



저작자표시-비영리-변경금지 2.0 대한민국

이용자는 아래의 조건을 따르는 경우에 한하여 자유롭게

- 이 저작물을 복제, 배포, 전송, 전시, 공연 및 방송할 수 있습니다.

다음과 같은 조건을 따라야 합니다:



저작자표시. 귀하는 원저작자를 표시하여야 합니다.



비영리. 귀하는 이 저작물을 영리 목적으로 이용할 수 없습니다.



변경금지. 귀하는 이 저작물을 개작, 변형 또는 가공할 수 없습니다.

- 귀하는, 이 저작물의 재이용이나 배포의 경우, 이 저작물에 적용된 이용허락조건을 명확하게 나타내어야 합니다.
- 저작권자로부터 별도의 허가를 받으면 이러한 조건들은 적용되지 않습니다.

저작권법에 따른 이용자의 권리는 위의 내용에 의하여 영향을 받지 않습니다.

이것은 [이용허락규약\(Legal Code\)](#)을 이해하기 쉽게 요약한 것입니다.

[Disclaimer](#)

스포츠 매니지먼트 석사 학위논문

Economic Impact of Sporting Events on Tourist Destination

: A Case Study of Phuket Province

2004 - 2014

스포츠 행사 개최가 관광도시에 미치는 경제 효과

: 2004년에서 2014년 동안의 푸켓 지역 사례연구

중심으로

2016년 8월

서울대학교 대학원

체육교육과

Sompob Hanwiwatanakul

Abstract

Economic Impact of Sporting Events on Tourist Destination

: A Case Study of Phuket Province 2004 – 2014

Sompob Hanwiwatanakul
Global Sport Management, Department of Physical Education
The Graduate School
Seoul National University

The objective of this study is to find the impact of sporting events to the economics of host city, which is tourist destination from 2004 to 2014. This case study is Phuket province that has tourism income is the majority income of the city and Phuket used to be one of top five-retirement destination in 2005. The information from NEDB indicated Phuket had GPP in term of tourism, sport and hotel equal thirty nine point one nine percent from the total GPP or around fifty thousand three hundred forty one million bath in 2013. The number of sport events in Phuket province is increasing in every year that may have the impact to local economics. So, this study focus

on the impact of sporting events to three economic indicators includes GPP, unemployment rate and number of tourist from 2004 - 2014 through the regression Method and finds the relation in term of regression equation.

Result of the study found three good regression equation models between sporting events to three economic indicators. The first model found the sporting events have impact to number of tourist in Phuket province also second model sporting events have impact to unemployment rate. For the third model indicates strongly statistical significance between sporting events and GPP of Phuket, it shows the sporting events has strong impact to GPP of tourist destination.

Lastly, this study may help the local government who want to be host sport events in the future. They can prepare and recognize the impact of sport event to their economics how they can increase the economics of host city through sport industry or sport event in the short term and long term, how they can manage the legacies of event for the new young generation, how they can increase the sport reputation through media and sponsors.

Keywords : Economic impact, Sporting Events, Tourist Destination

Student Number: 2014-25189

Table of Contents

Acknowledgement.....	i
Abstract.....	iii
Table of Contents	v
List of Tables	vii
List of Figures.....	viii
Chapter 1. Introduction.....	1
1.1. Background of Study	1
1.2. Purpose of Study.....	5
1.3. Hypothesis	6
Chapter 2. Literature Review.....	7
2.1. Definition of Economic Impact.....	7
2.2. Economic Impact of Sport events	9
2.3. Economic Impact of Sport Events in United State.....	11
2.4. Economic Impact of Hosting FIFA World Cup	16
2.5. Economic Impact of Hosting Olympic Games.....	18
2.6. Gross Domestic Product and Gross Regional Product	23
2.7. Unemployment Rate	25
2.8. Number of Tourists.....	29
Chapter 3. Methodology	32
3.1. Multiple Regression	32
3.2. Measurement	34
3.2.1. Data.....	34
3.2.2. Equation of Multiple Linear Regression	35
3.3. Thesis Model	40
Chapter 4. Result and Data Analysis	41

4.1. Data.....	41
4.2. Description of the Data.....	42
4.3. Method 1.....	43
4.4. Hierarchical Multiple Linear Regression	47
4.5. Method 2.....	47
4.7. Method 4.....	55
4.8. The Best Model in this Study	57
Chapter 5. Discussion.....	59
5.1. Summary of Finding.....	59
5.2. Previous Information of Phuket.....	60
5.3. Previous Studies of Sport Events in Thailand	62
5.4. Impact of Sporting Events in Phuket.....	63
5.5. Other Factors from Sport Events.....	66
5.5.1. Other Side of the Impact of Sporting Event	67
5.6. Limitations and Recommendations for Future Research	68
References	71
Appendix	77
A. Gross Provincial Product of Phuket 2004 -2014	77
B. Unemployment Rate: Phuket Province 2004 – 2014.....	77
C. Number of Tourist: Phuket Province 2004 -2014.....	78
D. Number of Sport Events: Phuket Province 2004 -2014.....	78
국문 초록	79

List of Tables

Table 1. The Description of the Economic Indicators.....	42
Table 2. Model Summary Table of Method 1	43
Table 3. Anova Table of Method 1.....	44
Table 4. Coefficients Table of First Model	44
Table 5. Model Summary of Method 2	48
Table 6. ANOVA Table of Method 2.....	48
Table 7. Coefficients Table of Method 2.....	49
Table 8. Model Summary of Method 3	51
Table 9. ANOVA Table of Method 3.....	52
Table 10. Coefficients Table of Method 3.....	52
Table 11. Model Summary of Method 4	55
Table 12. ANOVA of Method 3.....	56
Table 13. Coefficients Table of Method 4.....	56

List of Figures

Figure 1. Thesis Model.....	40
Figure 2. Scatter plot between Number of Tourist and Sport Events.....	46
Figure 3. Scatter Plot between GPP and Sport Events	54

Chapter 1. Introduction

1.1. Background of Study

Many researches about economic impact of international sport events are focus on the economic impacts by analyze the change of economic indicators such as GDP (gross domestic product), GPP (Gross Provincial Product), Number of tourist and also unemployment rate. The indicator like GDP has become widely used as a reference data for security of national and global economics and also the impact of sport events. When GDP is growing, especially if inflation is not a problem, workers and businesses are generally better off than when it is not (Callen, 2008) or income of city (Brunet, 1995; W. Kang, 2007; Muroi, 2008; Solberg and Preuss, 2007; Behunin, 2010; Kloow, 2011; AS Abdul-Rahim, 2013; Kasimati, 2006). For gross domestic product (GDP), this study will focus on the Phuket city and other tourist destination cities so this study will apply to use the gross provincial product (GPP) that is one of several measures of the size of its economy in the city. Similar to GDP, GPP is defined as the market value of all final goods and services produced within a metropolitan area in a given period of time.

Number of tourists is the one of economic indicator that always used in the research for sport and tourism. Harry A. and Holger P. (2007) studied the effect from major sport events to long-term tourism situation by used the number of tourist in the tourism demand and find the shift of the demand graph. They compared the number of tourists in the Olympic time that have profit of the games since 1972 Munich Olympics to 2008 Beijing.

In this study will focus on the impact of sport events to local economics. In this study will use other economic indicators and find the correlation. The economic indicators such as GPP (Gross Provincial Product). GPP is the one of the economic indicators, which can prove the total economics in the city. Sport events may affect both positive and negative impact to the local economics of Phuket.

The economic impact of sport events not only focus on GDP, income and number of tourists but also unemployment rate that show the labor force that establish from the sport event such as in the part of sporting venues, hotels, restaurants and offices. The reducing rate similarly indicates a growing economy. Many researchers focus unemployment rate to use in their study about the effect of sport events (John, 2008; Trofimovskaya, 2010). For this study will focus on the transition of unemployment rate of Phuket city to prove the effect from Asian Beach Games 2014.

Mostly researchers are focus on Olympic Games and FIFA world cup such as Brunet (1992) studied the economic impact of the Barcelona Olympic Games, Kang (2007) focus on Beijing Olympic, Muroi (2008) compared the impact of Olympic Paralles with Japan and South Korea. Harry Arne Solberg and Holger Preuss focus on the long-term impacts from Olympic Games or the FIFA World Cup. But the research compares two countries in year 1964 of Japan and 1988 of Korea that has the different factors and trends of the sports and people.

For the continental sport events or regional sport events, M. Yu (2004) studied the economic and social impacts of Olympic Games, Commonwealth Games, Asian Games and East Asian Games. The study compares economic indicators such as expenditure and income in each game. In this study wants to find the economics of hosting sport events in different size of events and different times, it good to find the result of the impact. But GDP of countries is different and the effect of the size of sport event always different effect as well.

Some economic impacts of sport events researches compare the economic indicators in different times and different location. For example, the research studies the economic impact of Olympic Games Beijing 2008 and compare with previous host countries such as Olympic Games Los

Angeles 1984 (Kang, 2007). Moreover Muroi (2008) found the effect of the 1964 Summer Olympic Games in Tokyo can make the GDP of Japan increase from 10.98 percent in year 1964 to be 16.1 percent in year 1965 and compared the economic indicators such as GDP per capita and unemployment rate with South Korea in 1988. The comparison of economic impacts of Olympic Games with different host cities in each time can prove by the economic indicators.

But in the different period of hosting sport events have the different factors as the economic factor, government policy and also political crisis both in the country and world. Previous study may not consider the economic factors in each period and government policy in each country. For example, the economic performance in 1984 had rapid growth include decline in unemployment rate and continue moderation in inflation. Factors that influencing economic performance in 1984 such as the rise in the value of dollar, lower inflation, Monetary policy that interest rates rose in response to a strong economy and commercialization of Olympic 1984 (Cacy & Miller, 1984). In 2008, the global financial crisis called subprime mortgage occurred.

So this study will find the effect of sport events with other economic indicators in the same city that have the same government policy, same fiscal situation and political crisis for control the factors.

If sport events have effect to Phuket's economy that is the tourist destination, it will change the economic indicators in the positive side and the ratio of change in economic indicator should be higher than other cities.

1.2. Purpose of Study

Objective of this study is to find the impact of sport event both international sport events and local sport event to the economics in Phuket city and find the correlation with three economic indicators as GDP, number of tourists and unemployment rate because three of them have direct impact from the sport events in local area.

International sport events in this time contemporary are growing faster than before in variety of ways such as number of the countries, athletes, sports, medals, sponsor, media, viewers and spectators are increasing. Many reasons can stimulate the several countries want to be the host country of international sport events in term of advertising opportunities for their country or city such as it can promote its image as a world city for hosting international events and raise its honor and profile in

the region. For economic benefits such as long term investment, GDP in short term economic benefit, the benefit in tourism and sport industry, and job creation etc. The investment of the hosting international sport events should recognize various effects in term of economics by study the previous information to prepare or evaluate the events.

1.3. Hypothesis

In this study have four hypotheses about the Economic impact of sport events to host city.

H 1. Sporting Events have influence to Number of tourist of Phuket province.

H 2. Sporting Events have influence to Unemployment rate of Phuket province.

H 3. Sporting Events have influence to GPP of Phuket province.

H 4. Gross provincial product (GPP) is affected by Sporting Events, Number of tourist and Unemployment rate.

Chapter 2. Literature Review

This section is motivated by many researches that study about the economic impact of host city from the sport events. Every process of sport events has positive and negative impact, since the bidding process for hosting rights, preparing process, management during event and also management post event. Some of researchers identify the economic impact of mega sport event, some identify the impact of local or national sport event. Many researchers discuss the effect of sport events to the economics of the host city or country by using many economic indicators to prove the impact of the sport event to the economic system such as GDP of the host countries or GPP of the cities compare with the other host countries in different year, number of tourists in the host city and number of unemployment rate. The purpose of this study would like to focus on extant literatures and use results of their study to be the information and the model of this study.

2.1. Definition of Economic Impact

Many economists define the economic impact word in term of the effect from the investment of event to the local area and country.

Weisbrod and Weisbrod (1997) defined the economic impacts are effect the level of economic activity in a given area in term of the business output (goods and services), value added (gross regional product), wealth (including property values), personal income (including wages and benefits), or jobs. Any of these measures can be an indicator of improvement in the economic well being of area residents, which is usually the major goal of economic development efforts.

Economic impact is the change in the term of the flow of money (income) of the economic in local area or country, sometime can the money flow between business sector in the local areas or population groups. Mostly it will measured in terms of GDP (gross domestic product), employment and growth income. The measurement of economic impact depend on the spatial economic analysis for example, consider a given region within a larger nation. So the investment of transportation and infrastructure have regional economic impact to lead to economic growth by increasing more competitive in the region and more private investors to expand in the level of local economic activity that reflected by income, employment rate or output index. (Weisbrod, 2011)

Economic impact analyses economic benefits within the regional area or community. Economic impact may be perceived with increase the income tax of the city (Howard and Crompton, 2004).

Roche (1994) mention the Mega events can help the host city and local resident in the economic and culture needs. And the success of the event will have positive influence for long term to the tourism, local business and also the investment.

The concept of economic impact is the most useful to differentiate the impact in the change of economy of the study area, business and population. The transition of regional economic activity may occur the attraction of new investors and industries. The reason of increasing in competitive and investment is usually occur from the new attractive situation in the regional area such as government policy, local policy, fiscal situation, political situation, events and sport events.

2.2. Economic Impact of Sport events

For sport events, the spending in the host city has both direct economic impact and indirect economic impact. The direct effects in the host city mean the expenditures of visitors and local resident in the host city those are cause of the economic change.

The sport events have influence to the host city both positive and negative impact in term of economics. Many researchers and institute define the meaning of economic impact. For example, Turco and Kelsey (1992) defined as the net economic change in a host city and community that results from spending attributed to a sport event or facility.

One of the most significant economic impacts of staging the Olympic Games is the increased level of economic activity and production, or the increase in GDP (Gross Domestic Product), that host cities have witness (International Olympic Committee, Olympic Legacy, 2012).

The economic impact of sport events can defined as the net change in the result of economics from sport event. It can be the change is caused by activity involving the acquisition, operation, development, and use of sport facilities and services (Lieber and Alton, 1983). The economic impact from mega sport events may using the ex-ante forecasts or ex post examinations (Baade & Matheson, 2004, p. 346).

Financial impact may narrowly refer to the impact on the budgetary or financial balance of Organizing Committee of the Olympic Games; however, the economic impact may refer more broadly to the impact on the general economy of the host country (Price Waterhouse Cooper, 2004).

So the study of economic impact from sport event may focus on transition of economic indicators such as boosting GDP or GPP performance, reducing unemployment rate or the increasing number of tourist. Many research show the impact of sport events to the economics of city and country.

2.3. Economic Impact of Sport Events in United State

The effect of sport events in term of economics is often study in United State through economic impact analysis in many case of expenditure on sport facilities and sport infrastructures. In four major professional leagues in United State consist of a total 115 teams of National Football League (NFL), National Hockey League (NHL), Major League Baseball (MLB) and National Basketball Association (NBA) have invested more than \$21.7 billion for constructions and renovations in ninety-five stadiums and arenas since 1990. As of the end of 1999, and additional forty-nine professional sports facilities were either under construction or in the planning stage (Keating, 1999)

Sport facilities and sport infrastructures can stimulate the local economy on the other hand some results show the effect from spending of infrastructure and other service that made increasing of the local government borrowing and taxation (Siegrfried & Zimbalist, 2000).

J. Hicks (2008) studied the economic impact of hosting Super Bowl since 1989 to 2008 by using the data from many organizations such as UCLA/LA Sports Council, Price Waterhouse coopers, Miami Convention and Visitors Bureau, San Diego Citizen's Task Force etc. to analyze the information and compare the economic impact of from the hosting Super Bowl. He found the hosting of Super Bowl has positive economic impact to host city. In case 2008 Super Bowl in Glendale city, Indianapolis state has significant contribution to the economics of Indianapolis state. Results of the study show the total economic activity increase \$365 million consist of \$202 million in the labor compensation around five thousand employees. The tax income of state would top \$32 million under the current tax structure.

David and Christian (2010) show the relationship between sport events and local economics by using the data from previous study from Coates and Humphreys (2002) and analyze the winning percentage of local team in National Football League (NFL) can increase income of the city and the growth rate of real per capita personal income as well. The relationship between the sports and economics is the performance of local team has significant impact to wage income per capita, income of team, number of spectators spending and other local economic indicators. They suggest that

cities should encourage the NFL to incorporate policies to maintain competitive balance. More information from this study, the success of team has more influence to the local economics. Because the benefits of the city that created by sport team are higher with high performance, the local government may want to have more success of local team to pull the local people and tourist join the games and directly stimulate the economic growth of the city.

Barry B. and Trevor M. (1992) study the relationship between sport events and the expenditure of tourists by use the data of GDP and the impact of GDP to other economic variables. The effect of major sporting events has direct effect to the economics in Australia from the expenditure of tourists. Foreign tourists who join the events spend their money that calculated per person twenty-dollar on meal in restaurant represented as five-dollar on beverages, five-dollar on food, six-dollar on wages and profit, and four-dollar on rent, electricity, and overheads. So the expenditure of twenty-dollar in a restaurant will stimulate demand in a number of other sectors such as agriculture, beverage manufacturing and service that can create economic indicator in term of the household income (wages and profits).

Matheson and Baade (2005) studied the economic impact of major league baseball work. They mention the Major League Baseball (MLB) is

the big business in United States. The professional baseball in US has seen fourteen new stadiums for year 1992 to 2002 (Munsey & Suppes, 2000). The cost of construction in the project has been borne by the tax of local cities.

Matheson and Baade (2011) analyzed the economic impact of National Football League (NFL) in term of mega events that including Pro Bowl and Super Bowl, the all-star game, and the draft of new players. They mention the Super Bowl has more significant economic effect than other NFL to the host city. The Super Bowl is the most important annual sporting events in United States that can pull the resident to join the game and impact to the economic.

The positive economic impact from the professional baseball for the example, The St. Louis Cardinals can brought the positive economic impact \$301 million to the region with another potential \$40 to \$48 million in benefits (St. Louis Regional Chamber and Growth Association, 2000)

Baade and Dye (1990) evaluated the impact of the stadiums and professional sports on metropolitan area development in United State. They found the stadiums of professional football and baseball in nine city (Cincinnati, Denver, Detroit, Kansas City, New Orleans, Pittsburgh, San Diego, Seattle, and Tampa Bay) have insignificant effect to metropolitan

area income. For Seattle has the highly significant positive economic impact of the new stadium and included the effect of a new National Football League (NFL) franchise. Baade and Dye (1990, p. 6) mention about the football stadium has effect to the economics depend on the details of where each dollar is spent.

“A University of Pennsylvania researcher estimated that Philadelphia's professional sports teams contributed more than \$500 million to the city's economy in 1983. In a contrasting study, a Baltimore area researcher estimated the overall economic impact the NFL Colts had on the Baltimore area as merely \$200,000. Sharply different assumptions can compel sharply different results. The leverage on alternative assumptions is particularly troublesome where the sponsor of the research has an identifiable interest or point of view. The Philadelphia study was funded by a consortium of the city's professional teams, while the Baltimore study was conducted just after the Colts had bolted for the greener pastures of Indianapolis.”

Marius M. Mihai (2013) mention the economic impact of major sport events, the National Football League (NFL) is the most successful sporting events in the United States and is a major competitor and share market for other similar events. The 2013 Super Bowl had significant impact to the traveler or visitor spending in the New Orleans city area and Super Bowl can make a substantial impact to the local economics. The 2013 Super Bowl can generated a total net economic impact of \$480.0 million, comprised of \$262.8 million in direct spending and \$217.2 million in

secondary spending which affect to the number of employment and job creation of 5,672 full time and part time jobs that can generated the additional earning \$154.0 million. And the State of Louisiana that state of New Orleans city received \$21.0 million and the local government of New Orleans city earn \$13.9 million.

2.4. Economic Impact of Hosting FIFA World Cup

Many articles used the information that made by the host city or country, sport organizations, accountant and financial organization. In the sport event articles are mentioned about the effect of the mega sport events to the economics of hosting cities. In the case of FIFA World Cups, first time of FIFA is not the organizations make a profit. FIFA was founded in Paris on 22 May 1904 by a few European countries and need an international football tournament and the objective of FIFA "to improve the game of football constantly and promote it globally in the light of its unifying, educational, cultural and humanitarian values, particularly through youth and development programmes" (Mission of FIFA). The development of the football event and increasing the number of teams and participants can move the football industry as the positive information of FIFA in year 2010 show FIFA have the revenue \$ 1,291 million and profit \$ 202 million after the World Cup 2010 finish (FIFA Financial Report, 2010) the revenue

calculated from the sale of television rights, the sale of marketing rights, the sale of hospitality rights and licensing rights. That shows the development of the event to be more commercial. Moreover these sport event has positive effect to the economics of host country as the FIFA World CUP 2010 has effect to the economics of South Africa that can increase the economic growth 0.5% in the annually (The Economist, 2010 - South Africa's World Cup. who profits most).

Tracy T. and Choong-Ki L. (2003) mention the effect of FIFA world cup 2002 to the tourists with economic impacts by two Methods.

- M 1. Make survey in three groups of tourists such as the football tourist whose main purpose was to attend the World Cup and the ordinary tourist who traveled for purposes other than the World Cup.
- M 2. Estimation of direct expenditures associated with the World Cup by use the data from Korea National Tourism Organization (2002). The results of survey show the total tourist arrivals during the World Cup period foreign football tourists (direct World Cup tourists) is 34.6%, World Cup related tourists (indirect World Cup tourists) comprised 23.1% and ordinary tourist is 42.3%. The results of expenditure, in

terms of per capita spending items, culture and recreation service have largest expenditure item \$ 890 such as shopping and accommodation. Other are spending on culture and recreation service such as spending on tours and transportation \$ 233, and food and beverage \$ 229.

2.5. Economic Impact of Hosting Olympic Games

Olympic Games in this time are the one of the mega sport events across the world with 203 countries around the world participating in the games. The Olympic Games are the international sporting event both summer and winter every four years with thousands of athletes around the world. So the Olympic Games is the most attractive events of viewer and visitor from abroad. It can create positive economic impact to host city such as the increasing of GDP and GPP, number of tourists, increasing of income. Some country has effect to the future policy and fiscal planning to the regional area. On the other hand it has many factors make negative impact to host city. If host city has high investment over than income, it will make the negative impact to the host city. Sometime the sport events period is the same period of the most popular period ever for tourism so it will make some of the tourists do not want to come to the city. Tourists may

avoid visiting the host city because they fear of crowd, traffic congestion and crime.

For Olympic Games have many information with positive and negative impact from Olympic Games to the economics of host country. Muroi (2008) mentions the economic impact of Olympic Games by using data from many organizations such as the investment of Olympic, GDP growth rate of three countries (China, Japan and Korea), per capita gross regional product and compared the economic impact of three Olympic Games, the results show the 1964 Summer Olympic Games in Tokyo, the GDP of Japan increase from 10.98 percent in year 1964 to be 16.1 percent in year 1965 and forecast the Olympic Games and the economics in China in three scenario consist of standard scenario, an optimistic scenario, and a pessimistic scenario.

In Los Angeles 1984 Olympic Games is the most financially successful model of Olympic in term of commercialize. These Games have high revenues from sponsors, broadcasting, tickets and product sales. Information showed the direct revenues around \$746 million and the profit around \$215 million (Kang, 2007, p. 34). The impact of Los Angeles 1984 Olympic Games has significant in the economics of the Los Angeles and South California, it can increase 1.6 percent of total gross product in Los

Angeles (Official Report of the Games of the XXIIIrd Olympiad Los Angeles, 1984).

Many case study show that the government policy and the local Olympic Organization Committee management can generate the positive economic and financial impact to countries or cities. In 1984 Summer Olympic Games in Los Angeles was the turning point of Olympic Games that earn profits. Shih and Chen (2005) showed the three factors that can stimulated the economics and finance of Olympic Games as government financing, sports lotteries-issue and funds-donating. The strategies of marketing and media were the strong point in that time, American Broadcasting Company (ABC) paid 225 million US dollars for the TV right and European Broadcasting Union (EBU) paid 19.8 million US dollar for TV right. So in 1984 Summer Olympic Games in Los Angeles increased to be 286 million US dollars from 37 million US dollars of Moscow 1980. Other example that shows the positive economic impacts that have effect from the government policy is 1996 Olympics Games in Atlanta. Atlanta, in its bid quest, began a campaign in July 1989 to solicit 1000,000 volunteers for hosting of the Games. By January 1990, that 100,000 person mark was surpassed. This accomplishment occurred event before Atlanta submitted its formal bid to IOC in Lausanne on February 1, 1990 and finally Atlanta had

income for broadcasting 560 million US dollars. This showed good the policy for the organization and understanding of the need for citizen involvement and, by reaching its goal in half a year, the public's support for Atlanta's bid.

The period of economic growth many countries want to be host city of Mega Sport events, 1988 Seoul Olympic have revenue from broadcasting \$402.6 million and tickets revenue is \$ 36 million (Olympic Marketing Fact File 2012, p. 26). Barcelona was selected to be host city of Olympic Games 1992 have revenue from broadcasting \$636.1 million and tickets revenue is \$ 79 million. At that time The Olympic Movement created the licensing programmes to supply consumers with high-quality of merchandise so they can sales the Olympic image and the Olympic Movement, revenue to The Organizing Committees for the Olympic Games (OCOG) 1988 Seoul is \$18.8 million and 1992 Barcelona is \$ 17.2 million (Olympic Marketing Fact File 2012, p. 31).

In Beijing 2008 Olympic Games has profit around \$16 million and the number of the employment of China in the secondary industry increase from 192,250,000 persons in 2006 to be 216,840,000 persons (National Bureau of Statistics of China, Employment and Wages, 2010). In Beijing 2008 Olympic Games, in that time have the global financial crisis and

Beijing Game does not have the effect from the China's economic crisis
(The Olympics and Economics 2012- Goldman Sachs)

Sport events have positive effect in tourism demand on long-term economics for host city but the increasing of revenues may not cover the cost of hosting sport events (Solberg & Preuss, 2007).

On the other side the mega sport event not only positive economic impact for the host city but also the negative economic impact for the host city because many hosting cities use the large of budget for the Olympic Games and loss for the investment such as the financial disaster in the 1976 Summer Olympics in Montreal has debt \$ 1.5 billion. Montreal did not pay the debt final bill until 2006 (Hosting the Olympics is a good investment for cities: Global Researcher: p. 315). This event lack of the good management and support from sponsor because all the expenditure come from the government budget. It can make many cities scared for bidding to be the host country of the Olympics.

Behunin (2010) studies the economic impact of hosting baseball and Softball Tournaments in a Mid-South Community by survey the visitors. Although the result show the number of visitors in tournaments was small, it has sign of the benefit to the community form the result 88 cent of every

dollar that spectator spent in the community and the ratio of 2 dollars of economic impact to every one dollar spent.

2.6. Gross Domestic Product and Gross Regional Product

Gross domestic product is an aggregate measure of production equal to the sum of the gross values added of all resident institutional units engaged in production (plus any taxes, and minus any subsidies, on products not included in the value of their outputs) (the meaning from the Organization for Economic Co-operation and Development (OECD)). GDP estimates are always used to measure the economic performance of a whole country or region, but can also measure the relative contribution of an industry sector.

When GDP is growing, especially if inflation is not a problem, workers and businesses are generally better off than when it is not (Callen, 2008).

AS Abdul-Rahim (2013) studied the sport tourism in Thailand in term of economics by use the case study the hosting city of 24th SEA Games at Nakhon Ratchasima in 2007. The economic factors, short-run and long-run effects of its determinants were examined using Autoregressive Distributed Lag (ADRL) approach. He used the gross domestic product

(GDP) of Thailand to be the one of indicator in the equation of ARDL model. He analyzes GDP with other economic indicators such as exchange rate and the number of tourist arrival. And found that the SEA Games 2007 has a significant determinant in promoting the tourism industry by the host country.

Muroi (2008) used the GDP growth rate data of Japan, Korea and China to compare the economic impact of Olympic Games and used the Gross Regional Product (GRP) to compare the local economic in each city in China. And then compare GRP of Tokyo with Beijing. For all information apply to forecast the economic impact of Beijing Olympic Games 2008 in China.

Kasimati (2006) used the change of the number of GDP to prove the economic impact aspect that the model does not account is for the impact of stadium utilization (or lack of). In other words, the Olympic legacy with respect to either full or partial utilization of the sports venues, after the completion of the Games and up to 2012, is neglected in our forecasting. However, the model is able to identify and quantify the economic consequences of the Olympic related investments that occurred during the pre-Olympic period 1997-2004. Indeed, it was found that the total economic activity, as it is expressed in terms of GDP, increased by GRD 1,885.4

billion, while unemployment decreased by 789.7 thousands people between years 1997 to 2004.

2.7. Unemployment Rate

Unemployment rate is the one of labor economic indicator that calculate the percentage of total workforce that are unemployed and are finding for a job that has the payment. Unemployment rate is one of the most intimately watched the numbers and statistics because a rising rate is seen as a sign of weakening economy that may call for reduce in interest rate. The reducing rate similarly indicates a growing economy, which is usually accompanied by higher inflation rate and may call for increase in interest rates.

In this study select the unemployment rate to be one of three indicators for analyze economic impact of sport events because unemployment rate can show the effectiveness of the sport events to the city. If unemployment rate can decrease that mean sport event can effect to employment system in the city including the hotel industry and restaurant in the city.

The specification of the unemployment (UN) equation is explained by the Okun's law and by a time trend that he proved this negative

relationship between unemployment and GDP is called Okun's law, after Arthur Okun, the economist who first studied it (Okun, 1983, pp. 145-158). Okun's law is the law that observed the relationship between unemployment rates with the loss on a country in the production process in first quantified. In Okun's law has the "gap version" is the states that for every 1% increase in the unemployment rate, GDP of that country will be roughly an additional two percent lower than its potential GDP. And the "difference version" describes the relationship between quarterly changes in unemployment and quarterly changes in real GDP. The accuracy of the law has been disputed. (Just the Fact101 (c), Textbook, Principles of Macroeconomic fifth edition 2014).

The basic of this theory is the workers can produce goods and services, on the other hand unemployed workers cannot do.

$$UN_t = \beta_0 + \beta_1 GDP_{R,t} + \beta_2 TimeTrend$$

UN_t is unemployment in thousands

$GDP_{R,t}$ is gross domestic product real time (in the period that we would like to prove and compare the numbers)

$TimeTrend$ is reflects the productivity growth generated by capital accumulation and technical progress and a positive sign is expected.

The unemployment rate can influence to inflation rate. Inflation is dependent of the unemployment rate consistent with the Phillips curve theory and this is in common with the models by the Bank of England (1999),

In 2010 Trofimovskaya used the unemployment rate that is the one of the economic indicator to prove the relation and impact of the Olympic Games 2008 in Beijing. At the time Beijing had new infrastructure including sporting venues, hotels, restaurants, offices, parks as well as water recycling centres (John, 2008). The new infrastructure after bidding process since 2001 had effect to the labor market, many employees wanted to have a job and the unemployment rate in Beijing was going down that mean more employment.

In process of Beijing Olympic Games 2008 had the three kinds of employment. First, direct employment is the part of preparation and staging of the games. Second, the indirect employment is the part of support activities such as hotels, construction and wholesaling etc. Third, is from the expenditure arisen due to the Games, the induced employment (John, R., & Margaret, 2008.). In this result of post-game found that Even though the World Bank gives the numbers it is hard to rely on their accuracy due to the existent corruption in the country (Irena, 2010).

In year 2006 Kasimati (2006, p. 142) used the unemployment rate in the part of his research of macroeconomic and financial analysis of mega events in case of Greece. One of the event is the Summer Olympic games 2004 in Athens. The objective of study is forecasting the economic model of Greece by assess the effect from the mega sport event incase Summer Olympic Games. And use the macro econometric simulation for the economics. The researcher compared the economic impact of two scenarios with Olympics and without Olympics. Researcher focus on three period: before, during and after.

Evangelia use Labor Force in term of Unemployment rate to be one of the economic indicators to forecast the Exogenous Assumptions from year 2006 to year 2012. And the result of forecasting of unemployment rate will decline an average of 1.63 to 2.26 percent per year over the same period.

Evangelia used the equation to find unemployment rate by:

$$UNR_t = \frac{UN_t}{LabourF_t}$$

UN is Number of Unemployed in thousands

UNR is Unemployment Rate (=UN/Labor force)

2.8. Number of Tourists

Harry A. and Holger P. (2007) studied the effect from major sport events to long term tourism situation. In the economic indicator, the sport events have influenced to increase the number of tourists to the host city of the events. The event can affect the demand in the local economics for the host city. On the other hand the investment and revenues of hosting sport events may not counterbalance when host city have high cost of investment and low revenue. In the study compared the number of tourists in the Olympic time that have profit of the games since 1972 Munich Olympics to 2008 Beijing. And compare the growth of inbound tourism in 4 countries with Australia. The result show the positive trend of tourist's number does not mean the growth has been caused by a positive shift in demand, supply, or both. Actually, a positive shift in supply line with no corresponding shift in demand can make sport events unprofitable for the host destination, particularly the tourism industry. Moreover, the tourism demand can increase the host destinations ability to capitalize on the economies of scale.

Some researchers focus on the number of tourists of the host city and the number of tourists may depend on the peak season of tourism. Johan F. and María S. (2011) studied the effect of mega-sport events on tourist arrivals. Their hypothesis is the sport events can increase the number of

tourists in the year of the event could not be rejected. They focus on the 6 mega sport events as the Summer Olympics, FIFA, World Cup, Cricket World Cup and Lions Tour. Usually researchers used the Methodologies in three different types of Methodologies such as input-output analysis, cost benefit analysis and computable general equilibrium modelling (CGE) that Anderson, Armbrrecht and Lundberg used CGE Method in 2008. But Johan F. and María S focus on the impact on tourist arrivals so they used gravity equation to be different Methodology to evaluate the growth of tourism of host city that has mega sport events and compare events from 1995 to 2006.

The results of their research shows mega sport events can increase the number of tourists in the same year of events from Summer Olympics, FIFA and World Cup but Cricket World Cup and Lions Tour have less influence on the hosting mega sport events. In this research can find more of correlation of Sport events with other economic indicators in the long period (11 years). The sport events in this research will include mega sport events such as Asia Beach Games 2014, international sport events such as international marathon, international sailing competition (Cape Panwa Phuket) or international triathlon (The Laguna Phuket Triathlon), and national competition such as Thailand national games, football league also the events which owned by sport federations. This research will find out the

influence of all the sport events in Phuket province to the economics of Phuket.

All things considered, if Sport events have influence to the economics of hosting city, the economic indicators should have good correlation in term of economics. For these reason, sport events should have positive economic impact to Phuket city that is tourist city, the economic indicators in the first hypothesis (Number of tourist), the second hypothesis (Unemployment rate) and the third hypothesis (GPP). For the second hypothesis, unemployment rate should have the inverse variation correlation with sport events. The firth hypothesis, sport events with other economic indicators as number of tourist and unemployment rate (with the inverse correlation) have the influence to GPP (gross provincial product) of Phuket.

Chapter 3. Methodology

3.1. Multiple Regression

The general purpose of multiple regression (Pearson, 1908) is to learn more about the relationship between several independent or predictor variables and a dependent or criterion variable. The multiple regression can show the relation for the example, researcher would like to study and predict about how much an individual satisfactions in the job. The variables may use as income of person, financial status, number of family, sex, age, health condition, and working year. All of these indicators may have influence to the job satisfaction.

Collection of the data on all of the related variables or the variable that researchers selected will collect by surveying the few hundred members of society, or use the publish data that they can find in the publish information or organization as we call secondary data.

The purpose of multiple linear regression is prediction, explanation and theory building. One of the multiple regression purpose is prediction or estimation of unknown variable (generally used Y or called dependent variable) that have the influence from a setting variable (generally used X).

In linear regression Method in the sport industry, many researches apply regression Method in their study as

Matheson and Baade (2005) used the multiple linear regressions to find the economic impact of major league baseball work. They apply for two models, first one apply to predict the change of income for host cities by using data over the period 1969 through 2000 of baseball season. And the second one used the multiple linear regression analysis to predict changes the ratio of income in Major League Baseball for the sample metropolitan statistical areas.

Baade and Dye (1990) used the regression to evaluate the impact of the stadiums and professional sports on metropolitan area development in United State. They consider the stadiums and professional sports influence on the measurement of aggregate economic activity, the SMSA (standard metropolitan statistical area) income was regressed in independent variable. They compared pre and post the generating of the stadium and the professional sports. They use the framework as:

$$Y_i = b_0 + b_1POP + b_2STAD_i + b_3FOOT_i + b_4BASE_i + e_i$$

Y_i = The i^{th} SMSA'S real aggregate personal income (in 1982 dollars) (data are from Local Area Personal Income and Survey of Current Business, various years);

POP_i = The i^{th} SMSA's population (data are from Current Population Reports, various years)

$STAD_i$ = A dummy variable which assumes 0 value before the i^{th} SMSA renovates an old stadium or builds a new stadium; the value 1 is assigned after a stadium is renovated or built;

$BASE_i$ = a dummy variable which assumes a 0 value if the i^{th} SMSA does not have a professional baseball team in a given period; the value 1 is assigned if it does;

e_i = stochastic error

3.2. Measurement

3.2.1. Data

In this study will use the secondary data in term of economic indicators to prove four hypotheses.

- Gross Provincial Product of Phuket Province (GPP) data from Office of the National Economic and Social Development Board (NESDB) of Thailand. The data use information from 2004 to 2014.
- Number of Tourist data from Department of Tourism, The Ministry of Tourism and Sports of the Kingdom of Thailand. The data use information of tourist from 2004 to 2014.
- Unemployment rate data from The Labor Force Survey, National Statistical Office, Ministry of Information and Communication Technology of the Kingdom of Thailand from 2004 to 2014.

- Number of sporting events in the Phuket city data from Tourism and Sport Office, The Ministry of Tourism and Sports of the Kingdom of Thailand from 2004 to 2014.

3.2.2. Equation of Multiple Linear Regression

3.2.2.1. Multiple Linear Regression of Sport Events in this Research

For the Method, this research use SPSS statistic program to find the multiple linear regression equation for sport events in the Phuket city that is the hosting Sport Event with the other economic indicators. In this study will use the multiple linear regression to describe the correlation of the Economic impact (dependent variable) that use GPP to be dependent variable with other Economic indicators (independent variable) as Number of tourist, unemployment rate and sport events.

In this study use four Methods to find the impact of sport events to other economic indicators and prove the hypotheses.

M 1. : This Method proves the first hypothesis which Sport events have influence to Number of tourist of Phuket province.

The first Method will apply the knowledge of regression to find the influence of sporting events to the number of tourist by use SPSS program in the regression function. The researcher selects Sport events to be predictors and Number of tourist to be dependent variable. After that find

the multiple linear regression equation. For multiple linear regression equation, the researcher will use Y to be dependent variable and use X to be independent variable.

$$Y_i = b_0 + b_1X_{1i} + b_2X_{2i} + e_i$$

Y = Dependent variable

X_{1i} = First Independent variable

X_{2i} = Second Independent variable

e_i = stochastic error

The researcher applies for Number of tourist to be dependent variable and Sport events to be independent variable.

$$TOURper1M_i = b_0 + b_1SportEvents_i + e_i$$

$TOURper1M$ = The number of tourists of Phuket in the period i^{th} (2004 to 2014) divided by 1,000,000 (to control the size of sample in 100 scales).

$USportEvents$ = The number of sport events of Phuket province in the period i^{th} (2004 to 2014).

e_i = stochastic error

M 2. : This Method proves the hypothesis 2. Sport events have influence to Unemployment rate of Phuket province.

The second Method will apply the Hierarchical multiple regression knowledge to find the relationship. The researcher selects Sport event and

Number of tourist to be predictors and select Unemployment rate to be dependent variable. And find the multiple linear regression equation.

In the second Method, the researcher applies for Unemployment rate to be dependent variable, Sport events and Number of tourist to be independent variables.

$$UNEP_i = b_0 + b_1 SportEvents_i + b_2 TOURper1M_i + e_i$$

UNEP = The number of Unemployment rate of Phuket in the period i^{th} (2004 to 2014).

SportEvents = The number of sport events of Phuket province in the period i^{th} (2004 to 2014).

TOURper1M = The number of tourists of Phuket in the period i^{th} (2004 to 2014) divided by 1,000,000 (to control the size of sample in 100 scales).

e_i = stochastic error

The second Method will have two models. First model will find the influence between Unemployment rates with Sport events. Second model will find the relationship between Unemployment rate with Sport events and Number of tourist. And find the best model to support the hypothesis 2.

M 3. : This Method proves the hypothesis 3. Sport events have correlation with GPP (Gross Provincial Product) of Phuket province.

The third Method will apply the Hierarchical multiple regression knowledge to find the correlation. The researcher selects Sport event and Number of tourist to be predictors and select GPP to be dependent variable. And find the multiple linear regression equation.

$$GPP_{per1K_i} = b_0 + b_1 SportEvents_i + b_2 TOUR_{per1M_i} + e_i$$

GPPper1K = The number of Gross Province Product of Phuket City in the period i^{th} (2004 to 2014) divided by 1,000 (to control the size of sample in 100 scales).

SportEvents = The number of sport events of Phuket province in the period i^{th} (2004 to 2014).

TOURper1M = The number of tourists of Phuket in the period i^{th} (2004 to 2014) divided by 1,000,000 (to control the size of sample in 100 scales).

e_i = stochastic error

The third Method will have two models. First model will find the correlation between GPP with Sport events. Second model will find the correlation between GPP with Sport events and Number of tourist. And find the best model to support the hypothesis three. For the GPP, researcher use GPP number divided by 1,000 because the scale of GPP bigger than scale of the Sporting events that have scope under 100. And both of the number are decimal base number so researcher can divided by 10^x .

M 4. : This Method proves the hypothesis four.

Gross provincial product (GPP) is affected by Sport events, Number of tourist and Unemployment rate. The Method uses multiple linear regression to find the regression equation. By using SPSS program in the regression function. All the number of coefficient number we can use the number from “Coefficient Table” in the unstandardized coefficients column “B”. GDP and GPP are the most economic indicator that researchers use to find the economic situation in each area so this research want to prove the impact of three indicators to GPP.

In the fourth method, the researcher applies for Gross Provincial Product to be dependent variable, Unemployment rate, Sport events and Number of tourist to be independent variables.

$$GPP_i = b_0 + b_1UNEP + b_2TOUR_i + b_3SportEvents_i + e_i$$

GPP_{per1K} = The number of Gross Province Product of Phuket City in the period i^{th} (2004 to 2014) divided by 1,000 (to control the size of sample in 100 scales).

$UNEP$ = The number of Unemployment rate of Phuket in the period i^{th} (2004 to 2014).

$TOUR_{per1M}$ = The number of tourists of Phuket in the period i^{th} (2004 to 2014) divided by 1,000,000 (to control the size of sample in 100 scales).

$SportEvents$ = The number of sport events of Phuket province in the period i^{th} (2004 to 2014).

$e_i =$ stochastic error

3.3. Thesis Model

This model of economic impact of sport events in Phuket Province will focus on

First, sport events have direct effect to the local economics with change in the economic indicator this case study selects the GPP and unemployment rate.

Second, sport events have a correlation with number of tourist that can support the economic impact to the host city.

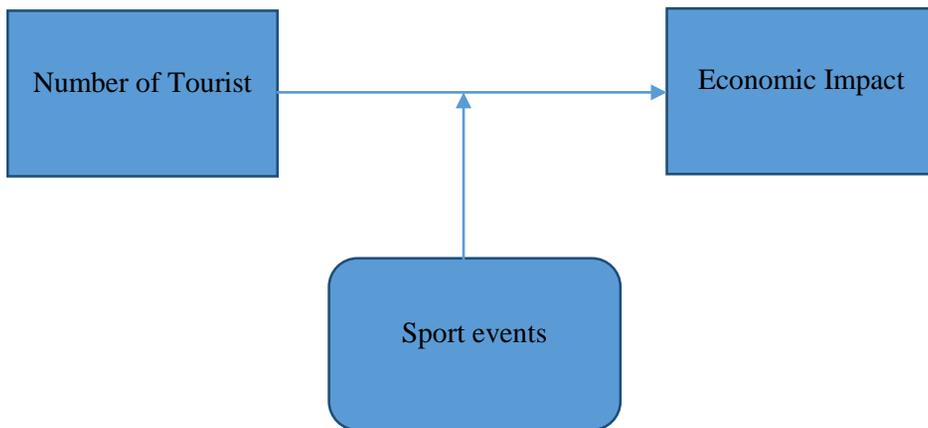


Figure 1. Thesis Model

Chapter 4. Result and Data Analysis

4.1. Data

In this chapter the result of data analysis are presented. This study used secondary data from several organizations.

- Gross Provincial Product of Phuket Province (GPP) data from Office of the National Economic and Social Development Board (NESDB) of Thailand. The data use information from 2004 to 2014.
- Number of Tourist data from Department of Tourism, The Ministry of Tourism and Sports of the Kingdom of Thailand. The data use information of tourist of Phuket Province from 2004 to 2014.
- Unemployment rate data from The Labor Force Survey, National Statistical Office, Ministry of Information and Communication Technology of the Kingdom of Thailand from 2004 to 2014.
- Number of sport events in the Phuket city data from Tourism and Sport Office, Phuket Province, The Ministry of Tourism and Sports of the Kingdom of Thailand from 2004 to 2014.

This study utilizes Linear Regression Analysis in term of linear regression, hierarchical regression and multiple linear regression by using SPSS program version twenty.

- GPP: number of GPP was divided by 1,000 because this number

are decimal base number so researcher can divided by 10^x (for calculation, the number will not over than 100).

- Number of Tourist: number of tourist was divided by 1,000,000 because this number are decimal base number so researcher can divided by 10^x (for calculation, the number will not over than 100).

4.2. Description of the Data

Table 1. The Description of the Economic Indicators

No .	Indicator	Number of Year	Minimum	Maximum	\bar{x}	SD
1	GPP	11	51,635	133,423	84,255.8182	23,423.71615
2	Unemployment rate	11	0.5	2.8	1.5	0.61806
3	Number of Tourist	11	2,510,276	20,652,569	7,603,600.10	5,102,187.20
4	Sport events	11	10	32	21.5455	6.1215

After the researcher collected secondary data from many organizations, the researcher puts the data in SPSS statistics program. SPSS statistics program will generate few Tables of the output for four Methods to prove four hypotheses.

4.3. Method 1

This Method proves the first hypothesis. Sport events have influence to Number of tourist of Phuket province. The Method 1 will apply the multiple regression knowledge to find the relationship. The researcher selects the sporting events and number of tourist to be predictors and select unemployment rate to be dependent variable. And find the multiple linear regression equation. The researcher used SPSS program to find the relationship between sport events and number of tourist in the regression function.

Table 2. Model Summary Table of Method 1

Model	R	R Square	Change Statistics		
			R Square Change	F Change	Sig. F Change
1	.854 ^a	0.729	0.729	24.239	0.001

Predictors: (Constant), Sport events

This Table indicates the percentage of variability of the Number of tourist (dependent variable) that can be forecasted by sport events (the predictor). It can interpret from the R-value and R² value. From this Table R-value indicates the correlation is 0.854 in the "R" column that indicates the high degree of correlation. The R² value from R square column indicates how many percent that the number of tourist (the dependent variable) can

explained by sport events (independent variable). In this Table of Method 1, it can explain 72.9% that mean sport events can explain number of tourist.

Table 3. Anova Table of Method 1

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	189.836	1	189.836	24.239	.001 ^b
	Residual	70.488	9	7.832		
	Total	260.323	10			

a. Dependent Variable: Number of Tourist / 1 million

b. Predictors: (Constant), Sport events

Anova Table of Method 1 can indicate the regression model predicts the dependent variable (number of tourist) significantly well. In the Table, the "Regression" row and "Sig." column show the number 0.001. This number can indicate the regression model and the model has statistical significance. This number less than 0.05 so it can show the model can significantly predict the outcome of the number of tourist (dependent variable). (Sig. <0.05)

Table 4. Coefficients Table of First Model

Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	-7.732	3.227		.040
	Sport events	.712	.145	.854	.001

a. Dependent Variable: Number of Tourist / 1 million

This Table shows the relationship between Sport events and Number of Tourist in term of regression equation. The information of the sport events can predict the number of tourist and the Table shows the coefficient numbers in the equation from “B” column that the coefficient of Sport events is 0.712. And "Sig" column can determine whether number of tourist contributes statistically significantly to the model.

From the information and relationship variable in “B” column of the coefficient Table, we can create the linear regression equation to forecast the relation between sporting events and number of the tourist in the future. The coefficient number of the sporting events is 0.712 with positive relation. And have the coefficient number of the constant is -7.732.

$$TOURper1M = -7.732 + 0.712SportEvents$$

TOURper1M = The number of tourists of Phuket in the period i^{th} (2004 to 2014) divided by 1,000,000 (to control the size of sample in 100 scales).

SportEvents = The number of sport events of Phuket province in the period i^{th} (2004 to 2014).

Scatterplot

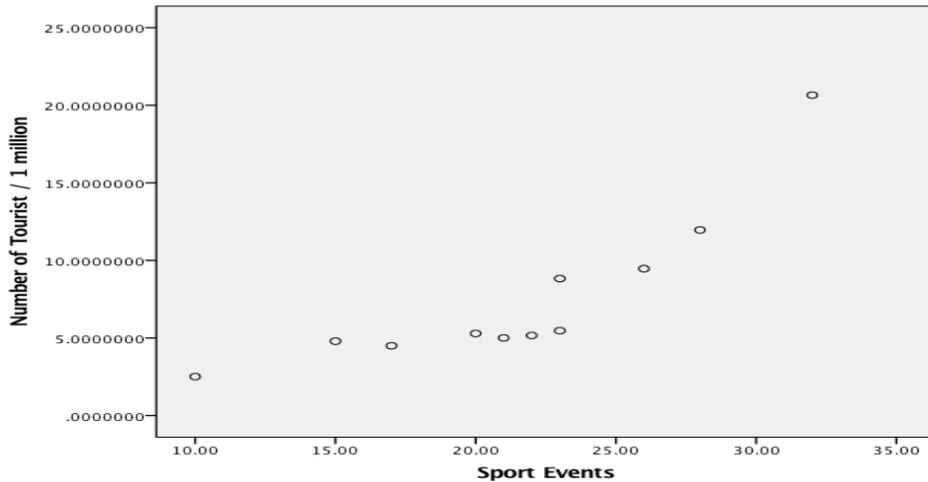


Figure 2. Scatter plot between Number of Tourist and Sport Events

From two variables the researcher plotted in the graph. Scatterplot shows about the relationship between two variables (number of tourist and number of sport events), similar with Pearson correlation. It can determine the strength and direction of the relationship between variables.

From this graph, the dots seem to go on the straight line together. The slope of the graph look likes going upward from zero. It can conclude they have strong correlation between two variables (number of tourist and number of sport events). If one variable increase the value, it will have the significant influence to second variable.

4.4. Hierarchical Multiple Linear Regression

Many researchers are interesting to find the correlation between independent variable and dependent variable to prove their assumption. It may prove that independent variables have influence to dependent variable. Hierarchical linear regression involves theoretically based decision in the prediction into the analysis. Hierarchical regression is typically used to examine specific theoretically based hypotheses (Aron A. & Aron E.D., 1999; B. H. Cohen, 1975).

The Hierarchical multiple regression is applied to evaluate the relationship between a set of independent variables and the dependent variable. This Method will control or take into account the impact of a different set of independent variables on the dependent variable.

4.5. Method 2

This Method proves the second hypothesis. Sport events have correlation with Unemployment rate of Phuket province. The Method 2 will apply the Hierarchical multiple regression knowledge to find the correlation. The researcher selected Sport event and Number of tourist to be predictors and select Unemployment rate to be dependent variable. And find the multiple linear regression equation.

Regression Method between dependent variable (Unemployment rate) with independent variables (Number of tourist and Sport events)

Table 5. Model Summary of Method 2

Model	R	R Square	Change Statistics		
			R Square Change	F Change	Sig. F Change
1	.384 ^a	.148	.148	1.560	.243
2	.737 ^b	.543	.396	6.930	.030

a. Predictors: (Constant), Number of Tourist / 1 million

b. Predictors: (Constant), Number of Tourist / 1 million, Sport events

This Table can show the second model that has two predictors (Number of Tourist / one million and Sport events) is high statistically significant model more than first model from the number of R, R square and also Sig. F change column. It mean second model that can explain the correlation between dependent variable (Unemployment rate) with Number of Tourist / one million and sport events. It should have sport events in the model.

Table 6. ANOVA Table of Method 2

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.564	1	.564	1.560	.243 ^b
	Residual	3.256	9	.362		
	Total	3.820	10			
2	Regression	2.075	2	1.038	4.759	.043 ^c
	Residual	1.745	8	.218		
	Total	3.820	10			

a. Dependent Variable: Unemployment rate

b. Predictors: (Constant), Number of Tourist / 1 million

c. Predictors: (Constant), Number of Tourist / 1 million, Sport events

This Table confirms the suspicion that second model can explain the influence between dependent variable with predictors more than first model. Number of significant column in the second model lower than 0.05. The value of “sig” columns for p-values, which need to be below 0.05 to say that this second model has a statistically significant result. On the other hand, model one has “sig” value over than 0.05 and also more than second model so first model cannot be explained.

Table 7. Coefficients Table of Method 2

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.854	.336		5.510	.000
	Number of Tourist / 1 million	-.047	.037	-.384	-1.249	.243
2	(Constant)	3.533	.689		5.126	.001
	Number of Tourist / 1 million	.078	.056	.648	1.411	.196
	Sport events	-.122	.046	-1.209	-2.633	.030

a. Dependent Variable: Unemployment rate

So the best model for Method 2 that can prove the correlation between dependent variable Unemployment rate and independent variables number of tourist and sport events is second model. The "B" column under the "Unstandardized Coefficients" column can use the values and apply to present the "Regression Equation". The coefficient number of sporting

events

$$UNEP = 3.553 + 0.078TOURper1 - 0.122SportEvents$$

UNEP = The number of Unemployment rate of Phuket in the period i^{th} (2004 to 2014).

TOURper1M = The number of tourists of Phuket in the period i^{th} (2004 to 2014) divided by 1,000,000 (to control the size of sample in 100 scales).

SportEvents = The number of sport events of Phuket province in the period i^{th} (2004 to 2014).

4.6. Method 3

This Method proves the third hypothesis. Sporting Events have influence to GPP (Gross Provincial Product) of Phuket province. The Method 3 applied the Hierarchical multiple regression knowledge to find the influence of sporting event. The researcher selected Sporting event and Number of tourist to be predictors and select GPP to be dependent variable. And find the multiple linear regression equation.

This model use GPP (Gross Provincial Product) to be dependent variable. For independent variable use two independent variables (Number of Tourist and Sport events) and compare the best Method by use SPSS program in term of hierarchical linear regression.

Table 8. Model Summary of Method 3

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	Sig. F Change
1	.946 ^a	.894	.882	8.0343754895	.894	75.998	.000
2	.981 ^b	.962	.952	5.1137959837	.068	14.216	.005

“a” Predictors: (Constant), Number of Tourist / 1 million,

“b” Predictors: (Constant), Number of Tourist / 1 million, Sport events

This Table of the second Method provides R value and R² Value of two predictors. The R Value of first model of predictors set “a” is 0.946 and second model of predictors set “b” is 0.981 that mean predictors set “b” has a high degree of correlation (but the number is not different a lot). The R² value (the "R Square" column) indicates how much of the total variation in the dependent. This Table shows R² of model set “a” is 89.4% and R² of model set “b” is 95.2 % that mean model predictors set “b” can explained more by independent variables number of tourist and sport events 95.2%.

In hierarchical linear regression, the interpretation of the relationship between the dependent variable and the predictors will focus on the change in R². If change in R² is statistically significant, the overall relationship for all independent variables will be significant as well.

In the column Sig. F change, second model much better than first model. Second model is 0.05 that mean the second model significant more than first model. F change of first model is 75.998 and second model is

better than first model 14.216 that mean second model has F change 90.214 (second model is better than first model). Sport events can create more influent to the number of GPP.

Table 9. ANOVA Table of Method 3

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4905.755	1	4905.755	75.998	.000 ^b
	Residual	580.961	9	64.551		
	Total	5486.715	10			
2	Regression	5277.508	2	2638.754	100.905	.000 ^c
	Residual	209.207	8	26.151		
	Total	5486.715	10			

a. Dependent Variable: GPP divided by 1,000

b. Predictors: (Constant), Number of Tourist / 1 million

c. Predictors: (Constant), Number of Tourist / 1 million, Sport events

This Table confirms the suspicion that both of models explain the influence between dependent variable with predictors Number of significant column show both model can explain.

Table 10. Coefficients Table of Method 3

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	51.248	4.495		11.401	.000
	Number of Tourist / 1 million	4.341	.498	.946	8.718	.000
2	(Constant)	24.919	7.547		3.302	.011
	Number of Tourist / 1 million	2.380	.609	.518	3.907	.004
	Sport events	1.914	.508	.500	3.770	.005

a. Dependent Variable: GPP divided by 1,000

So the best model for Method 3 that can prove the correlation between

dependent variable GPP and independent variables number of tourist and sport events is second model. The "B" column under the "Unstandardized Coefficients" column can use the values and apply to present the "Regression Equation".

$$GPP_{per1K} = 24.919 + 2.38TOUR_{per1M} + 1.914SportEvents$$

GPP_{per1K} = The number of Gross Province Product of Phuket City in the period i^{th} (2004 to 2014) divided by 1,000 (to control the size of sample in 100 scales).

$TOUR_{per1M}$ = The number of tourists of Phuket in the period i^{th} (2004 to 2014) divided by 1,000,000 (to control the size of sample in 100 scales).

$SportEvents$ = The number of sport events of Phuket province in the period i^{th} (2004 to 2014).

Scatterplot

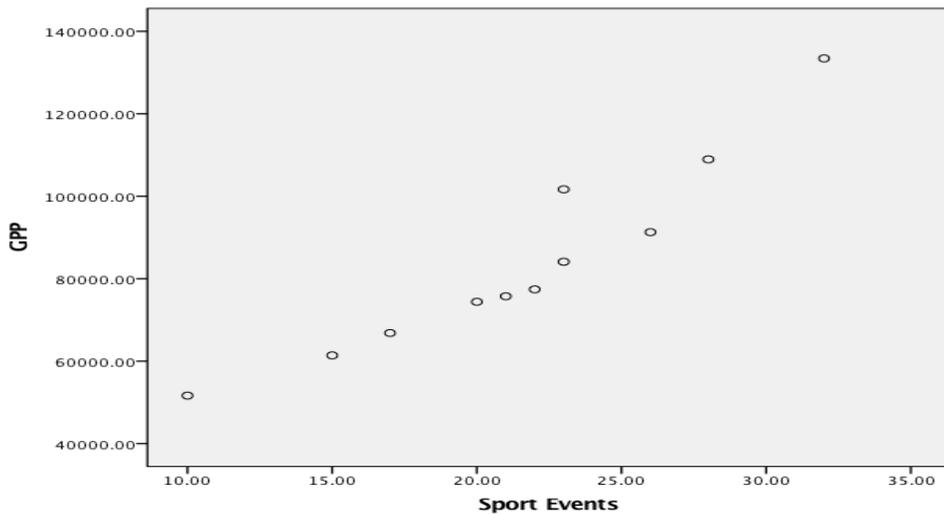


Figure 3. Scatter Plot between GPP and Sport Events

From two variables the researcher plotted in the graph.

Scatterplot shows about the relationship between two variables (GPP and number of sport events), similar with Pearson correlation. It can determine the strength and direction of the relationship between variables.

From this graph, the dots seem to go on the straight line together. The slope of the graph look likes going upward from zero. It can conclude they have strong correlation between two variables (GPP and number of sport events). If one variable increase the value, it will have the significant influence to second variable.

4.7. Method 4

This Method proves the hypothesis 4. Gross provincial product (GPP) is affected by Sport events, Number of tourist and Unemployment rate. The Method uses multiple linear regression to find the regression equation by use SPSS program in the regression function. All the number of coefficient number in the regression equation can apply the number from “Coefficient Table” in the Unstandardized Coefficients column “B”.

Table 11. Model Summary of Method 4

Model	R	R Square	Adjusted R Square	Change Statistics	
				R Square Change	Sig. F Change
1	.981 ^a	0.963	0.947	0.963	0

a. Predictors: (Constant), Sport events, Unemployment rate, Tourist/ 1m

In the model summary Table provides R value and R² Value. The Value of R represents the simple correlation and is 0.981 (in the "R" column), which indicates a high degree of correlation. The R² value (the "R Square" column) indicates how much of the total variation in the dependent variable (GPP), can be explained by the independent variables (Unemployment rate and Number of tourists). For this Table R² value show 96.3% can be explained, which is very large. And the standard error of the estimation is 5.40223.

Table 12. ANOVA of Method 3

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5282.426	3	1760.809	60.334	.000 ^b
	Residual	204.289	7	29.184		
	Total	5486.715	10			

a. Dependent Variable: GPP/1000 , b. Predictors: (Constant), Sport events, Unemployment rate, Tourist/ 1m

Anova Table presents the regression model can predict the dependent variable significantly well that we can prove by the "Regression" row and go to the "Sig" column is 0.00. This number shows the statistical significance of the regression model that was run. In this Table show the value of "Sig" in term of "Regression" is 0.00, which is less than 0.05 and indicates that, overall, the regression model statistically significantly predicts the outcome variable.

Table 13. Coefficients Table of Method 4

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	29.819	14.354		2.077	.076
	Unemployment rate	-1.467	3.574	-.044	-.411	.694
	Tourist/ 1m	2.429	.655	.529	3.711	.008
	Sport events	1.760	.655	.460	2.685	.031

a. Dependent Variable: GPP/1000

Coefficients Table indicates the necessity of the information to predict the GPP (Gross Provincial Product) of Phuket from independent values (Number of tourist, Unemployment rate and Number of sport events). As well as determining the number of tourist, unemployment rate

and number of sport events contribute statistically significantly to the model by focus on the "Sig" column. Moreover, the "B" column under the "Unstandardized Coefficients" column can use the values and apply to present the "Regression Equation".

$$GPPper1K = 29.819 - 1.467UNEP + 2.49TOURper1M + 1.76SportEvents$$

GPPper1K = The number of Gross Province Product of Phuket City in the period i^{th} (2004 to 2014) divided by 1,000 (to control the size of sample in 100 scales).

UNEP = The number of Unemployment rate of Phuket in the period i^{th} (2004 to 2014).

TOURper1M = The number of tourists of Phuket in the period i^{th} (2004 to 2014) divided by 1,000,000 (to control the size of sample in 100 scales).

SportEvents = The number of sport events of Phuket province in the period i^{th} (2004 to 2014).

In this model, Unemployment rate is not statistical significance from the Table 16. in the "Sig" column. This number is 0.694 that over than 0.05.

4.8. The Best Model in this Study

From three methods, which find the correlation of four economic

indicators, the best Method and the best model from the result of SPSS program is Method 3's second model. The Method 3's second model indicates the relationship between dependent variable (GPP) with two independent variables (Number of tourist and Sport Event). This model is the best model from five model because the researcher analyzes with three tables from SPSS program consist of model summary Table by using the data from "R square" and "Sig. F change" column, Anova Table by using the data from "Sig" column and Coefficients Table by using the data from "Unstandardized Coefficients" column "B" and "Sig" column.

The model equation for this study is:

$$GPP_{per1K} = 24.919 + 2.38TOUR_{per1M} + 1.914SportEvents$$

GPP_{per1K} = he number of Gross Province Product of Phuket City in the period i^{th} (2004 to 2014) divided by 1,000 (to control the size of sample in 100 scales).

$TOUR_{per1M}$ = The number of tourists of Phuket in the period i^{th} (2004 to 2014) divided by 1,000,000 (to control the size of sample in 100 scales).

$SportEvents$ = The number of sport events of Phuket province in the period i^{th} (2004 to 2014).

Chapter 5. Discussion

This chapter will discuss about the previous information of Phuket province, previous study about impact of sport events in Thailand, result of the study, other impact of sport events and also recommend to the future study.

5.1. Summary of Finding

This section has provided a detailed overview of the study in the topic economic impact of sport events in the tourist destination case study Phuket province in a period of eleven years. Phuket Island is one of the most tourist destinations in the world so the majority income of Phuket province is tourism income. Sport event is the part of sport and tourism section and it can support the number of tourist in Phuket province, which is tourist destination.

The numbers of Sport events of Phuket in a period of eleven years have a rising sign and have a positive trend in the future. Sport fans, teams and tourists carry the money to spend in the city. This money is used in the accommodation, local travel, shops and also the event tickets.

From this study in the regression Method, we can find the relationship of sport events and other economic indicators of Phuket province. Sport events have strong direct impact to the GPP (Gross

Provincial Product) and number of tourist of Phuket province. Impact of sport events in this study has statistically significant economic impact to GPP (Gross Provincial Product) of Phuket province and also sport events has impact to number of tourist of Phuket province.

Unemployment rate is the inverse indicator with sport events, sport events have impact to unemployment rate but it is not strong impact because we can see some year in 2010 to 2011 the number of sport event increased but unemployment rate increased (it should be decrease because unemployment rate is inverse indicator).

Lastly, this study may help the local government who want to be host sport events in the future. They can prepare and recognize the impact of sport event to their economics how they can increase the economics of host city through sport industry or sport event in the short term and long term, how they can manage the legacies of event for the new young generation, how they can increase the sport reputation through media and sponsors.

5.2. Previous Information of Phuket

The purpose of economic impact of sporting events to the tourist city, the researcher would like to examine the influence of sport events to the economics of the tourist city that was a host city of the events. In this

study focus on the number of economic indicators of Phuket province which is tourist city from 2004 to 2014.

Gross Provincial Product (GPP) is a measurement of national income of regional and provincial areas by means of production approach. It can generate by value add of economy in the province that have many kind of industry.

Since 1980s in Phuket province, the income from tourism industry is the majority. The information from Office of the National Economic and Social Development Board, Office of the Prime Minister of Thai Government indicated Phuket has GPP in term of tourism, sport and hotel equal thirty nine point one nine percent from the total GPP or around fifty thousand three hundred forty one million bath in 2013. Phuket used to be one of top five-retirement destination in 2005 according to Fortune Magazine vote.

Phuket has sport events and also international sporting events in every month. And a number of sport events have been increased in each year. In 2014, Phuket had thirty two sporting events from eighteen local and national sporting events and fourteen international sporting events, which include Asian Beach Games 2014. The information from OCA shows Asian Beach Games 2014 had 2,335 athletes participated in the events from

forty five countries across Asia for 168 events in twenty six sports. Not only athletes who participated the games but also spectators, media teams and medical team etc. also came for the games. So, sporting events has influenced to the number of tourists and also direct to the income of city in term of consumption in the restaurant, hotel, traveling and any sport product that impact to the Gross Provincial Product (GPP).

The number of sporting events in Phuket has a good sign for sponsorship and has a positive trend in term of number in the future in Phuket province both managed by the local organization or the private sector. Sporting events in Phuket have many kind of events, most of sporting event in Phuket support the tourism. So the effect of the events and tourism can generate the tourism industry and also the number of hotel in every year.

5.3. Previous Studies of Sport Events in Thailand

The previous studies focus on the influence of sport events to the gross domestic product (GDP) in Thailand such as AS Abdul-Rahim (2013) studied the hosting city of twenty-fourth SEA Games at Nakhon Ratchasima, Thailand in 2007. The SEA Games has a significant influence to the GDP in term of the tourism industry of host country. In the tourist

indicator for long run sport event has no significant impact to tourist arrival, except for the dummy variable, which represent SEA games event. But for the short run, the dummy variable (SEA Games event) is significant at the level of one percent and the obtained results revealed that the dummy variable (SEA Games event) is a significant determinant of tourist arrival in Thailand.

5.4. Impact of Sporting Events in Phuket

The impact of sport events to economics of Phuket province in this study can find the impact by use the correlation method and multiple linear regression method to find the impact of sport events to other economic indicators in four methods.

For the regression model of Method 1 in the chapter 4, the result of the regression model shows sport events has a statistically significant relationship with number of tourist from the Table in Method 1 by R-value is 0.854, which indicates a high degree of correlation and also R square explain 72.9% that mean sport events can explain number of tourist. Sporting events can increase the number of tourist. Phuket province is the tourism destination, without the sport event, Phuket province still have high number of tourist but the sport events can support the number of tourist in

the city. So Phuket government should increase the number of sport events because they have an influence in each other.

The hierarchical regression model in the second Method found the impact of sport events to unemployment rate. Model shows the influence between sport events and unemployment rate have significant relation but unemployment rate and number of tourist do not have significant relation. Unemployment rate has the inverse relation with sporting events, it mean one indicator increase the other one should be decrease so sporting events can reduce the number of unemployment rate in Phuket province. Sport events can generate the job and demand of labor force but one sport event is not for the long-term period to support labor force. It may reduce number of unemployment rate in short term.

Sporting events have influence to the unemployment rate from the Table 5 in “Sig” column but it cannot explain much in the “R square” column.

The third Method found the impact of sport events to GPP (Gross Provincial Product) of Phuket. Sport events indicator has strong significant relationship with GPP of Phuket. The model shows R value and R² of Second model in the Method 3 is 0.981 and 95.2 % (dependent variable GPP with independent variables Sport events and Number of tourist) that

mean this relation (model) can explain more and can show the impact of sport events to GPP of Phuket province. The third Method second model shows number of tourist has influence to GPP and has more influence if used the sporting events in the model. Sport events have statistical significance to GPP with number of tourist. So the result of multiple linear regression models confirmed the number of sport events have significant influence to GPP (Gross Provincial Product), which is the economic indicator for Phuket province. Sport events have a positive tendency go together with the GPP of the city so it can generate more the income of the city and also the positive economic impact of the city. But the value of GPP has effect from many factors such as the political crisis, monetary policy etc.

The fourth Method, regression models found the impact for the 4 economic indicators including GPP, Unemployment rate, Number of Tourist and Sport Event indicate the relationship between GPP with two predictors Number of Tourist and Sport events. Sport events and Number of tourist is the direct variation to GPP. And Unemployment rate is inverse variation with GPP. All of the variables have the relation together.

5.5. Other Factors from Sport Events

Sporting events have the potential to stimulate the local economics; moreover the international sport events can increase the economic activities arising from the games-related expenditure. It can produce economic benefits such as job creation, new sports facilities and infrastructure, urban revival, increased the number of sport and tourism events, and more inward investment.

The economic impact in Phuket province for the tourism and sport, and the number of international tourist that increasing every year has effect to AOT (Airport of Thailand) invested budget to development project of Phuket International Airport to support higher demand in tourism industry.

The budget for development is a 5.7 billion baht expansion in September 2012, planned for completion in April 2015. The capacity of Phuket international airport can support passengers from 6.5 million to be 12.5 million passengers (Wannaphong, 2013). The economic impact to Phuket province from his study was about thirty two-billion baht or almost 120 percent increasing from initial impact of fifteen-billion baht. That mean many factors have impact to economics of Phuket as the result AOT (Airport of Thailand) invest more money to support the new size of economics in this city.

5.5.1. Other Side of the Impact of Sporting Event

Number of tourists: some tourist may avoid visiting the host city because they fear of crowd, traffic congestion and crime. If we want to find the fact of number of tourist that come to the city for sport event, we should survey since they arrive the airport or come to the country.

Job creation: most of the games are short-term period. One study has questioned the magnitude of the job creation effect generated by hosting international games. The short duration of the games may not necessarily justify the hiring of new employees and/or the creation of fulltime jobs. But they can change the number of unemployment rate.

Government policy: In case Asian Beach Games, Phuket Government launches Phuket official rules to manage all the beach in Phuket. They launch the campaign "return beaches to Phuket". The process will call villagers together to explain the penalties of land encroachment, the vice governor said. Then cleaned up and cleared of all illegal establishments as local officials and residents disposed of the last pieces of rubbish left behind by businesses. In the positive way is good for the image of Phuket province but in negative way many local resident cannot do their business that they owned more than 50 years.

5.6. Limitations and Recommendations for Future Research

This research used 11 years of data and used the secondary data of Phuket province, while the data from different ministries that some data collected with the different Method. In the future of economic impact study of sport events to the host city, the future studies should use the primary data in term of survey for the tourist, when the host city have sport event, tourists or sport fans or followers come to the city for the event. We will understand the facts from tourist what they want or they come to host city because the games or just for travel or both. Because this study focus on the tourist destination which the majority income of the city come from the tourism.

The type of the host city, the availability of the host city and also the number of days of competition may have the influence more to the decision of spectators, sport fans and tourists to stay in the host city. So we can compare the type of city for sport event to see how different impact to the host city, also the impact may have different result depend on the duration of event and size of the event impact because mega sport event, international event and local sport event have different impact.

In the tourist destination, the economics of city that has the majority income from tourism has the different season for the example Phuket has

peak season on November to March so the income in other period will be lower than tourist season. So for the next study, we can separate the impact of sport events to tourist destination in each season or period by quarter or month to see the number of sport event in the different time and economic transition in each period.

Unemployment rate is the one of the economic indicators, which mentioned in this study. This study use secondary data from ministry and the data include every sector from employment that we cannot separate how many labors are employed from the sport events. For future study, we can focus on labor part and separate the direct labor (staff in the events) and indirect labor (from the hotel and restaurant) both short term and long term.

For the other economic sector, sport events also have influence to construction, hotel, leisure (also the sport clubs), restaurant and also investment in the future. For the future study, we can find the relationship between sport events with the other economic indicators and other sectors in the host city and also the local residents.

The local resident is one more sector who gets effects of sport events. Both direct and indirect effects to resident always have influence to sport events. In case Asian Beach games 2014 at Phuket, local government had campaign to clear the Phuket beach. It had effect to local residents who had

business and work in that area because they have to move out from the beach. On the other hand, people in Phuket province can participate and get advantage from this mega sport event.

References

- Abdul-Rahim, AS. (2013). *An Econometric Analysis of Sport Tourism in Thailand*. Department of Economics Faculty of Economics and Management Universiti: Putra Malaysia.
- Aron, A., & Aron, E.N. (2nd Eds.). (1999). *Statistics for psychology*. Upper Saddle River, NJ: Prentice Hall.
- Baade, R.A., & Dye, R.F. (1990). The Impact of Stadium and Professional Sports on Metropolitan Area Development. *Economics Department of Lake Forest College*, 21, 2, 1-14.
- Baade, R.A., & Matheson, V.A. (2004). Mega-sporting Events in Developing Nations: Playing the Way to Prosperity? *South African Journal of Economics*, 72, 5, 1084–1095.
- Baade, R.A., & Matheson, V.A. (2005). Striking Out? The Economic Impact of Major League Baseball Work Stoppages on Host Communities. *College of the Holy Cross, Department of Economics Working Paper*, 05-07.
- Baade, R. (2006). The Economic Impact of Mega-sporting Event. *Handbook on the Economics of Sport*. W. Andreff & S. Szymanski (Eds.). Cheltenham: Edward Elgar.
- Baade, R.A., & Matheson, V.A. (2011). An Evaluation of the Economic Impact of National Football League Mega-events. *College of the Holy Cross, Department of Economics Working Paper*, 1112.
- Barry, B., & Trevor, M. (1992). *Economic Impact of Sport events*. Australia: University Adelaide.

Barton, L. (2004). The Economic Impact of the Olympic Games. *Pricewaterhouse Coopers European Economic Outlook*. June 2004.

Burton, W., & Glen, W. (1997). Measuring Economic Impacts of Procects and Programs. *Economic Development Research Group, Economic department*, Northwestern University.

Cacy, J.A., & Glenn, H.M. (1984). The US Economy and Monetary Policy. *Economic Review*. Federal Reserve Bank of Kansas.

Callen, T. (2008). What Is Gross Domestic Product, *Finance & Development*.

Carl, B. (2010). *Economic Impact of Youth Sports- Hosting Baseball and Softball Tournaments*. Arkansas: Arkansas State University.

Christopher, K. (2011). Economics of sport: The impact of professional sports on the local economy. *Jonkoping International Business School*. Jonkoping University.

Cohen, J., & Cohen, P. (1975). *Applied multiple regression/correlation analysis for the behavioral sciences*. Hillsdale, NJ: Erlbaum.

Evangelia, K. (2006). Macroeconomic and Financial Analysis of Mega Events: Evidence from Greece. *Department of Economic and International Development*. United Kingdom: University of Bath.

Ferran, B. (1995). Economic analysis of the Barcelona 1992 Olympic Games resource, Financing, and Impact. *Centre d'Estudis Olímpics i de l'Esport (UAB)*.

FIFA Financial Report. (2010). 61st FIFIA Congress, Zurich, 31 May & June 2011.

Frank, R., & Bernanke, B. (5th Eds.). (2014). *Principles of Macroeconomic*. United States: McGraw-Hill Irwin.

Glen, W., & David, S. (2011). Defining Economic Impact and Benefit Metrics from Multiple Perspectives: Lessons to be learned from both side of the Atlantic.

Harry, A., & Holger, P. (2007). Major Sport events and Long-Term Tourism Impacts, Sør-Trøndelag University College and Johannes Gutenberg University, Human Kinetics, Economics and Finance.

Hidetaro, M. (2008). *Olympic Paralles with Japan and South Korea*. Japan: Center for Economic Research.

Hack, C. (2012). Hosting the Olympics is a good investment for cities. *Global Researcher*, 6, 13, 315.

Howard, D. R., & Crompton, J. L. (2nd Eds.). (2004). *Financing*. WV: Fitness Information Technology.

Hsuan, W. K. (2007). The Impact of Beijing 2008 Olympic Games on China's Economy. *Department of Economics, National Chengchi University*.

Irina, T. (2010). The Impact of the Beijing 2008 Olympic Games on the Chinese Employment. *European Business School London, Regent's College*.

John, R., & Margaret, M. G. (2008). *Olympic Cities*. Oxford shire: Routledge.

Keating, R. J. (1999). Sports Pork: The Costly Relationship between Major League Sports and Government. *Cato Institute, Cato Policy Analysis 339*.

Lieber, S.R., Alton, D.J., & Fesenmaier, S.D. (1983). Visitor expenditures and the economic impact of public recreation facilities in Illinois. *Recreation planning and management*.

Marius, M. M. (2013). Super Bowl Visitor Study & Economic Impact. A *Joint Project Between The New Orleans Super Bowl Host Committee and Division of Business and Economics Research*. The University of New Orleans.

Michael, C. D., & Christian, M. (2010). A Winning Proposition: The Economic Impact of Successful National Football League Franchises. *Western Economic Association International*.

Michael, J. H. (2008). The Economic Impact of the Super Bowl in Indianapolis. *Business and Economic Research, Ball State University*.

National Bureau of Statistics of China. (2010). *Employment and Wages*.

Anonymous. (1984). Impact of the games. *Official Report of the Games of the XXIIIrd Olympiad Los Angeles part one*. Available at:
<http://library.la84.org/6oic/OfficialReports/1984/1984v1pt1.pdf>

International Olympic Committee. (2012). *Olympic Legacy*. Available at:
http://www.olympic.org/Documents/Olympism_in_action/Legacy/Olympic_Legacy.pdf.pdf

International Olympic Committee. (2012). *Olympic Marketing Fact File*. Olympic Licensing, International Olympic Committee. Available at:

http://www.olympic.org/Documents/marketing_fact_file_en.pdf

Pearson, K. (1896). Regression, heredity, and panmixia. *Philosophical Transactions of the Royal Society of London, Ser. A*, 187, 253-318.

Pearson, K. (1908). On the generalized probable error in multiple normal correlation. *Biometrika*, 6, 59-68.

Roche, M. (1994). Mega-Events and Urban Policy. *Annals of Tourism Research*, 2.

Roche, M. (2000). *Mega-Events and Modernity – Olympics and Expos in the Growth of Global Culture*. London: Routledge.

Siegrfried, J., & Zimbalist, A. (2000). The Economics of Sports Facilities and Their Communities. *The Journal of Economic Perspectives*, 14, 3, 95-114.

Shih & Chen. (2005). High-Tech Industries in China (Advances in Chinese Economic Studies Series), *School of Public Policy, George Marson University*.

St. Louis Regional Chamber and Growth Association (2000).

The Bank of England (1999). *The Phillips curve theory*.

Johannesburg. (2010). South Africa's World Cup: Who profits most? *The Economist*. Available at: <http://www.economist.com/node/16117134>

The National Economic and Social Development Board, Office of the Prime Minister of Thai Government. (2014). *Economic information of Phuket*.

The Organization for Economic Co-operation and Development (OECD). (2015). *Gross domestic product meaning*. Available at: <https://data.oecd.org/gdp/gross-domestic-product-gdp.htm>

Tim, C. (2008). What is Gross Domestic Product? *Finance & Development, Middle East and Central Asia Department*. International Monetary Fund.

Taylor, T., & Lee, C.K. (2003). Critical reflections on the economic impact assessment of a mega-event: the case of 2002 FIFA World Cup. *Tourism Management* 26.

Turco, D. M. & Kelsey, C. W. (1992). *Conducting economic impact studies of Recreation and parks special events*. Washington, DC: National Recreation and Park Association.

Wannaphong, D. (2013). An Economic Impact of Development Project: Case of Phuket International Airport in Thailand. *Chiang Mai University*. Available at: <https://mpa.ub.uni-muenchen.de/53931/>

Yu, L. (2011). The 2000 and 2008 Olympic Host Announcements and Chinese Stock Market Responses. *International Journal of Applied Economics*, 8(2), 43-62.

Appendix

A. Gross Provincial Product of Phuket 2004 -2014

Year	GPP
2004	61,398
2005	51,635
2006	66,821
2007	75,731
2008	77,414
2009	74,395
2010	84,101
2011	91,287
2012	101,668
2013	108,941
2014	133,423

Source: Office of the National Economic and Social Development Board (NESDB) of Thailand, Office of the Prime Minister, Thailand

B. Unemployment Rate: Phuket Province 2004 – 2014

Year	Unemployment
2004	1.9
2005	2.8
2006	1.6
2007	1.5
2008	1.4
2009	0.5
2010	1.6
2011	0.7
2012	0.5
2013	1.4
2014	0.7

Source: The Labor Force Survey, National Statistical Office, Ministry of Information and Communication Technology of the Kingdom of Thailand

C. Number of Tourist: Phuket Province 2004 -2014

Year	Number of tourist
2004	4,793,252
2005	2,510,276
2006	4,499,324
2007	5,005,653
2008	5,160,350
2009	5,290,369
2010	5,471,218
2011	9,467,248
2012	8,829,298
2013	11,960,044
2014	20,652,569

Source: Department of Tourism, The Ministry of Tourism and Sports of the Kingdom of Thailand

D. Number of Sport Events: Phuket Province 2004 -2014

Year	Sport events
2004	15
2005	10
2006	17
2007	21
2008	22
2009	20
2010	23
2011	26
2012	23
2013	28
2014	32

Source: Tourism and Sport Office, The Ministry of Tourism and Sports of the Kingdom of Thailand from 2004 to 2014.

국문초록

스포츠 행사 개최가 관광도시에 미치는 경제 효과

: 2004 년에서 2014 년 동안의 푸켓 지역 사례연구
중심으로

Sompob Hanwiwatanakul

서울대학교 대학원

체육교육과

본 연구의 목적은 스포츠 행사 개최가 2004 년에서 2014 년 동안의 관광도시에 미치는 경제 효과를 찾는 것이다. 본 연구는 관광 수입이 도시의 주요 수입원이고 2005 년 상위 5 위의 은퇴지로 선정된 푸켓 지역을 중심으로 사례연구를 진행하였다. NEDB 에 따르면 푸켓은 관광, 스포츠에 9.19%의 GPP 를 또는 2013 년에 약 53 억 4100 만 bath 가지고 있다. 푸켓 지역의 스포츠 행사 수가

매년 늘어나고 있고 이것은 지역 경제에 영향을 줄 것으로 예상된다. 그리하여 본 연구는 스포츠 행사가 세가지 경제지표(GPP, 실업률, 2004-14년까지의 관광객수)에 미치는 영향에 주안점을 두고 있다.

본 연구는 스포츠 행사와 세가지 경제지표간에 세 개의 회귀 방정식 모델을 발견하였다. 첫 번째 모델은 스포츠 행사가 푸켓 지역의 관광객 수에 영향을 미친다는 것, 두 번째 모델은 실업률에 영향을 미친다는 것, 그리고 세 번째 모델은 스포츠 행사가 푸켓 GPP의 관광 목적지에 큰 영향을 준다는 것을 발견하였다.

마지막으로 본 연구는 스포츠 행사를 주최하고 싶어 하는 지방정부에게 도움 될 것이다. 그들은 스포츠 사업이나 스포츠 행사 개최를 통해 어떻게 단기 또는 장기적으로 주최 도시의 경제성을 높일 수 있는지, 새로운 젊은 세대를 위한 스포츠 행사의 유산 관리를 어떻게 할 수 있는지, 어떻게 미디어와 스폰서를 통해 스포츠의 명성을 높일 수 있는지를 준비하고 알 수 있다.

주요어: 경제 효과, 스포츠 행사, 관광도시

학 번: 2014-25189