though the Unemployment rate decreased around the time period of the games, the rate did not increase to unusual levels. . In summary, France's negative GDP growth and decrease in net income per capita is noteworthy and happens to occur around the time the nation hosted the Olympics. Unfortunately, I do not believe that hosting the Olympics can be completely blamed for France's negative GDP and National Net Income per Capita growth. The apparent negative effect of the Albertville Olympic games on GDP and National Net Income could be completely derived from the effect of the early 1990s recession on France's economy. Table 2 demonstrates that the United Kingdom's GDP growth also suffered during the early 1990s, indicating that the recession impacted a comparable economy during the same time period.

Table 4: France Unemployment Rate

In conclusion for the purpose of this thesis, all three economic indicators displayed negative economic effects for France one year after Albertville hosted the Olympic Games. During the year of the Olympic games, the Unemployment rate is the only economic indicator reviewed that showed a change for the worse from the prior year. The slowed GDP and National Net income growth in the years surrounding the Albertville games probably results from a slowed economy during the time of the recession.

Chapter 6

Spain

Spain hosted the 1992 Summer Olympic games in Barcelona, Catalonia, Spain. The Summer 1992 Olympics were the last competition to be held in the same year as the Winter Olympics. The games featured 9,356 athletes from 169 countries.

The 1992 summer games are known for improving Barcelona's urban infrastructure. The city faced problems before hosting the Olympics. A report titled *The Economic Impact of the Olympics* by Ferran Brunet of the Universitat Autònoma de Barcelona noted that "new roads represented an increase of 15% over those existing in 1986; new sewage systems, 17%, and new green areas and beaches, 78%." According to Justin Clark's 2015 Los Angeles Times article, "What L.A. can learn from the 1992 Barcelona Olympics," Barcelona used 85% of its Olympic budget on infrastructure improvements. Clark wrote:

Net economic gains, unevenly distributed and often disputed in any case, are only one measure of success. Just as important is the impact on urban infrastructure. In that particular contest, Barcelona's turn hosting the 1992 Olympics is often regarded as the gold medalist.

Clark is one of many that believe that the 1992 Barcelona games left one of the most positive impacts on the city and nation in the history of the Olympics.

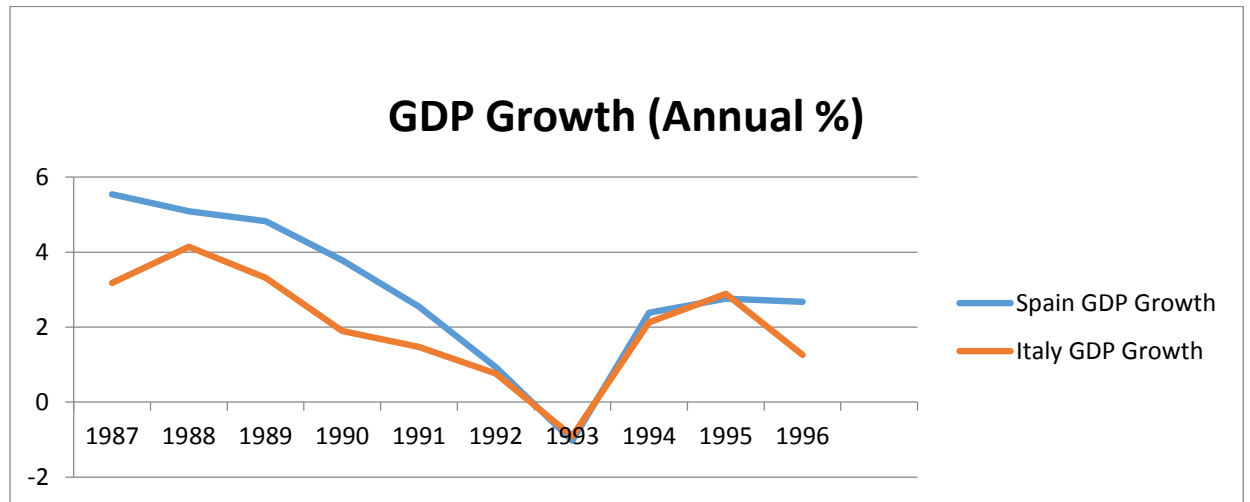
Barcelona's tourism sector also saw significant improvements after hosting the Olympics. The city converted the waterfront area into a center for nightlife and tourism, which was previously inaccessible and filled with train tracks and factories before the infrastructure projects of the games. Barcelona's previously over congested El Prat airport went through major developments prior to the Olympic games including the creation of two new terminals. According to the International Olympic Committee's Factsheet "Legacies of the Games" hotel space grew by 38% in Barcelona from 1990 to 1992. Barcelona now hosts 7.5 million annual visitors, which is significantly larger than the 7.5 million annual visitors that toured in 1990 (Springer, 2014). Springer wrote, "its [Barcelona's] transformation demonstrates just how powerful a catalyst the Games can be at the right time with the right planning, motivating a city to launch long-delayed improvements."

The 1992 Olympic games have also been recognized as one of the reasons for the success of Spain's overall sporting industry. Sportswriter Juan Jose Paradines told *The Atlantic*, "The Barcelona Olympics unleashed a torrent of money from both the government and private sources to build sports facilities all over the country and support sports which had not previously had support in Spain" (Barra, 2012). Overall, the 1992 games are generally known for the positive impact left behind on the city of Barcelona. As for the economic well being of Spain, the national economic indicators will now be examined.

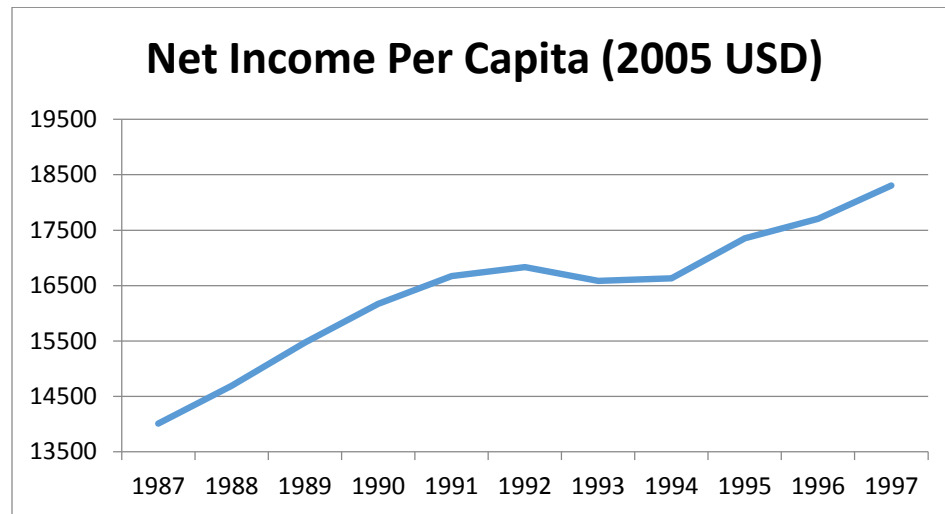
Despite the overall positive reaction to the 1992 Olympic games, Spain witnessed negative GDP growth in the year following the Olympic events. The table below shows Spain's GDP Growth as an Annual percentage from 1987 to 1996. This table compares Spain's GDP growth to Italy's GDP growth during the same time period. From 1992 to 1993, Spain's GDP growth was -1.035%. Similarly to France, 1993 proved to be one of the few years in which the

nation displayed negative GDP growth. This negative growth could easily reflect the effect of the early 1990s recession on the country.

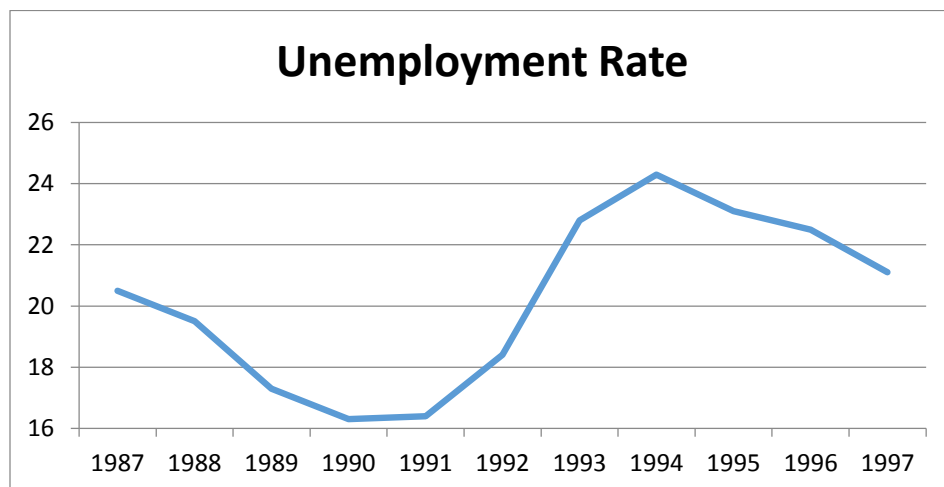
Table 5: Spain GDP Growth



The table below shows Spain's Net Income Per Capita in constant 2005 U.S. Dollars from 1987-1997. Similarly to France, the year following the Olympic games showed negative Net Income Per Capita growth for Spain. Spain's Net Income per Capita decreased by 1.47% in 1993. During the years reviewed for the purpose of this thesis, 1993 is the only year in which Spain's net income per capita displayed negative growth.

Table 6: Spain Net Income per Capita

The table below shows Spain's Unemployment Rate from 1987 to 1997. In the year of the 1992 Barcelona games, Spain's Unemployment Rate grew by 2%. In 1993, one year after the Olympic games, Spain's unemployment rate grew by a notable 4.4% to a rate of 22.79% which was one of the highest unemployment rates the country witnessed in years. Despite the amount of infrastructure improvements in Barcelona to host the Olympics, the nation's overall employment rate showed no positive impact coming from the investment.

Table 7: Spain Unemployment Rate

In conclusion, Spain displayed slowed Net Income per Capita growth and GDP annual growth in the year of the Barcelona games along with an increase in the Unemployment Rate. The Barcelona games were regarded as one of the best investments for the Spanish city, with Barcelona now known as one of the most popular tourist destinations in the world. Unfortunately, Spain's economy showed no boost from the Olympic events. The economic indicators studied could only show detrimental effects on the economy from the recession. As shown in Table 5, Italy's GDP growth dropped in the same time period that Spain's GDP growth decreased. This could indicate that the recession impacting the two comparable economies was the real reason for the drop in GDP growth.

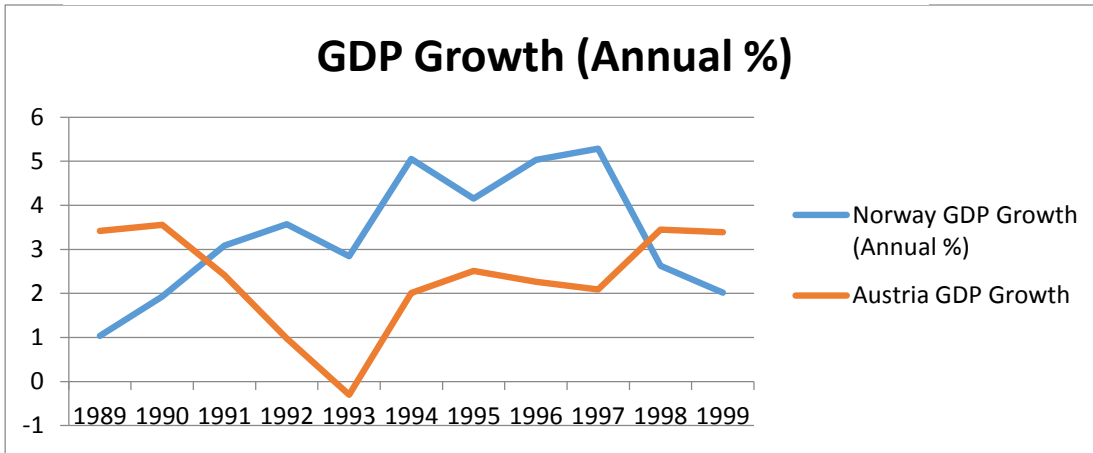
Chapter 7

Norway

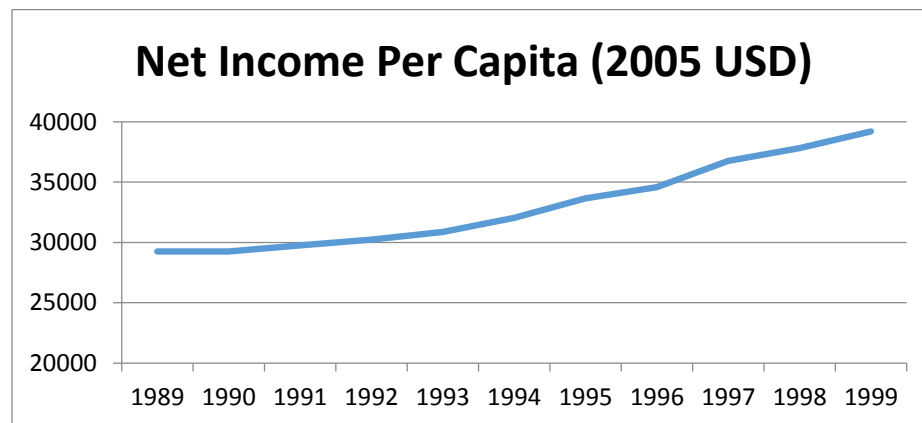
The 1994 Winter Olympic Games were held in Lillehammer, Norway. These winter games were the first and only to be held two years after the prior winter games. 1,737 athletes competed from 67 countries. Lillehammer proved to be a popular venue for winter athletes and the Olympic Community. Philip Hersh wrote in his 2014 article in the Chicago Tribune, “No country is more passionate about and successful in winter sports. No country has them more completely woven into the fabric of its culture.”

Norway rejected a bid to host the Winter 2022 Olympic games in 2014, with costs of hosting listed as a major concern. Back in 1994, Norway planned on a significant increase in tourism following the events. According to Matthew Knight’s 2012 CNN article, “long-term predictions (10% per year for the decade after the games) for tourist growth nationally never happened.” In years following the games, regional hotels in Norway faced significant economic problems when tourism rates failed to increase (Knight, 2012). Overall, Norway mainly faced only regional economic problems after hosting the games.

The table below displays Norway’s GDP Growth as an annual percentage from 1989 to 1999. In the year of the Lillehammer games, Norway experienced a significant increase in GDP growth. Norway’s GDP growth is compared to Austria’s GDP growth. Norway’s GDP grew 5.055% in 1994, up from 2.845% growth in 1993, and continued to grow at similar high rates for the next few years.

Table 8: Norway GDP Growth

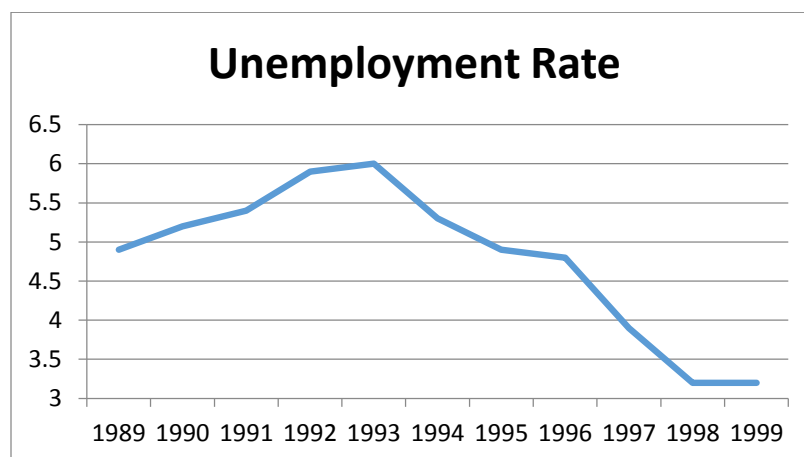
Norway's Net Income Per Capita also demonstrated growth throughout 1994. As shown in the table below, Norway's Net Income Per Capita grew on a steady incline for years. In the year of the Winter games, Net Income Per Capita grew by 3.82% up from 2.07% growth in 1992. Immediately following the Olympics in 1995, Norway's Net Income Per Capita grew by an impressive 5.08%.

Table 9: Norway Net Income Per Capita

Norway's Unemployment Rate also took a change for the better during the year of the Lillehammer games. Norway's Unemployment Rate from 1989-1999 is shown in the table

below. The Unemployment rate decreased by 0.7% in 1994, and continued to decrease in the next several years. Before the 1994 Winter games, from 1990 to 1993, Norway's Unemployment Rate had been decreasing.

Table 10: Norway Unemployment Rate



All three economic indicators reviewed for Norway showed that the country was better off in the year of the Lillehammer games. The GDP's growth rate increased, the Net Income Per Capita also saw positive growth, and the Unemployment rate decreased. For purposes of this thesis, Norway is the first country reviewed to have positive economic results from all three economic indicators reviewed in the year of the respective Olympic games. Norway, however, was experiencing economic growth after a banking crisis that slowed the national economy from 1990-1992. Although the timing of the winter games appears to perfectly match growth in Norway's economy, the growth in 1994 realistically came from the country's overall economic improvement following a recession. Table 8 reveals that Austria also witnessed a significant increase in GDP growth in 1994. Similarly, Austria was finally recovering from an economic recession at the time, which could be the main reason for the increase in GDP growth.

Chapter 8

United States: Atlanta

The 1996 Summer Olympics were held in Atlanta, Georgia. The games featured 10,318 athletes from 197 nations. These Summer Games were the first to be held in a different year from the Winter Games. The Atlanta games were mainly financed through private funds, however federal, state, and local contributions managed to still exceed half a billion dollars (Applebomb, 1996).

The Atlanta games have generally been perceived as an economic success story. Dahleen Glanton's 2009 Chicago Tribune article quoted A.D. Frazier, the Chief Operating Officer for the Atlanta Committee for the Olympic Games. Frazier said, "Atlanta benefitted more than any other city in the history of the Olympics. Afterward, we had no debt and we left behind a legacy of privately funded structures the city would not have seen otherwise." The city's Centennial Park downtown is now the center of more than \$1.8 billion in hotels, commercial space, and apartment buildings built since the games.

Kathy Lohr gave a 2011 NPR article special titled, "The Economic Legacy of Atlanta's Olympic Games." The show discusses how the 1996 Summer Games sparked \$1 billion of construction projects, eventually causing a \$5 billion impact on the city. Lohr believes the Olympics are partially responsible for Atlanta's population increase from 3.5 million people in 1996 to 5.5 million people in 2011. Lohr's show also discusses how parts of the city suffered from the games including a declining housing market and significant increased unemployment despite all of the major projects that posed as success stories for the city. The 1996 games proved to be a success story for many parts of Atlanta, but no Olympic event perfectly transforms a city.

United States: Salt Lake City

Six years later, the United States held Winter Olympics in Salt Lake City, Utah. The 2002 Winter games featured 2,400 athletes from 78 countries. These Games coincided with the early 1990s recession that heavily impacted the economy of the United States in 2002 and 2003. The games also occurred months after the September 11th terrorist attacks, during a time period the United States was involved in the Afghanistan War.

Many viewed the marketing effort of the Salt Lake City games to be one of the most successful in the history of the Olympics. The operating budget of the Salt Lake City Organizing Committee \$1,390.5 million was almost entirely funded through marketing and broadcast (International Olympic Committee, 2002). After the games, the Salt Lake City Organizing Committee even boasted an operating surplus of \$40 million.

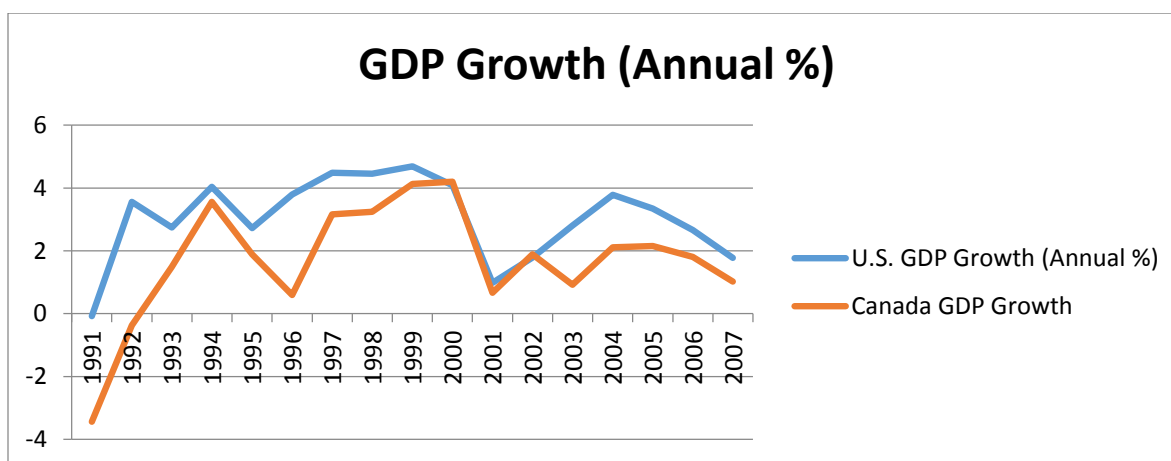
According to the International Olympic Committee, approximately \$1 billion U.S. dollars have been put into Utah's economy since the sporting events. Utah has seen a 42% increase in skier visits since 2002, and workers employed because of the games earned approximately \$1.5billion. The area's infrastructural improvements continue to benefit the community, and venues created for the events are still used to this day.

The United States hosted two spectacular events in both Atlanta and Salt Lake City, boasting games that left no extra bills for taxpayers. According to the Mark Arsenault's 2015 Boston Globe article, both games earned higher-than-expected revenues and generous support from the federal government in addition to privately funded budgets. Luckily for the United States, neither of these games posed major debt problems for either city. A review of the

indicators will determine if the success stories of these games generated an impact visible in the economy of the United States.

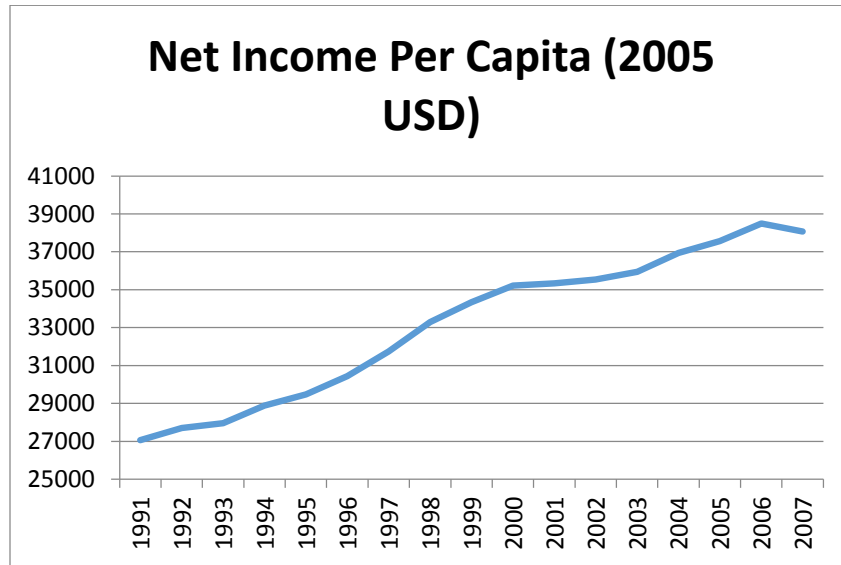
The table below features the GDP Growth of the United States from 1991-2007. The United States' GDP growth is compared to that of Canada during the same time period. In the year of the 1996 Summer Games in Atlanta, GDP grew 3.796% up from 2.719% growth in the prior year. GDP continued to grow for the United States after the Atlanta games, until growth slowed in the year of the 2001 terrorist attacks to 0.976%. However, GDP growth increased in 2002 to 1.786% during the year of the Salt Lake City games.

Table 11: U.S. GDP Growth



As seen in the table below, The Net Income per Capita of the United States showed positive results in the years surrounding both of the Olympic events. In the year of the Atlanta games, Net Income Per Capita grew 3.25% up from 2.08% in the prior year. In 2002, post 9/11, Net Income Per Capita showed increased growth at 0.6% up from 0.31% in the year of the terrorist attacks.

Table 12: U.S. Net Income per Capita



The table below displays the Unemployment Rate in the United States from 1991 to 2007. Unemployment rates decreased from 1995 through 2000, including the time period of the Atlanta 1996 summer games. During the 2002 Salt Lake City Winter Games, Unemployment increased by 1.1%. However, this occurred during a time period heavily influenced by terrorist events and war.

Table 13: U.S. Unemployment Rate



In summary, the economic indicators reviewed for the United States in time periods around the Olympic games in both Atlanta and Salt Lake City happened to mainly display positive results. For the 1996 Summer Games in Atlanta, both GDP and Net National Income were growing and Unemployment rates were dropping. In 2002 during the year of the Salt Lake City Olympics, both GDP and Net National Income grew despite the tough economic times the United States was facing. Table 11 reveals that the changes in the GDP growth of the United States coincide with Canada's comparable economy during the same time period. Both countries witnessed growth throughout the late 1990s and a drop in GDP growth around the time of the terrorist attacks and war in 2001. The only indicator reviewed with poor results in the year of the hosted games is the Unemployment Rate, which increased during the year of the 2002 Olympics.

Chapter 9

Japan

The 1998 Winter Olympics were held in Nagano, Japan. 2,176 athletes from 72 nations performed in events. According to Kristof's 1997 New York Times article there were major problems leading up to the events. Public Japanese support of the games fell once they learned that each household would be faced with an increased bill to cover the cost of the debt of the games. Japan even built a new train at the time to take tourists from Tokyo to Nagano in 90 minutes.

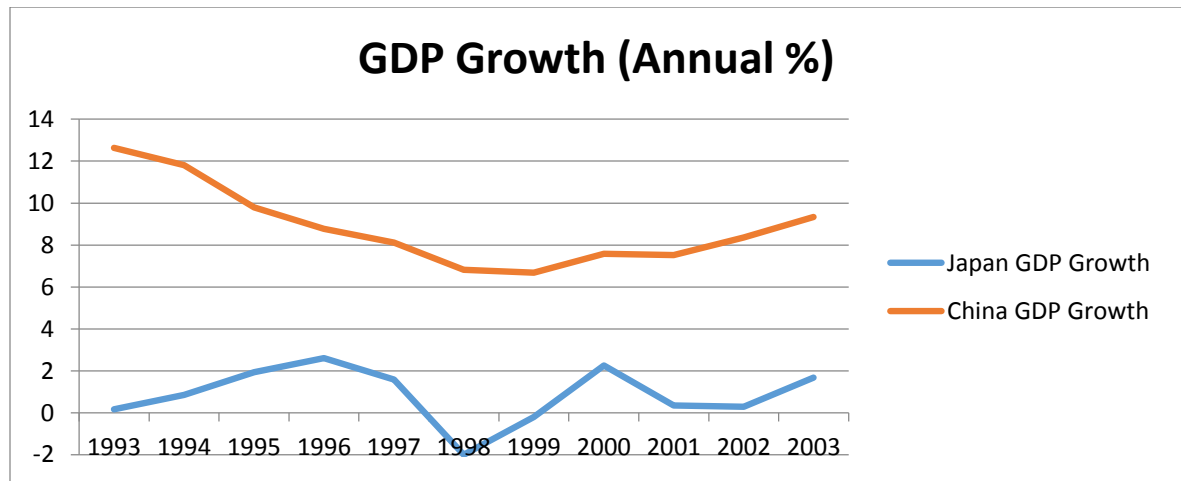
Nagano, widely known as an Olympic disaster, spent too much on investments to host the 1998 games. Tourism never surmounted after the games as intended, and the city went over original budget by 56% (Riley, 2014). However, not much information can be drawn from the financial records of the events. Corruption masked the amount of debt and costs spent by the city, as apparently entire boxes of financial records were completely burned. As Travis Daub put in his 2009 PBS article, "Officials in Nagano, Japan spent so much on the 1998 Winter Games that they destroyed their financial records."

In addition to increased debt following the Olympic games, Japan also battled a major recession in the year of the Nagano games. The recession hit Japan in the fourth quarter of 2008, as businesses cut back on spending and net exports negatively contributed to growth. This recession will have a significant impact on the economic indicators reviewed.

Japan's economic indicators studied at the time of the Olympic events align with the apparent massive debt resulting from the 1998 games. The table below displays both Japan and China's GDP growth from 1993 to 2003. In 1998, during the year of the Olympic games, Japan faced significant negative GDP growth of 2.74% after years of positive growth. In the

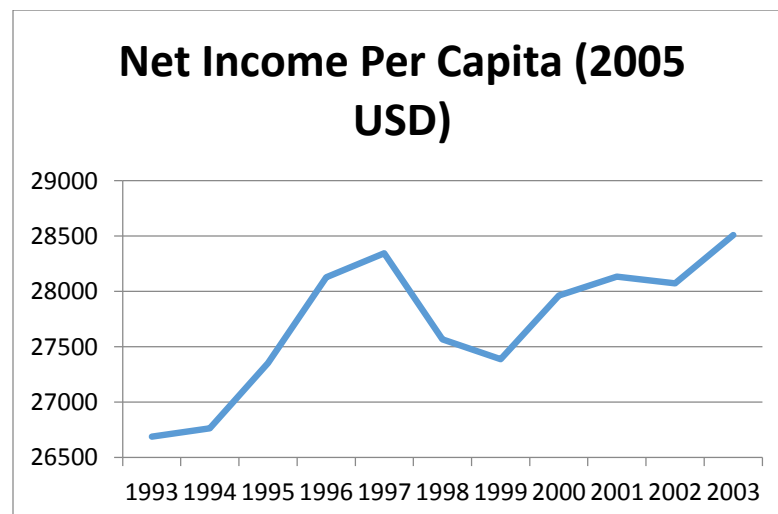
subsequent year, Japan's GDP continued to decrease. In 2000 the nation's GDP finally experienced positive growth.

Table 14: Japan GDP Growth



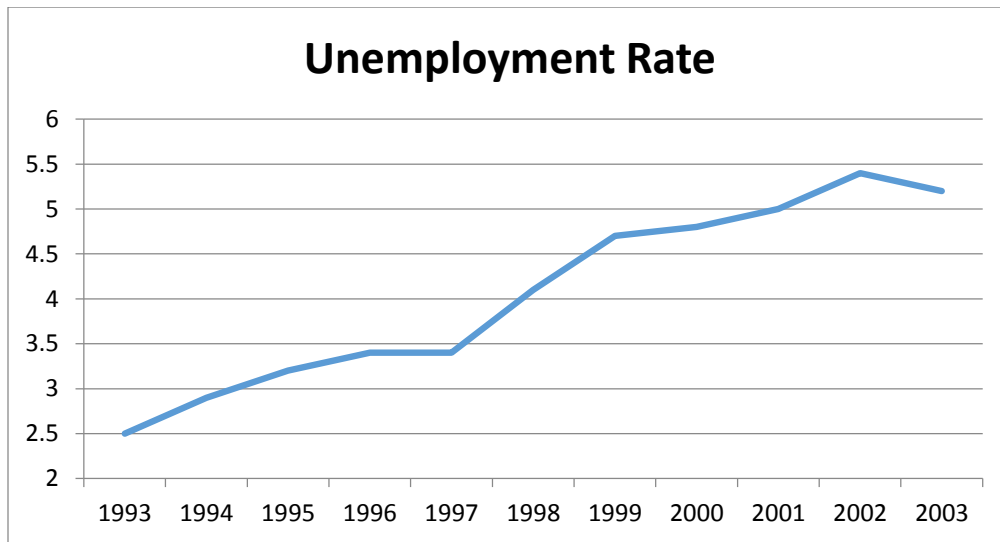
Japan's Net Income Per Capita demonstrates a similar economic struggle during the year of the Olympic games. The table below displays Japan's Net Income Per Capita from 1993 to 2003. In the year of the Olympic games, Japan's net income per capita dropped by 2.74% and continued to decrease by 0.66% in the following year.

Table 15: Japan Net Income Per Capita



Japan's national Unemployment Rate also shows poor results during the time period of the Olympic games. In 1998, Japan's Unemployment rate grew by 0.7%.

Table 16: Japan Unemployment Rate



Due to the major recession impacting Japan and Asia in the late 1990s, the economic indicators studied will naturally display poor results. Table 14 displays that China's GDP growth similarly decreased in 1998, the year of the Nagano games, during the recession that impacted Asia during the late 1990s. All three indicators showed negative economic effects during the time period of the 1998 Nagano games.

Chapter 10

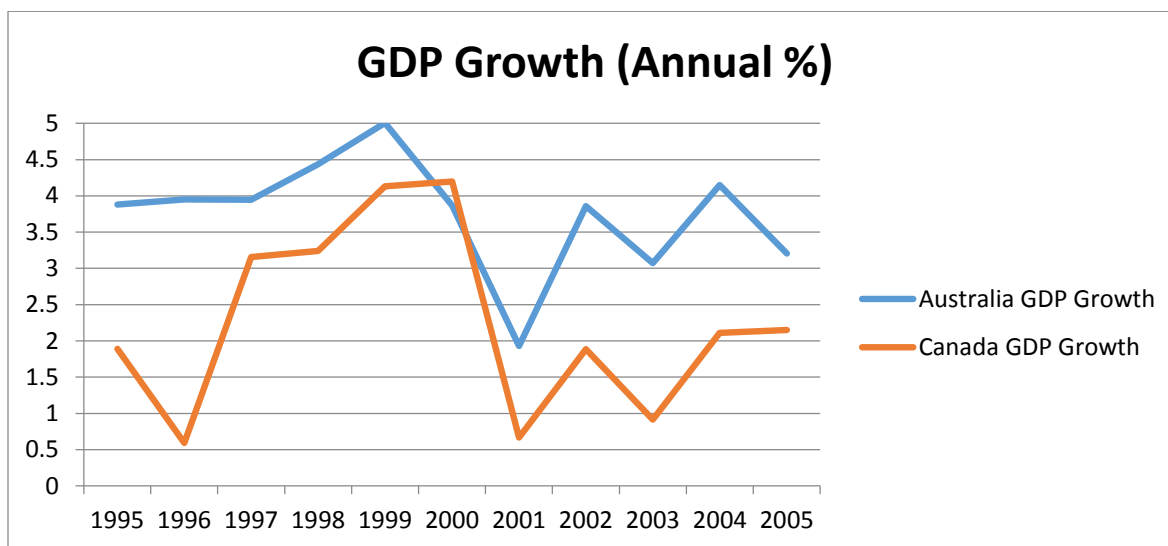
Australia

Australia hosted the 2000 Summer Olympic games in Sydney. 10,651 athletes from 199 nations participated in the events. According to Peter Berlin's 2003 New York Times Article, the games posed a hefty bill for the Australian government. The New South Wales auditor general totaled the games cost at 6.484 Australian dollars (US \$4.7 billion), of which the Australian government paid about one third. After including revenues from visitors, Australia faced a loss of 1.326 billion Australian dollars.

Despite major costs problems, a major theme amongst Olympic host cities, the games also left many positive impacts with the Australians. According to the International Olympic Organization in 2002, Australia built a suburb called "The Park" for the 2000 games. Since then, the suburb has continued to have successfully continue as a commercial and residential area of the city. The sports complexes built for the 2000 games have been put to use for hosting major sporting events including the Rugby world cup and many other international sporting events. Sydney even created a "Master Plan 2030" to host 25,000 daily visitors.

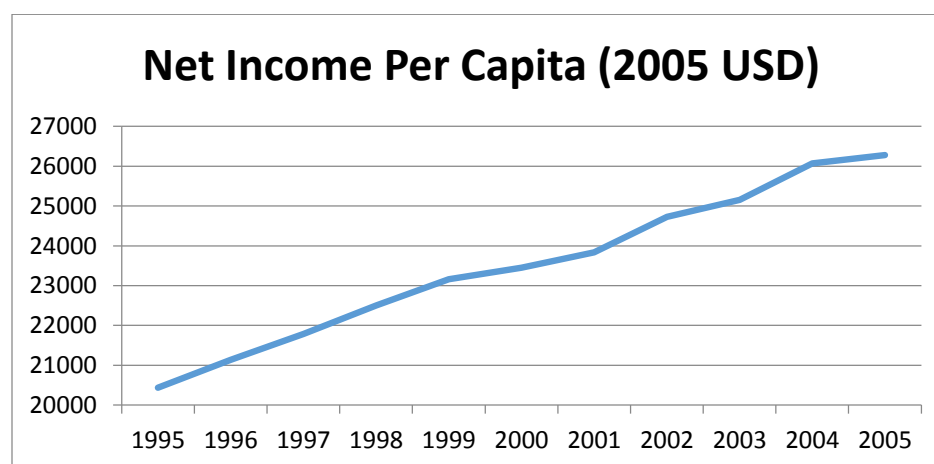
As displayed in the table below, Australia's GDP maintained positive growth in the years reviewed from 1995 to 2005. The table compares Australia's GDP growth to that of Canada during the same time period. During the early 2000s, Australia was able to avoid the economic recession impacting the economies of many countries in the world at the time. When isolating the year of the Sydney 2000 Summer Games, however, GDP growth slowed from 5.007% in 1999 to 3.869% in 2000.

Table 17: Australia GDP Growth



The table below shows Australia's Net Income Per Capita in Constant 2005 USD. Australia boasted positive Net Income Per Capita growth from 1995 to 2005. Again, when assessing the year of the Sydney summer games, Australia witnessed slowed net income per capita growth of 1.24% in comparison to 1999's growth of 2.93%.

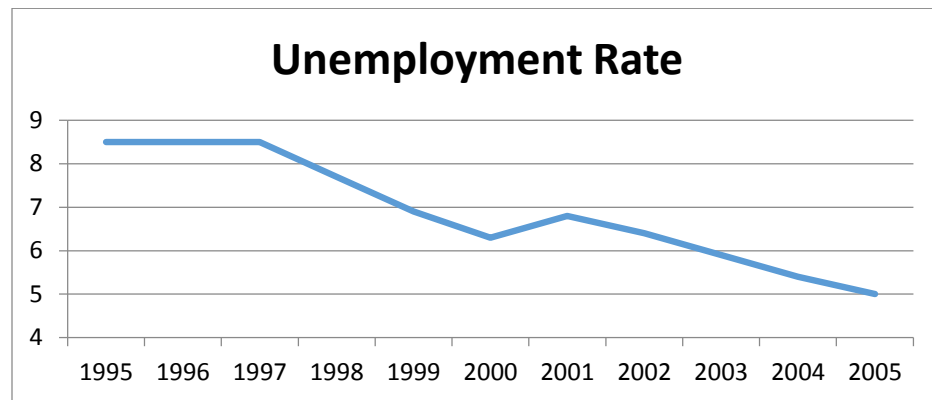
Table 18: Australia Net Income per Capita



As indicated below, Australia also boasted decreased Unemployment Rates for most years from 1995-2005. In the year of the 2000 Olympic events, Australia's Unemployment Rate dropped 0.6%. For purposes of this thesis, both GDP and Net Income Per Capita showed slowed

growth in Australia during the year of the Olympic events indicating a potential negative economic effect. However, the Unemployment rate successfully dropped in the year of the 2000 Summer Games. Even though Australia mainly avoided any economic recession at the timing of the Olympics, the Sydney games provided no clear boost to the economy in the indicators reviewed.

Table 19: Australia Unemployment Rate



Chapter 11

Greece

The 2004 Summer Olympic Games were held in Athens, Greece. Representing 201 countries, 10,625 athletes competed. The Greek Ministry of Finance reported in 2013 that the expenses of the Greek state for the Athens games totaled about 8.5 billion euros, making the games the most expensive at that point in time.

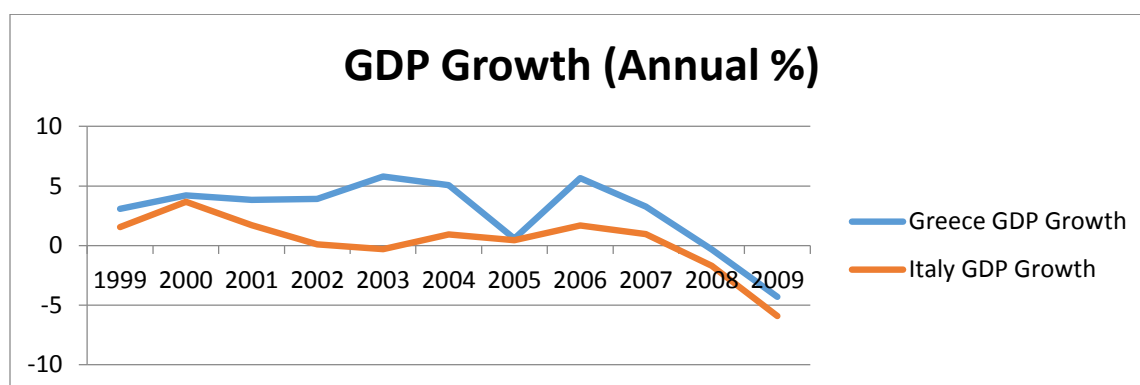
Some critics blame Greece's Government-Debt Crisis, known as the Greek Depression, to have been triggered by the 2004 Athens events. Malkoutzis wrote in his 2012 Bloomberg article, "the games were just one of several areas where public spending was unchecked and funded by unsustainable borrowing." More than a dozen Olympic venues sit vacant and patrolled by security guards. Sanburn describes in his 2012 Time article, "the 2004 Olympics were a microcosm of Greek economic dysfunction: missed budget estimates, poor planning, financial mismanagement." In 2005, one year after the events, Greece became the first country to be placed under fiscal monitoring by the European Commission.

After the games were held, the housing development used for Olympic athlete accommodations was converted to public housing. However, the village now features graffiti, broken equipment, dangerous playgrounds, cracking buildings, and sewage problems. In Govan's 2011 UK Telegraph article, Athanasios Alevras, former deputy minister of culture before the games admitted, "we promised infrastructure and facilities that then weren't delivered. The plans were not respected. Basically, it's a disaster." In summary, many believe that the aftermath of the Athens Olympics added to the country's overall economic problem.

The table below displays both Italy and Greece's GDP growth as an annual percentage from 1999 to 2009. In the year of the 2004 Athens games, Greece's GDP grew 5.061% at a

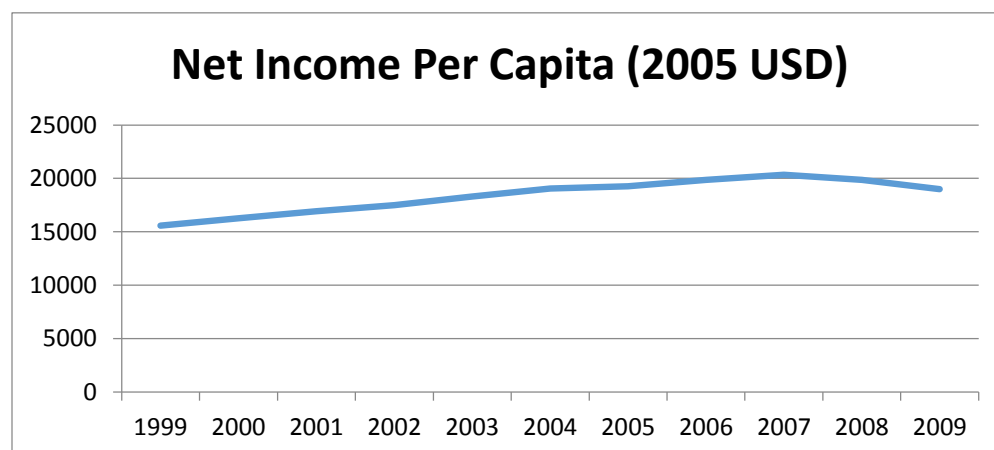
slightly slower rate than the prior year growth of 5.795%. Italy's GDP growth also demonstrated no significant changes in the same year. In 2005, Greece's GDP growth dropped to 0.599%. In 2008 and 2009, Greece's GDP decreased under the crippling economic crisis the nation faced. The table indicates that Italy would also experience decreased growth during the global economic recession.

Table 20: Greece GDP Growth



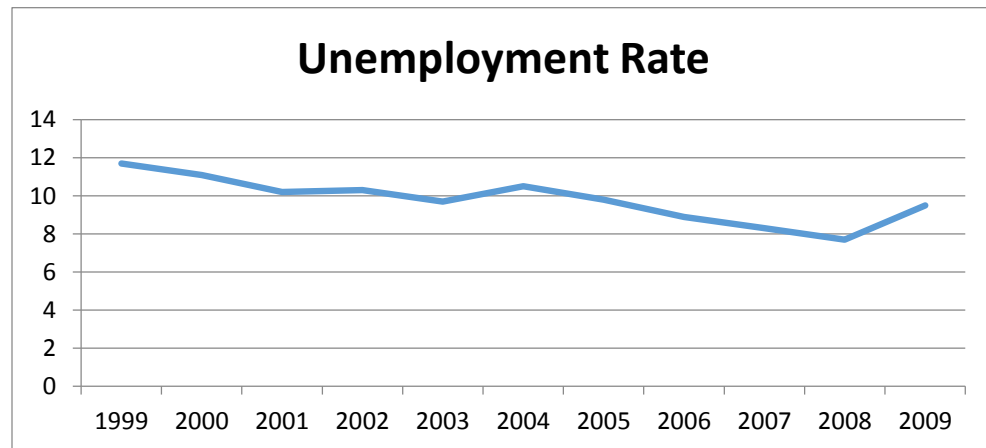
As the table below indicates, Greece's Net Income Per Capita also grew until 2008 and 2009 when Greece slipped into a crisis. In the year of the 2004 Athens games, Greece's Net Income per Capita grew by 4.09%, down from 4.62% growth in the prior year. Similar to slowed GDP growth in 2005, Net Income growth dropped in 2005 to 1.13%.

Table 21: Greece Net Income Per Capita



Throughout the years reviewed for this study, Greece's unemployment rate decreased most years as displayed in the table below. However, during 2004 the Unemployment rate increased by 0.8%. Greece would not experience an increase in the Unemployment rate until 2009.

Table 22: Greece Unemployment Rate



For purposes of the one year analysis in this study, Greece's GDP and Net Income growth slowed during the year of the 2004 Athens games. With Unemployment increasing during 2004 as well, all three economic indicators show negative economic change in the year of the hosted games. Even though Greece would not experience major economic problems for several years after the Olympics, the games did not provide any apparent boost to the indicators studied in the year of the games.

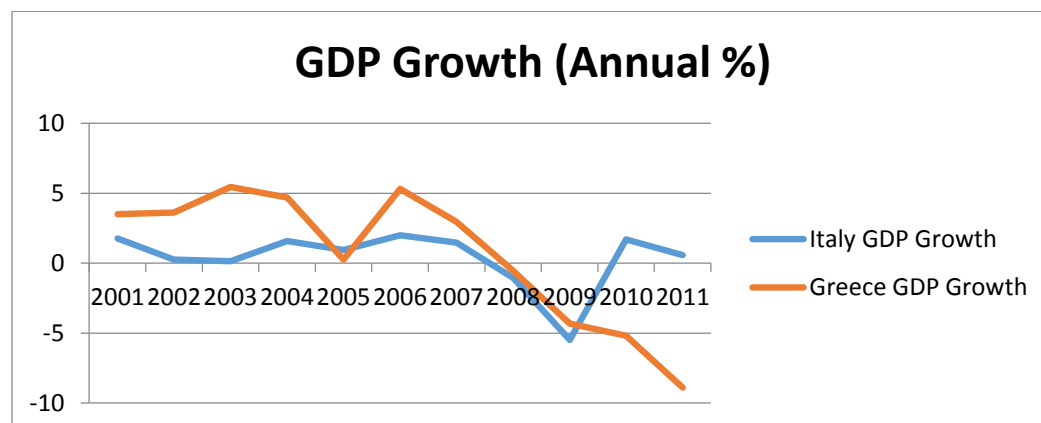
Chapter 12

Italy

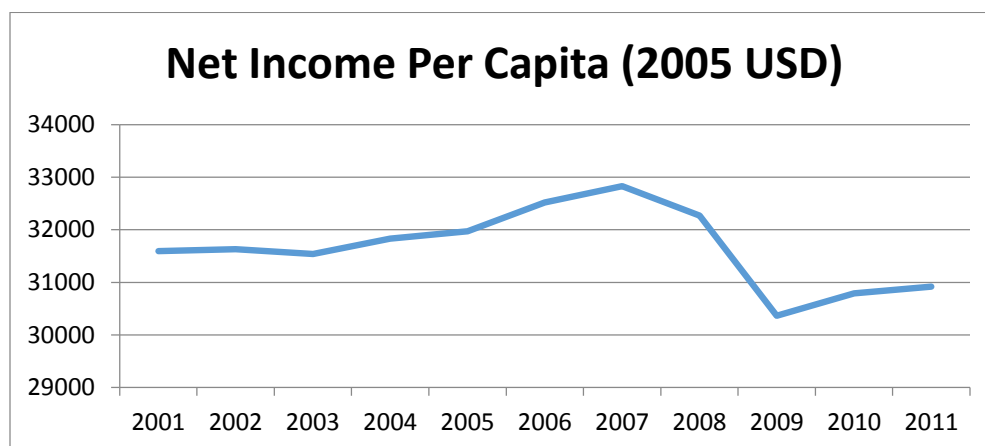
The 2006 Winter Olympics were held in Turin, Italy. Representing 80 nations, 2,508 athletes participated in the games. The Associated Press's 2009 article on ESPN discusses Turin's Olympic legacy following the games. As the city prepared for the Winter Olympics, a survey conducted showed that only five percent of the people knew of Turin. Turin welcomed an influx of visitors in the years following the Torino games, as tourists attracted to the Italian city. The International Olympic Committee estimated that Turin hosted an approximate increase of 100,000 to 150,000 visitors in 2007 after the winter games. In 2012, 4.3 million tourists visited Turin up from 3.3million in 2006. The venues created continued to be used for winter events and business conferences.

According to Schoen's 2006 NBC article, The cost of the 2006 Turin games were approximately \$1.5 billion, mainly raised through the sale of broadcast rights and corporate sponsorships. The Italian government spent at least \$100 million to help cover budget deficits. In regards to the Great Recession in Europe in the late 2000s, the 2006 Turin games were held before Italy slipped into recession in 2008.

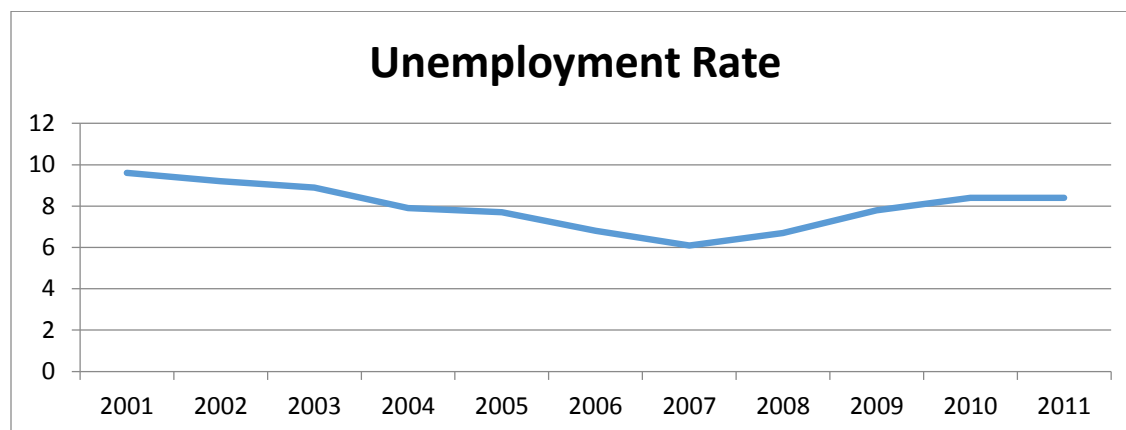
The table below displays Italy's GDP growth as an annual percentage from 2001 to 2011. The table also displays Greece's GDP growth during the same time period. In the year of the 2006 Winter Games, Italy's GDP grew by 2.006%, up from 0.949% growth in the prior year. In 2008 and 2009, Italy's GDP dropped as the country faced an economic recession. Greece also witnessed a drop in GDP growth in the late 2000s as the country faced an economic crisis.

Table 23: Italy GDP Growth

As seen in the table below, Italy witnessed positive net income per capita growth in time period leading up to the Turin Winter games. Net Income Per Capita grew by 1.06% in 2006 for Italy, up from negative growth of -0.36% in 2005. Italy faced a significant decrease in Net Income Per Capita in 2008 and 2009 during the European Recession.

Table 24: Italy Net Income per Capita

The table below features Italy's Unemployment Rate from 2001 to 2011. Italy's Unemployment consistently decreased throughout this time period until the recession years in 2008 and 2009. In 2006, the year of the Turin games, Unemployment rates dropped 0.9%.

Table 25: Italy Unemployment Rate

In summary, the economic indicators reviewed for Italy showed positive economic results in 2006, the year of the games. All three indicators studied improved from the year prior to the Olympic games, which could mean that the games provided an overall boost to the Italian economy. The Turin games are one of the only reviewed in which all three indicators improved. Even when compared to a similar economy, Greece, Italy witnessed positive GDP growth when Greece's rate dropped. For the purposes of this study, Italy's economy portrayed through the economic indicators selected demonstrated a positive impact from hosting the Olympics.

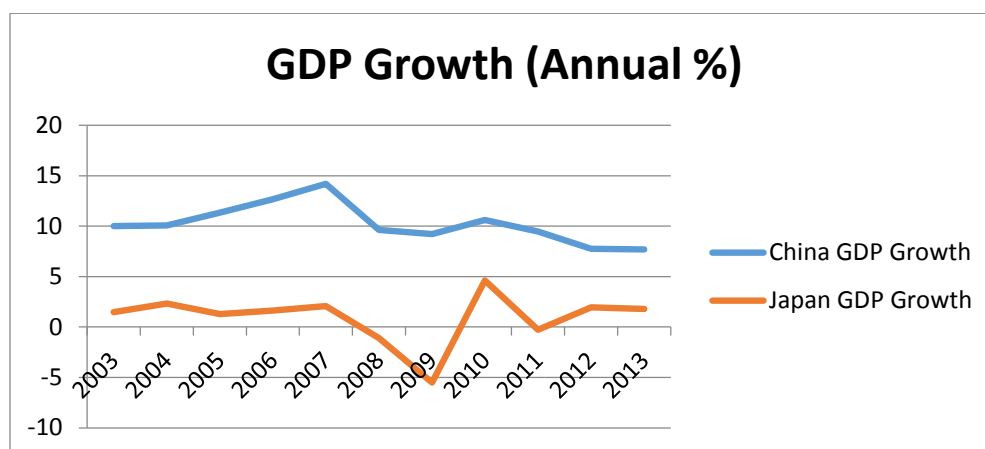
Chapter 13

China

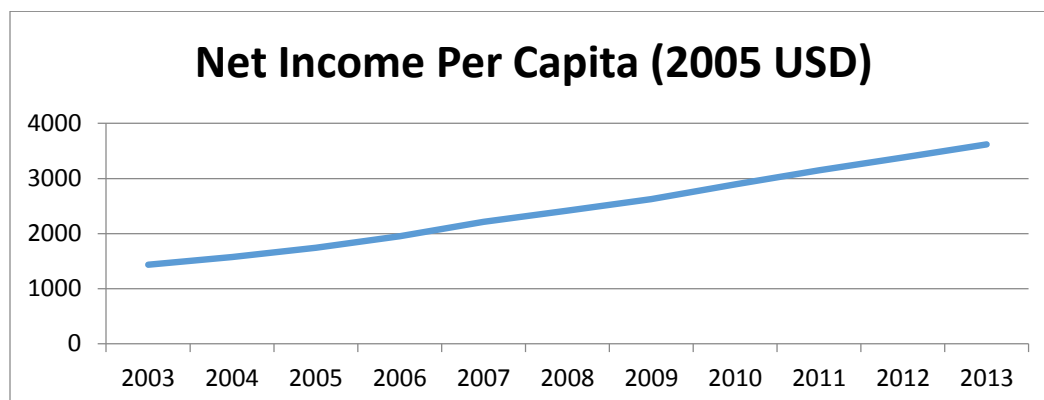
The 2008 Summer Olympics were held in Beijing, China. A total of 10,942 athletes competed from 204 countries. Sin Yinghong, a professor at the University of China, stated that these Olympics were meant to be “a demonstration of China’s new rising and greatness and international responsibility” (Fowler, 2008). Critics of the Chinese government feared excessive spending, especially in wake of a recent earthquake in Sichuan province, in order to break records and prove China’s rising power. The games cost China approximately \$42 billion, including efforts to clean up Beijing’s environment (Riley, 2015).

The costs of some of China’s infrastructure projects were questioned throughout the construction process. China built a 91,000 seat stadium named “The Bird’s Nest” for use during the Olympic games. However, there was no defined purpose for the use of the stadium after the games. According to Louisa Lim’s 2012 NPR Special “China’s Post- Olympic Woe: How to Fill an Empty Bird’s Nest,” the stadium cost \$480 million to build and continues to cost China \$11 million per year for upkeep. However, Beijing recently won the rights to host the 2022 Winter Olympics, meaning the vacant Birds Nest will finally see use.

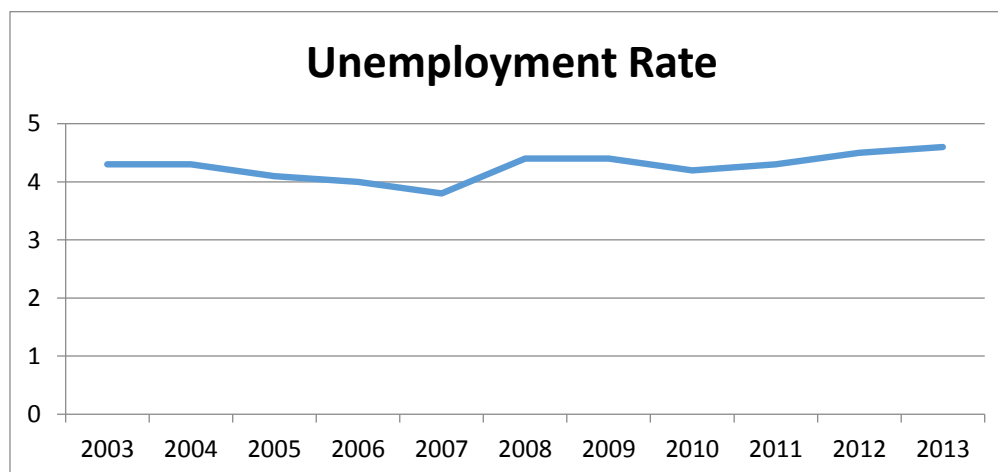
The table below displays both Japan and China’s GDP growth as an annual percentage from 2003 to 2013. Of all of the countries studied in this thesis, China’s GDP grew at the highest rate in the years reviewed. From 2007 to 2008, the year of the games, China’s GDP grew 9.623%. In the year of the games, China’s GDP grew at a slower rate than prior year GDP growth of 14.195% in 2007 and double digit growth in 2005 and 2006.

Table 26: China GDP Growth

China's Net Income per Capita consistently grew throughout the time period reviewed in this thesis. As shown in the table below, China's Net Income per Capita increased from 2003 to 2013. In 2008, the year of the Beijing Summer games, China's Net Income per Capita grew 2.91%, down from 11.42% growth in 2007. In the year immediately following the Olympics, China's Net income per capita grew 17.56%. Although China witnessed extreme levels of Net Income growth throughout the years reviewed, the significant drop in national net income in the year of the Olympics should be noted. However, this slowed growth occurs during the Global Financial Crisis.

Table 27: China Net Income per Capita

The table below displays China's Unemployment rates from 2003 to 2013. Throughout the years reviewed, there were no significant changes in the unemployment rate. In the year of the Olympic games, China's unemployment levels grew 0.6% from 2007.

Table 28: China Unemployment Rate

In summary, the economic indicators reviewed for China match slowed growth during the Global Financial crisis. As seen in Table 26, Japan also demonstrated slowed GDP growth during 2008 due to the Global Financial Crisis. During a time when most of the world faced economic problems, the Beijing games did not spark any growth for China. If anything, the massive bill of the games could have added to slow growth in the economic indicators studied.

Chapter 14

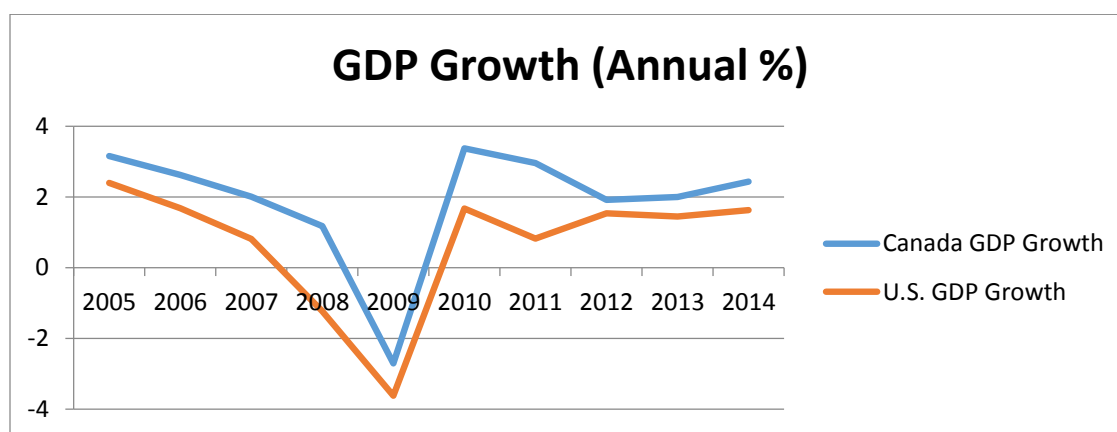
Canada

The 2010 Winter Olympics were held in Vancouver, Canada. Approximately 2,600 athletes competed from 82 different nations. As far as Olympic game debt bills run, the Vancouver games remained surprisingly within budget. When Canada hosted the Olympics in Montreal back in 1976, Quebec left Montreal with approximately \$1.4 billion of debt. According to Fournier and Donville's 2010 Bloomberg article "Olympic Debt: How Vancouver Heals an Olympic Hangover" the games remained in the \$1.7 billion operating budget of the local Olympics organizing committee. According to the Canadian Press's 2014 CBC article, British Columbia chipped in approximately \$113.4 million, the federal government contributed \$74.4 million, and the International Olympic Committee added \$659 million in sponsorships and contributions to help pay for the games. A significant portion of the spending came from public transportation projects, including a rapid transit line between downtown and the city's airport. Compared to the success story of the beneficial projects from Spain's Barcelona games, many believed that the spending for the Vancouver games proved beneficial for the city. Matthew Black of CBS news wrote in a 2010 article, "it's this type of planning for post-Games use of facilities that ultimately separates the Olympic host city economic winners from the losers."

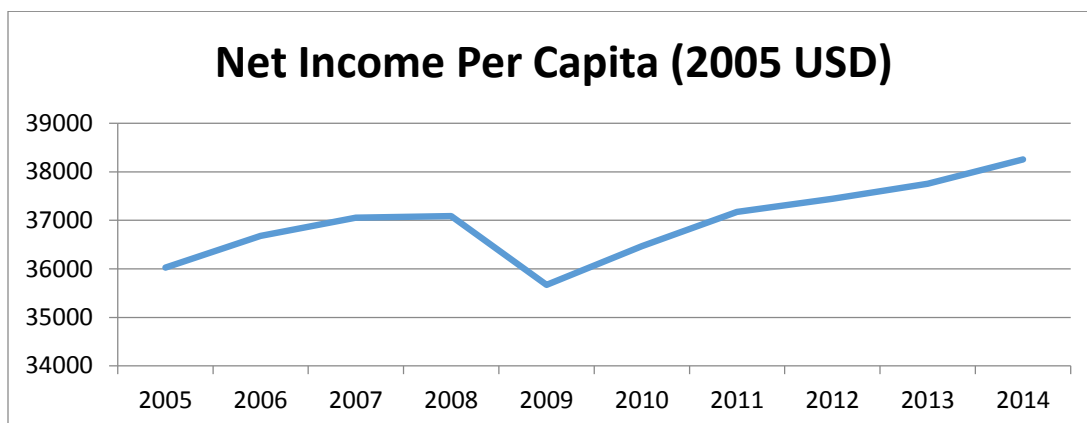
British Columbia, Canada, witnessed a significant increase in tourism during the games. The public accounting firm PricewaterhouseCoopers released a report summarizing the impacts associated with the 2010 Olympic and games. The firm found that an estimated 325,000 people came to Vancouver to visit the games. Of the 325,000, approximately 270,000 were International tourists spending approximately \$463 million. PricewaterhouseCoopers estimated the midpoint range of real GDP impacts of the games from 2003 to 2010 to be approximately \$2.3 billion.

The table below displays Canada and the United States' GDP growth from 2005 to 2014 as an annual percentage. In 2010, the year of the Vancouver games, GDP grew 3.374% up from negative growth of 2.711% in 2009. Canada's negative GDP growth probably stems from the impact of the Global Financial Crisis on the economy. Table 29 demonstrates that the United States experienced a similar jump in GDP growth moving out of the Global Recession.

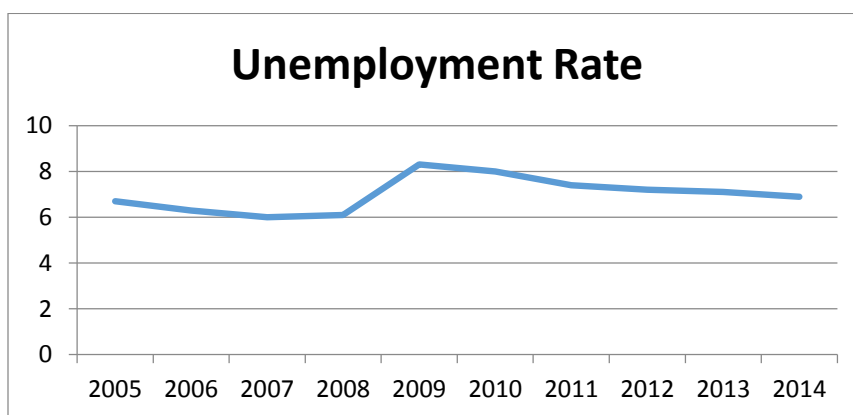
Table 29: Canada GDP Growth



The following table shows Canada's Net Income Per Capita in constant 2005 U.S. Dollars. Similar to GDP, Net Income dropped in the years of the financial crisis. In the year of the 2010 games, however, Net Income per capita grew 4.61% following two years of negative growth during the crisis.

Table 30: Canada Net Income per Capita

Canada's Unemployment rate increased from 6.09% to 8.3% in 2009 as the Global Financial crisis hit the economy. During the year of the 2010 Vancouver games, Unemployment rates dropped .3% as the country recovered. In summary, Canada's national economy was finally experiencing a recovery during the time of the Vancouver games. Table 29 shows that the United States' economy faced similar positive experiences during this time. The games could have added a small boost to the indicators selected, but improvement from a sluggish economy during the crisis would be a major reason GDP, Net National Income Per Capita, and Unemployment rates featured growth in a healthy direction.

Table 31: Canada Unemployment Rate

Chapter 14 The Year of the Games

This portion of the study will focus specifically on changes in particular national economic indicators in the year of the Olympics.

GDP Per Capita Growth

When assessing changes in the host nation's GDP in the year of the games, I used The World Bank data for GDP per capita growth as an annual percentage in constant 2005 U.S. Dollars. The World Bank data analyzes GDP in constant 2005 U.S. Dollars back to 1966. Twenty games were reviewed from 1966 to 2012, starting with Mexico's Mexico City games and ending with the United Kingdom's 2012 London games. The games hosted by West Germany, the Soviet Union, and Yugoslavia were not included in these results. The table in Appendix A displays GDP per capita growth as an annual percentage for the host nation in the year prior to hosting the games and the year of the games. The fourth column indicates the change in growth rates from the year prior to the games to the year of the event.

Out of the twenty Olympic games reviewed, twelve nations experienced an increase in GDP per capita growth rates in the year of the events. Only eight countries displayed slowed GDP growth from the year prior to the Olympic games. The United States (Lake Placid) and Japan (Nagano) were the only countries to experience a declining GDP in the year of hosting Olympic games. The most significant change in GDP growth occurred during the Vancouver games. Canada's GDP per capita growth rate accelerated over 6% in the year of the Olympics. However, as noted before, the nation was recovering from the Global Financial Crisis during this time. On average for all twenty games studied, GDP growth rates increased 0.7199% during the year of the games. These findings are not all surprising, as I would expect GDP on average to

grow at a slightly faster pace during the year of the Olympics. GDP is comprised of private consumption, government spending, investments such as business capital expenditures, and total net exports. During the year of the Olympic events, one would expect an increase in consumer spending as international tourists arrive for the games. Government spending might increase in the year of the games for national security purposes. Spending on new infrastructure, transportation projects, venues, and other investments could have heavily influenced GDP in years leading up to the games. Major capital expenditure projects would not all occur in the year of the events, which would be a reason GDP growth would not necessarily jump in the year of the games.

Net National Income per Capita Growth

When assessing changes in the host nation's Net National Income per Capita in the year of the games, I used The World Bank data for Net National Income per capita growth as an annual percentage in constant 2005 U.S. Dollars. The World Bank data analyzes Net National Income in constant 2005 U.S. Dollars back to 1971. Nineteen games were reviewed from 1971 to 2012, starting with Japan's Sapporo games and ending with the United Kingdom's 2012 London games. The games hosted by West Germany, the Soviet Union, and Yugoslavia were not included in these results. The table in Appendix C displays Net National Income per capita growth as an annual percentage for the host nation in the year prior to hosting the games and the year of the games. The fourth column indicates the change in growth rates from the year prior to the games to the year of the event.

The results find that ten games were held in a year of increased Net National Income per capita growth rates for the host country. Nine games were held in a year in which the host nation

experienced slower Net national income growth than the prior year. For the nineteen games assessed, the average change in the host nation's Net National income growth rate was 0.473% growth. Net national income includes a nation's gross domestic product plus net income received from overseas. This means that output of citizens and companies of a particular nation that are overseas are part of the indicator. Since the previous results determined that GDP growth rates on average increased during the year of the Olympics, it is no surprise that Net National income per capita also witnessed increased growth on average.

Unemployment Rates

The International Labour Organization provides national unemployment rate data for countries from 1991, including the years of thirteen different Olympic games. Thirteen games were reviewed from 1991, starting with the Lillehammer games in France and ending with the United Kingdom's 2012 games. The table in Appendix E shows Unemployment Rates for the host nations of each of the games in both the year prior to the Olympics and the year of the games. The fourth column displays the change in Unemployment rates for each of these nations in the year of the games.

The Unemployment rates for the host countries in the year of the Olympics games reviewed went in both directions. Out of the thirteen games assessed, there were seven instances in which the host nation experienced an increase in Unemployment in the year of the Olympics. The average increase in Unemployment rate for these countries turned out to be 0.32%. Since the Olympic games create regional and local jobs, I was not sure if there would be any notable change in national unemployment levels. For these particular countries, I was surprised to see

that in more instances than not that overall unemployment increased in the year of the games, especially as both GDP and Net Income per capita growth increased.

Chapter 15 One Year Later

This portion of the study will focus specifically on changes in particular national economic indicators for host countries in the year subsequent to hosting the Olympics.

GDP per Capita Growth

For changes in GDP per capita growth, the same twenty host games were reviewed from 1966 to 2012 starting with Mexico's Mexico City games and ending with the United Kingdom's 2012 London games. Data from the World Bank and OECD National Accounts data files was used for this part of the study, like the previous chapter. The games hosted by West Germany, the Soviet Union, and Yugoslavia were once again not included in these results.

The table in Appendix B displays GDP per capita growth as an annual percentage for the host nation in the year of the Olympic games and the year after the events. The fourth column indicates the change in growth rates from the year of the games to the subsequent year. The results find that GDP per capita growth rates dropped following the Olympics for most host countries. Out of the twenty games reviewed, thirteen games were followed by a year of decreased GDP growth per capita for the host nation. On average for the twenty games, rates for GDP growth per capita in constant 2005 USD dropped 1.51% in the year after the Olympics for the host nation. In summary, I am not surprised that GDP per capita growth was not as high for most of these countries in the year following the Olympics. The components of GDP, including consumer spending and government spending, I would imagine to be higher during the year of the largest international sporting events.

Net National Income per Capita Growth

For changes in Net National Income per capita growth, the same nineteen host games were reviewed from 1971 to 2012 starting with Japan's Sapporo games and ending with the United Kingdom's 2012 London games. Data from the World Bank and OECD National Accounts data files was used for this part of the study, like the previous chapter. The games hosted by West Germany, the Soviet Union, and Yugoslavia were once again not included in these results. The table in Appendix D displays Net National Income per capita growth as an annual percentage for the host nation in the year of the Olympics and the year immediately following the Olympics. The fourth column indicates the change in growth rates from the year of the games to the year subsequent to the events.

Out of the nineteen games reviewed, there were eleven instances in which Net National Income per capita growth slowed for the host country in the year subsequent to hosting the Olympic events. For the nineteen games studied, Net National Income per capita growth rates dropped an average of .0797% in the year after for the host nation. Since GDP per capita growth rates also slowed following the Olympics, I expected Net National Income per capita growth rates to also decrease for the host nation following the events.

Unemployment Rates

The International Labour Organization provides national unemployment rate data for countries from 1991, including the years of thirteen different Olympic games. Thirteen games were reviewed from 1991, starting with the Lillehammer games in France and ending with the United Kingdom's 2012 games. The table in Appendix F shows Unemployment Rates for the host nations of each of the games in both the year of the Olympics and the year following the

games. The fourth column displays the change in Unemployment rates for each of these nations in the year subsequent to hosting the games.

The Unemployment rates for the host countries in years following the Olympic games

Out of the thirteen games assessed, there were five instances in which the host nation experienced an increase in Unemployment in the year of the Olympics, six in which the rate decreased, and China's rate remained unchanged. The average increase in Unemployment rate for these countries turned out to be 0.29%. Once again, an apparent influx of regional and local jobs created during the time of the Olympics is not visible in the national unemployment rates of the countries reviewed.

Chapter 16 Small Economies

This portion of the study will focus specifically on changes in particular national economic indicators for host countries reviewed with the smallest economies. Average GDP per Capita growth and Net National Income per capita growth in small economy nations will be compared to the average results of the total games studied. Out of the twenty games that were reviewed from 1966 to 2012, seventeen games were held in countries with economies considered to be some of the largest in the world. According to the IMF's ranking of national economies by GDP, the games in Austria, Norway, and Greece were the only ones to be held from 1966 to 2012 in a country that does not have one of the fifteen largest economies in the world. The seventeen other games were all held in countries with large economies, with the United States, Japan, and Canada hosting multiple games during this time period.

Year of the Games

The table in Appendix A displays GDP per capita growth as an annual percentage for the host nation in the year prior to hosting the games and the year of the games. The data shown in Appendix A reveals that the average change in GDP per Capita growth in the year of the hosted games for Austria, Norway, and Greece was 2.0978%. Both Austria and Norway showed significant increases in GDP per capita per growth, while Greece's GDP per capita growth declined. For the total games reviewed in this study, the GDP growth rates increased 0.7199% during the year of the games. When compared to the total Olympic games reviewed, average GDP per capita growth increased more in the three smaller economy nations in the year of the games. However, as mentioned earlier in this study, Norway's economy happened to be displaying significant growth during this year coming off of an economic recession. Norway's

economic health could be a major reason why the small nations appear to perform better.

The table in Appendix C displays Net National Income per capita growth as an annual percentage for the host nation in the year prior to hosting the games and the year of the games. The data shown in Appendix C reveals that the average change in Net National Income per Capita Growth in the year of the hosted games for Austria, Norway, and Greece was 1.989%. For the total games reviewed in this study, the average change in the host nation's Net National income growth in the year of the hosted games was 0.473%. When compared to the total Olympic games reviewed, the three smaller economy nations showed on average higher Net Income per capita growth in the year of the games.

Year After the Games

The table in Appendix B displays GDP per capita growth as an annual percentage for the host nation in the year of the Olympic games and the year after the events. The data shown in Appendix B reveals that the average change in the GDP per capita growth in the year following the Olympic games for Austria, Norway, and Greece was a decrease of 1.6705%. For the total games reviewed in this study, the average change in the host nation's GDP per capita growth in the year following the games was a decrease of 1.51%. When compared to the total Olympic games reviewed, the three smaller economy nations showed on average a larger decrease in GDP per capita growth in the year after the games.

The table in Appendix D displays Net National Income per capita growth as an annual percentage for the host nation in the year of the Olympics and the year immediately following the Olympics. The data shown in Appendix D reveals that the average change in Net National Income per capita growth in the year following the Olympics for Austria, Norway, and Greece

was a decrease of 0.8203%. For the total games reviewed in this study, the average change in the host nation's Net National Income per capita growth in the year following the games was a decrease of .0797%. When compared to the total Olympic games reviewed, the three smaller economy nations showed more of a decrease in Net national income per capita growth rates.

When assessing the economic indicators of GDP per capita growth and Net National Income per capita growth, the three small economy nations reviewed in this study on average had a stronger economic performance in the year of the hosted games than the total games reviewed. However, the three small economy nations display a worse economic performance in the year following the games when only considering GDP per capita growth and net national income per capita growth. For the purpose of this study, hosting the games had a greater positive economic impact in the year of the games for nations with a smaller economy. This greater positive economic impact could be due to the fact that the total expenses and revenues of the Olympics would have a larger weight in a nation with a small GDP than compared to a nation with a large GDP. The small economy nations could have showed more impressive results since their economy would be more positively impacted by the weight of the Olympics than a nation with a large economy that barely changed during the games. Similarly, the small economy nations reviewed showed worse performance in the year following the hosted games. However, since only three countries were assessed, the positive economic impact could have been heavily influenced by Norway's economic growth during the year of the hosted games.

For all of the nations reviewed, on average the economic indicators revealed a negative economic impact in the year following the games. The small nation economies could show a more significant worse economic performance because their economies would be more impacted by the weight of the Olympic events. For large nation economies, a negative economic impact

from the Olympics could barely show up on national economic indicators. In summary, the positive and negative economic impacts of the Olympics could be more apparent in small economies because the total economic performance of the nation would be more impacted by hosting the games. Therefore, any positive economic impact from hosting the games could be even greater for a small nation economy and any negative economic impact from hosting the games could be worse. The economic impacts would hold more weight in national economic indicators for countries with a smaller GDP. If more small economy nations host the Olympics in the future, more conclusions could be drawn about the possible impact of hosting the Olympics on small economy nations.

Conclusion

This paper aimed to determine whether or not hosting the Olympics has a proving positive effect on the GDP, Net National Income, or Unemployment Rate of the host country. The review of the history of each ten recent Olympic games studied showed that each games proved to be a very unique experience. The Barcelona summer games were widely viewed as a leading reason why the city is now an extremely popular tourist destination. The Athens games were blamed as one of the reasons why Greece's national debt grew out of control years later. Some games went completely over budget, and others provided cities with public transportation or infrastructure projects that would be beneficial to the host country for years to come.

When analyzing the history behind each of the ten games selected for this thesis, I was hoping to see more of a relationship between the apparent success or failure of the games and the host country's economic indicators. Instead, when assessing the history of each of the games, I found that the indicators reviewed tended to match the effects of recessions and expansions on the host country's economy. Some nations experienced significant growth in the year of the Olympics while other economies slowed. For example, the Barcelona games were a major success story for the city but occurred amidst an economic recession and as a result Spain's GDP slowed in the year of the event. Although host nations end up footing some of the debt bill of many host cities, local and regional governments and taxpayers handle a significant amount of the costs related to spending projects for the games.

When assessing GDP per Capita growth, Net National income per capita growth, and Unemployment Rate changes in the year of the Olympic games I was not completely surprised by the results. I expected that both GDP per Capita and Net National income per capita growth rates would increase in the year of the Olympics, which occurred for most of the countries

studied. However, I was expecting the results to overwhelmingly display increased growth rates in the year of the games for almost all host countries. By choosing to analyze changes in growth rates instead of changes in overall levels of the indicators, I was hoping to see more improvement in both of these factors for host countries during the year of the events. In the year following the Olympic games, I expected slowed growth rates for GDP per capita and Net Income per capita growth in comparison to the year of the games. Although both of these growth rates slowed in the year subsequent to the year of the games for a majority of the countries reviewed in this thesis, I once again expected slowed growth to occur following more games.

In the portion of my study that focused specifically on the smallest economies reviewed, I was not surprised that the positive and negative impacts on GDP and Net National Income during the year of the games and the year subsequent to the games were more slightly more exaggerated for small economies. In general, small economies could be more influenced by events such as the Olympics that would have a larger impact on the country's gross domestic product in comparison to a large economy that would not easily be influenced by hosting the games. Although this study suggests that there is no clear pattern between hosting the Olympics and the performance of national economic indicators, the change in economic indicators in the small economy nations is noteworthy. When compared to the large economy nations, the economic indicators in small countries on average were more impacted in both the year of the games and the year immediately following the games. This portion of the study concludes that the small economies reviewed displayed more significant changes in the economic indicators than large economy countries. As mentioned earlier, when more small economy nations host the Olympics there will be more evidence for conclusions regarding the impact of hosting the Olympics on small economy nations.

Inconclusive effects of hosting the Olympics on national Unemployment Rates for the games studied also did not surprise me. For both the year of the games and the year subsequent to the games, there was no clear indication of decreased or increased rates. Although local jobs are typically created for hosting Olympic events, there is no clear indication that Unemployment Rates would decrease on a national level during the year of the hosted games. Similarly to the GDP and Net National Income Per Capita results, Unemployment rates fluctuated on a national level with global recessions and booms regardless of the apparent success of the games.

In summary, hosting the Olympics has no impact significant enough on a host country to consistently positively impact the national economic indicators selected in this study. After reviewing the history of eleven different Olympic games, the events clearly impact the host city and country whether or not the games were perceived as a disaster or a success story. Massive spending projects, an influx of tourists, and budgeting problems are clear trends amongst each of the games reviewed. The indicators chosen show that despite even multi billion dollar budgets, positive economic growth resulting from the Olympic games cannot be seen through changes in GDP, Net National Income, and Unemployment Rates of the countries reviewed.

There are many reasons why the economic indicators chosen displayed no clear relationship to hosting the Olympic events. Even though each host nation helped cover at least some cost of the games, economic growth resulting from the Olympics or problems with over spending could have been mainly absorbed by regional and local governments. As a result, GDP and National Net Income did not feature jumps in growth even in years of successfully budgeted games. National unemployment rates might not have shown a decrease despite the creation of hundreds of thousands of jobs in the host city. Local economies might have seen less jobless citizens, but overall national levels of the countries reviewed showed that the jobs created did not

prove to benefit each of these countries during the year of the games. An influx of tourists might have increased spending in the regional area or host city, but not enough to be evidenced through changes in the National Net Income level.

As mentioned in my introduction, critics doubt the benefits of hosting the Olympic games for many reasons. For financial purposes, the Olympics pose a potential budgeting disaster. The risky investment of hosting an event that costs billions of dollars scares taxpayers, government officials, and financial analysts. Although my thesis does not prove that there is any clear benefit to hosting the games as displayed through the economic indicators reviewed, other scholars have found other benefits to hosting the games. Hopefully future studies prove that hosting the Olympic games has a significant positive impact on the economic health of a nation, saving the event from becoming an undesired burden.

Appendix A: GDP per Capita Growth (Year of Games)

Games	GDP Per capita Growth (Annual %) Year Prior to Games	GDP per Capita Growth (Annual %) Year of Games	Change in GDP per Capita Growth
Mexico City, Mexico	2.688857483	6.146744342	3.457886858
Sapporo, Japan	3.359757842	6.905499722	3.54574188
Innsbruck, Austria	-0.099030336	4.763369832	4.862400168
Montreal, Canada	-0.085085576	3.817102231	3.902187808
Lake Placid, United States	2.043327745	-1.19726088	-3.240588625
Los Angeles, United States	3.680081271	6.334427895	2.654346625
Calgary, Canada	2.686396373	3.394114102	0.707717729
Seoul, South Korea	11.16546863	10.57237701	-0.593091622
Albertville, France	0.958866639	1.095733446	0.136866807
Barcelona, Spain	2.312635576	0.596736896	-1.71589868
Lillehammer, Norway	2.234887922	4.458979877	2.224091954
Atlanta, United States	1.503065305	2.595305248	1.092239943
Nagano, Japan	1.353843614	-2.269072836	-3.62291645
Sydney, Australia	3.814212189	2.637613705	-1.176598484
Salt Lake City, United States	-0.018489778	0.846125953	0.864615731
Athens, Greece	5.462303189	4.705538263	-0.756764926
Turin, Italy	0.454777606	1.700275075	1.245497469
Beijing, China	13.60010824	9.063118199	-4.536990044
Vancouver, Canada	-3.81891797	2.229096809	6.048014779
London, United Kingdom	1.178410736	0.47798228	-0.700428457

Appendix B: GDP per Capita Growth (Year After Games)

Games	GDP Per capita Growth (Annual %) Year of Games	GDP per Capita Growth (Annual %) Year Following Games	Change in GDP per Capita Growth
Mexico City, Mexico	6.146744342	0.281550647	-5.865193694
Sapporo, Japan	6.905499722	7.141982495	0.236482773
Innsbruck, Austria	4.763369832	5.039647858	0.276278026
Montreal, Canada	3.817102231	2.249565774	-1.567536458
Lake Placid, United States	-1.19726088	1.592517122	2.789778002
Los Angeles, United States	6.334427895	3.319128276	-3.01529962
Calgary, Canada	3.394114102	0.565714718	-2.828399384
Seoul, South Korea	10.57237701	5.701389908	-4.870987102
Albertville, France	1.095733446	-1.042357219	-2.138090665
Barcelona, Spain	0.596736896	-1.338718061	-1.935454957
Lillehammer, Norway	4.458979877	3.614661846	-0.844318031
Atlanta, United States	2.595305248	3.236586683	0.641281434
Nagano, Japan	-2.269072836	-0.381393475	1.887679361
Sydney, Australia	2.637613705	0.564237641	-2.073376064
Salt Lake City, United States	0.846125953	1.926956876	1.080830923
Athens, Greece	4.705538263	0.261928692	-4.443609571
Turin, Italy	1.700275075	0.963035545	-0.73723953
Beijing, China	9.063118199	8.691592646	-0.371525554
Vancouver, Canada	2.229096809	1.948255083	-0.280841725
London, United Kingdom	0.47798228	1.512143116	1.034160836

Appendix C: Net National Income per Capita Growth (Year of Games)

Games	Net National Income Per capita Growth (Annual %) Year Prior to Games	Net National Income per Capita Growth (Annual %) Year of Games	Change in Net National Income per Capita Growth
Sapporo, Japan	4.273556015	6.498286727	2.224730712
Innsbruck, Austria	-0.037201089	4.699522051	4.736723141
Montreal, Canada	0.297134588	4.781162245	4.484027657
Lake Placid, United States	-1.391705202	-2.802993261	-1.411288059
Los Angeles, United States	3.698551837	7.975536164	4.276984327
Calgary, Canada	4.170466603	3.488737845	-0.681728757
Seoul, South Korea	13.76686534	11.65912617	-2.107739172
Albertville, France	0.212509971	1.683110477	1.470600506
Barcelona, Spain	3.106525751	0.942310213	-2.164215538
Lillehammer, Norway	2.066903977	3.823257493	1.756353516
Atlanta, United States	2.084143156	3.250277708	1.166134551
Nagano, Japan	0.773987254	-2.742554511	-3.516541765
Sydney, Australia	2.926436691	1.242080768	-1.684355923
Salt Lake City, United States	0.307973723	0.604332119	0.296358396
Athens, Greece	4.616086071	4.092616012	-0.523470059
Turin, Italy	-0.363794483	1.061899133	1.425693616
Beijing, China	11.42190724	2.911229204	-8.510678038
Vancouver, Canada	-5.303425	4.614879147	9.918304146
London, United Kingdom	0.776610515	-1.396605517	-2.173216033

Appendix D: Net National Income per Capita Growth (Year Following Games)

Games	Net National Income Per capita Growth (Annual %) Year Prior to Games	Net National Income per Capita Growth (Annual %) Year of Games	Change in Net National Income per Capita Growth
Sapporo, Japan	6.498286727	6.445278887	-0.05300784
Innsbruck, Austria	4.699522051	3.940615859	-0.758906192
Montreal, Canada	4.781162245	1.042371104	-3.738791141
Lake Placid, United States	-2.802993261	2.489437639	5.2924309
Los Angeles, United States	7.975536164	3.374975484	-4.60056068
Calgary, Canada	3.488737845	0.582556005	-2.90618184
Seoul, South Korea	11.65912617	4.990484494	-6.668641677
Albertville, France	1.683110477	-0.732502984	-2.415613461
Barcelona, Spain	0.942310213	-1.47490102	-2.417211233
Lillehammer, Norway	3.823257493	5.080322883	1.257065391
Atlanta, United States	3.250277708	4.27907152	1.028793812
Nagano, Japan	-2.742554511	-0.655514192	2.087040319
Sydney, Australia	1.242080768	1.637756579	0.395675811
Salt Lake City, United States	0.604332119	1.149364142	0.545032023
Athens, Greece	4.092616012	1.133456617	-2.959159395
Turin, Italy	1.061899133	0.760331521	-0.301567612
Beijing, China	2.911229204	17.55586114	14.64463193
Vancouver, Canada	4.614879147	2.810853258	-1.804025888
London, United Kingdom	-1.396605517	0.461000456	1.857605974

Appendix E: Unemployment Rate Change (Year of Games)

Games	Unemployment Rate Year Prior to Games	Unemployment Year of Games	Change in Unemployment Rate
France	9.10%	10.19%	1.09%
Spain	16.39%	18.39%	2.00%
Norway	6.00%	5.30%	-0.70%
USA- ATL	5.69%	5.50%	-0.19%
USA- SLC	4.80%	5.90%	1.10%
Japan	3.40%	4.09%	0.69%
Australia	6.90%	6.30%	-0.60%
Greece	9.69%	10.50%	0.81%
Italy	7.69%	6.80%	-0.89%
China	3.79%	4.40%	0.61%
Canada	8.30%	8.00%	-0.30%
United Kingdom	7.80%	8.00%	0.20%

Appendix F: Unemployment Rate Change (Year After Games)

Games	Unemployment Rate Year of Games	Unemployment Year Following Games	Change in Unemployment Rate
France	10.19%	11.30%	1.11%
Spain	18.39%	22.80%	4.41%
Norway	5.30%	4.90%	-0.40%
USA- ATL	5.50%	5%	-0.50%
USA- SLC	5.90%	6.10%	0.20%
Japan	4.09%	4.70%	0.61%
Australia	6.30%	6.80%	0.50%
Greece	10.50%	9.80%	-0.70%
Italy	6.80%	6.10%	-0.70%
China	4.40%	4.40%	0.00%
Canada	8.00%	7.40%	-0.60%
United Kingdom	8.00%	7.50%	-0.50%

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