

出國報告（出國類別：其他：國際會議）

參加『2015年創新管理、訊息與產業  
國際研討會』 「IMIP 2015」

服務機關：國立暨南國際大學 通識教育中心 體育組

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## 摘 要

參加由University of Multimedia，馬來西亞的麻六甲分校(MMU Melada Campus)，以及International Society of Management Engineers, Waseda University, Japan所主辦的「2015年創新管理、訊息與產業國際研討會(IMIP 2015 The International Symposium on Innovative Management, Information & Production)」，在馬來西亞的麻六甲州所主辦之國際教育研討會並發表[探討我國體育經費投資水準與健保支出的因果關係之研究]文章收穫豐碩。除了再次累積個人研究發表的自身經驗以外，也藉此機會與來自不同國家的學者與專家進行學術研究性交流。

為了提升個人研究的品質與增加增廣見聞，透過此會議的過程與國際學者健行彼此研究與教學經驗的分享。由於該組織在舉辦國際研討會已舉辦多年，也發現在促進各國學者在此會議的研究成果交流同時，也可帶動此區域的觀光產業。在會議結束後，自行進行短暫的該市區觀察，進一步該國的地方文化歷史瞭解。此一短暫的觀察，更體驗到鄭和下西洋的歷史了解，更能體會華人在馬來西亞的歷史文化的變遷歷程。進一步，藉著此學術交流機會除可增廣見聞，還學習到國際校際間的學位與學習互動以及簽約的程序會談，真可謂一舉數得。

**關鍵詞：**創新管理，訊息，體育經費，健保支出，因果關係

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## 第一章、目的

一、代表我方參加參加『2015 年創新管理、訊息與產業國際研討會』「IMIP 2015 The International Symposium on Innovative Management, Information & Production」。田劉從國助理教授與吳榮文副教授共同發表「探討我國體育經費投資水準與與健保支出的因果關係之研究(Explored Causality of Financial Investment in Sport Level and Health Care Expenditure)」，並由田劉從國助理教授於會場進行專題報告。

二、田劉從國助理教授於專題報告後，進行該研究的交流與討論。在此會議的學術討論中，並與多位國際學者交流與討論有關在各國對於體育經費的運用以及各國對於全民健保相關議題。藉此強調政府對於體育經費的投資應該會使的全民健保經費支出有下降情況呈現，並積極與各國學者交換意見，尋求臺灣對目前在體育經費的投資與全民健保經費支出的意見收集。

## 第二章、過程

一、2015 年 2 月查閱「2015 年創新管理、訊息與產業國際研討會」IMIP 2015 The International Symposium on Innovative Management, Information & Production」國際研討會。

二、於 2015 年 6 月向該組織提出「探討我國體育經費投資水準與與健保支出的因果關係之研究(Explored Causality of Financial Investment in Sport Level and Health Care Expenditure)」研究報告。並接受本研究的學術性之審查。

三、2015 年 9 月收到該組織的論文接受函，並通知須繳交參加此國際研討會的相關費用。

四、會議行程

(一) 航班時間 (飛行過程\_啟程): 2015 年 10 月 28 日上午 09:45 在桃園國際機場搭乘長榮 BR-0227 班機飛往馬來西亞。之後抵達馬來西亞國際機場, 由本人自行搭乘 BUS, 經歷約 2 小半, 抵達麻六甲的下塌(Hotel Imperial Heritage Melaka)飯店休息並文件整理與審視。

(二) 參加會議: 2015 年 10 月 29 日~31 日 09:30~17:30 於馬來西亞的 Multimedia University 之麻六甲分校(MMU Melaka Campus)會場的校內進行研究發表與雙向討論。每天均研究發表有場次的演講。然研究者被安排在 29 日(Session A2 Room 1, 15:45~17:15)場次進行個人研究專題發表。先聆聽 Wei Yicheng 學者進行 Building a Type-2 Linguistic Regression Model and Application on Technique of Company Valuation 口頭專題報告, 並在現場進行該研究題問與意見交流。例如: Dr. Wei 學者論述運用數理科技在公司評估以建構 2 類型的語言回歸模式。認為建構新的語言回歸模式, 應該可以更精確的運算公式, 將可運用在公司管理與決策現況。之後, 由田劉從國助理教授進行「探討我國體育經費投資水準與與健保支出的因果關係之研究(Explored Causality of Financial Investment in Sport Level and Health Care Expenditure)」口頭專題研究報告。也在現場進行本研究提問與意見交流。例如: 與會學者題問我國體育經費投入的現況以及目前台灣健保經費支出的情形, 當討論到一維的相關統計技巧與二維的相關統計技巧之間差異, 並且提出為何需進一步詢問, 二維相關統計的優點為何優於一維的相關係數結果呈現。還有他們對本研究也提出質疑, 體育經費的投入會有軟硬體的問題, 如何在研究者的研究過程又如何能夠確定健保經費支出與運動經費投入有相關性存在。之後, 依據題問並進一步提供我國體育經費投入和國健保經費支出的文化背景訊息與知識, 發現我國體育經費運用規劃與各國規劃有一定程度的差異。當討論至此, 與會的專家學者認為身體教育與活動是值得持續投入的延伸與發展, 是有助於降低健保經費的可能性。此外, 接下聆聽 Wentao Gu 學者進行 Does ESG Influence the Corporate Value? Evidence from Chinese Manufacturing Firms. 口頭專題報告, 並在

現場進行該研究題問與意見交流。例如：Dr. Gu 學者論述運用 ESG 在製造業的影響評估。認為運用 ESG 能夠提升製造業的產品的品質與製造的數量，如果建構新的運算公式，應該可以更精確的將可運用在管理與決策情形。最後，聆聽 Juan Chen 學者進行 Middle-Income and Structural Gap Its Impact on Income Allocation Pattern 口頭專題報告，以中等收入和結構性差距對收入分配格局及其影響，進行研究過程與結果之分享，並在現場進行該研究題問與意見交流。此會議過程中直接與間接提供更多的體育經費與健保經費運用的專業意見與建議。

(三) 航班時間(飛行過程\_返程)：2015 年 11 月 1 日上午 9：25 在馬來西亞麻六甲的 BUS 轉運站搭車前往馬來西亞國際機場搭乘長榮 BR-0228 班機下午 15：25 飛回臺灣桃園國際機場。並於當天晚間抵達臺灣桃園國際機場。

### 第三章、心得與建議

#### 第一節、心得：

此次參加由Multimedia University 於麻六甲的分校Melada Campus 舉辦的「2015 年創新管理、訊息與產業國際研討會(Innovative Management, Information & Production IMIP 2015)」的國際研討會，在麻六甲州所主辦之國際計量經濟研討會並發表文章收穫豐碩。除了累積再次以英文發表文章的自身經驗以外，更多藉此機會與來自不同國家的學者與專家進行學術性交流與溝通。

在聆聽大會主席Pro. Dr. WATADA日本，Waseda University學者進行Process of Linguistic Regression Model口頭專題報告，以及各國參與此次學術意見交後，可瞭解到在計量學的運用範圍不僅只限於經濟議題，更經由研究學者的努力已經發展到教育、語言、運動、3C產品科技以及大數據(big data)，也會聆聽各國學者的研究態度與歷程，不同文化所進行的英語環境的討論與辯論。在此各國研究議題上，可以發現多數學者也希望透過不同的劑量學計算方式，進行有效的各主題

性的專業研究。

在田劉從國助理教授進行「探討我國體育經費投資水準與與健保支出的因果關係之研究(Explored Causality of Financial Investment in Sport Level and Health Care Expenditure)」口頭專題研究報告。介紹我國在體育經費使用與歷年投資現況和我國健保經費的使用收支與困境進行學術意見交後，或現場學者提供本研究重要提醒與修補方向。然而本研究從多數研究均以一維度的相關係數進行研究分析，推演進行二維度的相關係數的比較，有補強一維度的解釋力。此外，本研究的目的是希望提供我國在健保經費的下降可能不分需要政府提供更多的體育經費的資源，也是本次參加此次國際研討會或的不分學者建議與未來可以繼續運用二維度統計技巧在運動休閒相關議題也是重大收獲知一。

此外，也透過此會議的過程，結交國際人士，並交換彼此的研究與教學經驗。由於在會中也可聆聽傑出學者精闢的專題報告。除此之外，促進各國學者在此會議的研究成果交流，更可帶動此計量學在各領域的運用與產業的研究發展。在會議結束後，自行進行短暫的該市區觀察，進一步該國文化歷史瞭解。此一短暫的觀察，更體驗到不只是「多種文化所衝擊的新產物，例如：鄭和下西洋的歷史後，娘惹服飾就是代表」，也更能體會自然環境所帶給這地區的無工業的商機。接下來，MMU Pro. Dean LAU在會中休息途中，也討論到該院目前已經與英國大學研究所有簽備忘錄(兩國的大學研究生交換學生與學歷相互承認)，雖然研究者也參與此私下會議，礙於研究者的身分背景關係僅能聆聽與意見交流而已，然中國杭州大學計量研究院院長Pro. Dean XU卻與MMU Pro. Dean LAU達成功共識，將在未來進行備忘錄簽約溝通。所以藉著此學術交流機會除可增廣見聞，還可開闊視野，真可謂一舉數得。

## **第二節、建議：**

由於此次體驗，不但可以結交更多國際友人，使國際化得以實現。也須更鼓

勵同仁參加國際性的學術性交流。使得我校的聲望可藉由國際會議場合中，提升能見度，也讓國際社會更瞭解我國在研究上的努力與國際社會的貢獻。



## 第四章、附錄

### 第一節、探討我國體育經費投資水準與健保支出的因果關係之研究之口頭報告

#### 專題論文(Explored Causality of Financial Investment in Sports Level and Health Care Expenditure)

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#### **Abstract**

What is the relationship between government's financial investment in sports and health care expenditure? This study aimed to conduct an empirical research on the aforementioned questions by adopting a new measurement system. It assessed the relationship between government's financial investment in sports and health care expenditure by applying time series, quadratic regression and autoregressive. In this study, purposive sampling was used to recruit the research participants. Moreover, data (e.g., sports funding) published on government official websites (i.e., Sports Administration, Ministry of Education; Health Care Insurance Administration, Ministry of Health and Welfare) were collected in this study. The findings of this study were that reflect the effects of the government's financial investment in sports on health care expenditure after a five-year period. According to the findings, this study proposes the following recommendations for that the government should continue investing in sports activities and increase the amount of investment progressively.

**Keywords:** *sports, government's financial, fuzzy membership functions, quadratic regression, financial investment.*

#### **1. Introduction**

Sports Administration, Ministry of Education in Taiwan (abbreviation: SAME, 2014) have been indicated health care insurance for medical expenditures continuously increased every year (SAME, 2014). This phenomenon has been expensed heavily burden of government finances. Moreover, World Health Organization (abbreviation: WHO, 2012) considered that physical activity (PA) are effective in the prevention and treatment of risk factors. Hence, Prevention medicine may be reduced health care

insurance for medical expenditures situation. So, People engaged in various physical activities and have a healthy physical, not only can reduce cardiovascular disease risk factors, prevention of cardiovascular diseases. Meanwhile, People participate to competitions moderate within the capacity of in various sports too. Therefore, government finance and physical fitness is important to coexisting whether applied to our health insurance payments, budget funding for sports condition an important issue.

## **2. Literature Review**

Health systems worldwide was stressed with the need to control costs to maintain system viability that worsening economic conditions was the pressure to make structural changes are expected to continue growing(Diederich & Salzmann, 2015). Especially, since 1995, Taiwan's finance had increased health care expenditures, it produce long-term of payments imbalance as soon, was making the reserve fund surplus and deficit continue to become an important issue (Chin-Tung Hsiao., Chung-Shu Liu., Hsiu-Ching Liang., & Ching-Fang Wu, 2012). So, government struggled with dropping consumption of health care resources was important issue. Hence, government must invest more creativity that promoted physical activity ad that investment must be proportional to the burden disease attributable to an inactive and sedentary society (Barry, 2014, 8p).

WHO (2012) considered health have to highlight physical activity (PA) had been reduction weight, visceral fat accumulation; these are very effective in the prevention and treatment of cardio metabolic risk factors. These changes factors had often taken place independently of weight loss, but how much for the beneficial results were independent of weight loss and changes in body configuration was not entirely clear. So, healthy fitness and physical fitness showed important opinion (SAME, 2014) that exercise training has been effective in increasing high-density lipoprotein cholesterol (HDL), reduced declining triglyceride (TG) levels and blood pressure (BP)(WHO, 2012) and promoted mental health (Samadzadeh et al, 2011; Leeahtam, Sriboonjit, Sriboonchitta, Chaitip, Chaiboonsri, Peter, & Calkins, 2011). Hence, Government had raised medical service price so as to adjust the price distortion due to different environmental factors (Zeng, 2012).

There was evidence to support the effectiveness of workplace physical activity interventions for improving both health and work outcomes, including physical activity behaviour, fitness, body mass index, productivity, work attendance, and job stress (Barry, 2014). These physical activity interventions would decreased sitting time at work (Plotnikoff, Healy, Morgan, Gilson, Kennedy, 2014, 21p). In other hand, Milton, Smith and Bull (2014) suggested Implement policies that supported the

integration of physical activity into the primary-care sector's disease prevention and management strategies as well as in healthcare services to increase physical activity rates among practice populations (28p). However, sport active contributes positively to the development of confidence and social skills, social inclusion, community development, health and wellbeing, diversion from antisocial behaviour and improved self-esteem and health-related quality of life that additional benefits for human include improved fundamental movement skills and physical fitness (Salmon, Foreman, Eime, Brown, Hodge, Milton, 2014, 45p). According to the above intervened in the affairs of its society for the fundamental reason that it enables it to set the nation's economic and political direction. More specifically, the State believes that by its various interventions it can improve the well-being of society (Hoye, Smith, Westerbeek, Stewart, Nicholson, 2006, 20p)

The meaning of these numbers can be found, Sports budget accounts for the proportion of total central government budget, showing signs of gradually reducing. Such as, Gudlaugsson colleagues (2013) studies indicated after exercise decrease have seen in weight, total fat mass, trunk fat mass, waist circumference, and blood pressure. The lack of central sports budget is a long question. In case of lack of resources, there will likely influence national sports promotion and marketing affairs (Wan-Chang Li & Shao-Hsi Chang, 2012), it showed more emphasis on short-term government effectiveness of the policy. However, there good health plan was the ability to reduce health insurance costs (Sebastian Bauhoff, 2012). In other words, sports funding support should be possible to influence national sports health plan, thereby affecting the lead health insurance expenses. The perspective of the proportion sports financial investment configuration has affected national health care expenditures. Therefore, let to national financial difficulties caused the economic recession. Hence, national care were expenditures showing huge growth rate, but national finance and competitive sport were taking forward the difficulties. Finally, for financial investment in sports should offered planning and utilization of effective proposals.

To overcome these issues, How to select the correct course place or environment style which were planning proposed analytical model of significance methods. How to promote national sports and exercise habits? It is important issues Government's budget will concern of subject. If Government did in the preparation of the project funding was not careful and not strict enough. Government improperly used generated resources situation not only wasted of national resources, but also produces other urgent crowding out effective of government affairs. Li, Blake, and Thomas (2013) study found that staging the Beijing Olympics brought economic benefits to the host economy. So, sports financial investment was also benefits for whole economy. Therefore, Government financial investment level was not only an investment of

money, it should have led to the purpose of policy and administration direction. Through budget funding planning could understand Government policies and administration achieved the operational objectives. Substantial progress was the policy plan in the condition, due to implementation of the budget funding was presented by the measures taken to achieve the objectives.

### **3. Research Method**

#### *3.1. Population and Sample Selection*

This study purpose validated methodology and used purposive random samples for analysis. **This study had selected the official disclose in base data as sports funding level and health care expenditures national, these were public information** (SAME, 2014; MHIA, 2014). The data collected official network and continuous fourteen groups which have center and local government. In addition, this studies of health care expenditures that were form NHIA, Ministry of Health and Welfare in Taiwan. The data base collected through official network and continuous fourteen groups.

#### *3.2 Research Tool*

**The statistical methods applied to time series, quadratic regression and autoregressive.** All data used the Statistical Package for the Minitab 16.0 and Microsoft Office Excel 2013 software to process the data analysis. **And** it used time series carried out for financial investment in sports and health care expenditures.

#### *3.3. Target of the pattern.*

The most important but have a good model, if an analyst wants to take an active role that the actual implementation of the process there are input sports financial rules to follow. If the lack of this in accordance with the organization's mission execution mode, you cannot assess past it that do anything. It is hardly whole system to guide activities, leading to decision-makers play a passive role. It is execution mode may be reduced to the arbitrary behavior of the health care expenditures.

System target modeled two senses. First, you can through the analyst's interpretation of the purpose of showing some blurred and then find out the explicit goal. Secondly, it can help policymakers that determine important decisions or control the implementation process. Major financial investment for sports has cause to the National Development Plan and social needs. It is requiring from a master limited financial resources, and the need to do properly deployment. It could be through this systematic overall planning, health care expenditures policy objectives of the implementation process that is more streamlined. Investment of sports finance

improve plan that target of the pattern is very important. In this mode, the entire country is not only important to understand the direction of the national health policy and copying trends, consider sports finance and demographic indicators of change.

#### *3.4. Dynamic Structure of Planning Model.*

For sports funding are planning the scope of the proposal from the NHI cope with the demand side of the supply side to explore. If planners begin that only from a single point of view, the overall sports funding allocation will not know enough. So far the planning and the actual situation is that resulting in over or under of estimate the situation. It will affect the efficiency that use of funds throughout the sport. (1) Sports of oversupply that will make financial investment wasted. (2) Sports equipment purchase too much, it will increased funding waste that (3).management and maintenance limited resources. (4) Health care expenditures planning. (5) Gymnasium, outdoor playground, sports venues and other related that charges often due to underestimation, using tough-type or primitive. That will wait for the construction was discovered that sufficient funding.

Therefore, sports finance and health care expenditures trend, to fully understand the supply side and the demand side, but it planner very important issue. The estimate of future supply and demand situation, the relevant information must be made according to a logical judgment, so as not to become subjective guess. Following on the prediction of meaning and ways of doing discussed. This is cited the Education Ministry of Sports Department budget and NHI expenditure budget for examples.

The study predicted used the moving average method has the advantage of doing simple calculations. The time series prediction comparatively good that no apparent long-term trends and seasonal changes. The disadvantage is that the moving average of the number of periods  $k$  decisions, often without objective criteria. And using the moving average method for rapid response to changes in the market is duller. Also use the moving average method that in practical applications, it is sometimes necessary to refer to the degree of importance of each period that given different weights to find  $k$  period moving average. For example: When the time series data before and after the strong correlation, we want to predict the next amount of information. It will find the latest information on a greatest impacting. So as a moving average, the most closing data should be given a greater weight. Now, we call that weight average methods. As for the size of the number of options, there are no objective criteria, depending on the subjective experience.

## **4. Empirical study**

### **4.1. Data description for sports funding level and health care expenditure**

This study used causality for quadratic regression analysis. According to Table 1 had been plot of the yearly expense of Taiwan 1999-2012 health care expenditure and sports funding. These data exhibits several funding expenditures in the 14 years. First we inspected the tendency of NHIA health care expenditures in Table 1 We found the large fluctuations in the beginning and the end of the Taiwan medical expenditure index which showed there continued to increase rapidly variation in these periods in Figure 1.

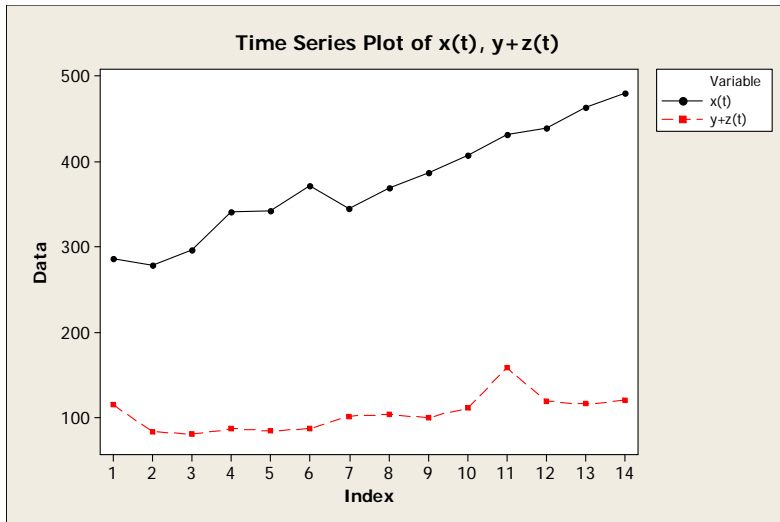


Figure 1 Time series plot of health care ( $x$ ) and financial investment in sports financial trends( $y+z$ )

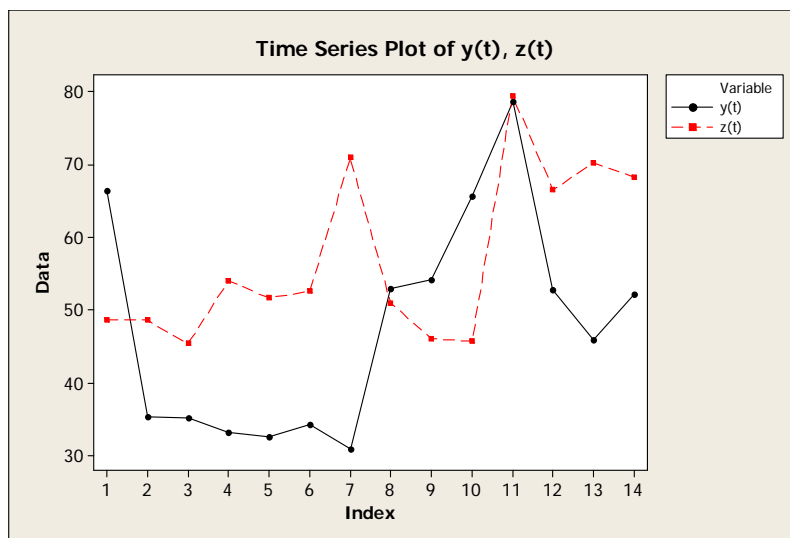


Figure 2 Time series plot of central sports( $y$ ) and Local government sports( $z$ ) financial investment trends

Table 1 The 1999-2012 health care and financial investment in sports for growth rate in

No.	Year	Medical expenses (X)	Central financial investment in sports (Y)	Local government Financial investment in sports (Z)
1	1999	286.82	66.4	48.66
2	2000	278.36	35.35	48.66
3	2001	296.72	35.23	45.46
4	2002	341.34	33.25	54.02
5	2003	341.75	32.60	51.71
6	2004	371.49	34.36	52.59
7	2005	344.73	30.93	71.02
8	2006	369.29	52.98	50.97
9	2007	387.21	54.12	46.11
10	2008	406.71	65.70	45.70
11	2009	432.13	78.73	79.45
12	2010	439.39	52.78	66.55
13	2011	463.29	45.90	70.25
14	2012	479.59	52.15	68.22

UUnit: million

In addition, the Taiwan financial investment in sports was index which showed there slight variation in these periods in Table 1. And we inspected the tendency of central financial investment in sports and location government financial investment in sports. It found that mostly greater central financial investment in sports than location government budget funding, but there saw closer in 2006 and 2009 that organized and held the 2009 World Games in Kaohsiung in Figure 1. The purpose of this study was to examine the change point of financial investment in sports and health care's medical expenditure that was causality relationship.

#### 4. 2. Polynomial regression analysis of causality for sports funding level and health care expenditure

According to Table 2, 3, 4 and Figure 3 that presented the backward five quadratic regression model explanatory power of 74.5%. In addition, quadratic regression model ( $F=13.87$ ,  $p = 0.01$ ) is well than linear regression model ( $F=1.12$ ,  $p = 0.33$ ).

Table 2 The regression equation is  $x(t+5)$ ,  $x(t+6)$  and  $x(t+7)$  of variance of the backward comparison

variance	S	R-Sq	R-Sq(adj)
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t+5	27.1373	74.0%	65.3%
t+6	27.1623	75.8%	66.2%
t+7	24.2835	75.4%	63.0%

Not: financial investment =  $x(t+5)$ ,  $x(t+6)$  and  $x(t+7)$

According to Table 2, 3, 4 and Figure 4 that presented the backward five quadratic regression model explanatory power of 75.8%. In addition, quadratic regression model ( $F=15.67$ ,  $p = 0.01$ ) is well than linear regression model ( $F=00.00$ ,  $p = 0.96$ ).

*Table 3 Regression Analysis of variance for the backward form five to seven comparisons*

variance	Source	DF	SS	MS	F	P
t+5	Regression	2	12547.5	6273.77	8.52	0.018
	Error	6	4418.6	736.43		
	Total	8	16966.1			
t+6	Regression	2	12547.5	5785.80	7.84	0.029
	Error	5	3689.0	737.79		
	Total	7	15260.6			
t+7	Regression	2	7211.26	3605.6	6.11	0.061
	Error	4	2358.76	589.69		
	Total	6	9570.02			

Not: financial investment =  $x(t+5)$ ,  $x(t+6)$  and  $x(t+7)$

According to Table 2, 3, 4 and Figure 5 that presented the backward five quadratic regression model explanatory power of 75.4%. In addition, quadratic regression model ( $F=11.64$ ,  $p = 0.03$ ) is well than linear regression model ( $F=0.19$ ,  $p = 0.68$ ).

*Table 4 Sequential analysis of variance for the backward from five to seven comparison*

variance	Source	DF	SS	F	P
t+5	Linear	1	2335.9	1.12	0.326
	Quadratic	1	10211.6	13.87	0.010
t+6	Linear	1	8.2	0.00	0.957
	Quadratic	1	11563.4	15.67	0.011
t+7	Linear	1	349.17	0.19	0.682
	Quadratic	1	6862.09	11.64	0.027

Not: financial investment =  $x(t+5)$ ,  $x(t+6)$  and  $x(t+7)$



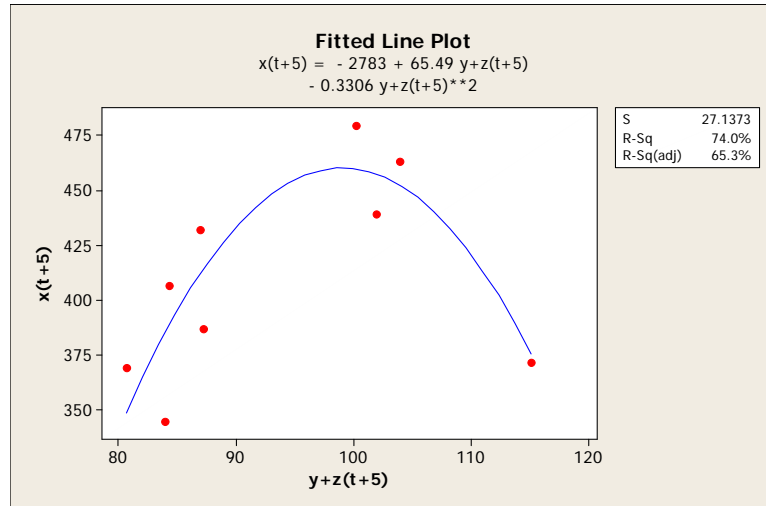


Figure 3 Quadratic regression analysis:  $x(t+5)$  versus  $y+z(t+5)$  of the backward five comparison

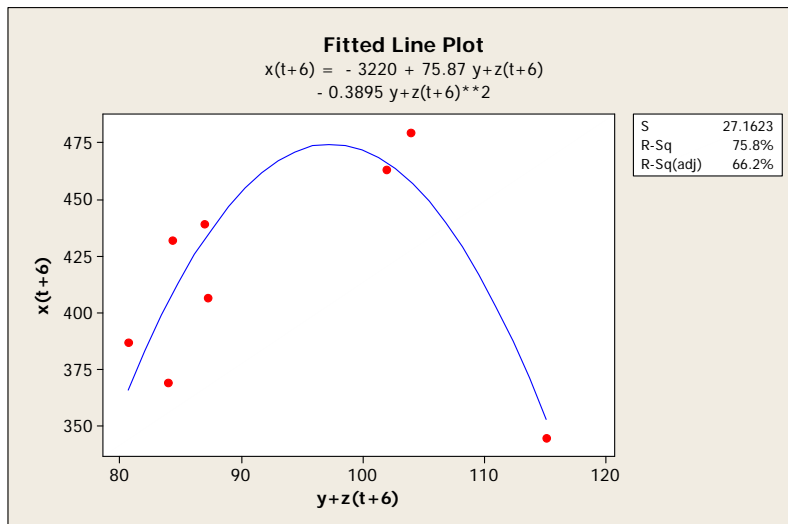
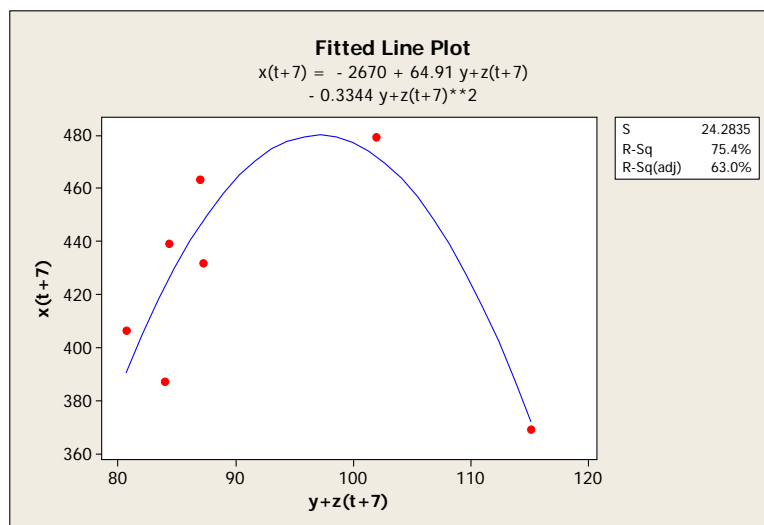


Figure 4 Quadratic regression analysis:  $x(t+6)$  versus  $y+z(t+6)$  of variance of the backward six comparison



*Figure 5 Quadratic regression analysis:  $x(t+7)$  versus  $y+z(t+7)$  of variance of the backward seven comparison*

## **5. Conclusion**

This study explored causality between financial investment in sports and health care expenditure. This study used the new method of Quadratic Regression can reflected the affection of the sports funding to health care expenditures after 5 years. Those health care expenditures will gradually decline because sports financial investment increase continuous funds.

In addition, sports funding level and health care expenditures explored cope with the demand side and the supply side. If planners begin that were only from a single point of view, the overall sports funding level and health care expenditures allocation will not know enough. So far the planning and the actual situation was that resulting in over or under of estimate the situation. It will affect the efficiency that use of funds throughout the health care. (1) Health care expenditures policy of oversupply that will make medical resources and funding wasted (2) as well as provide Sports-related hardware and software plan promote health care plan.

Further, this investigated the sports funding level and NHI expenditure that forecast. These dates, from Sports Administration, Ministry of Education And Health care Insurance Administration, Ministry of Health and Welfare, are Taiwan government. The result of this study showed whole sports funding increase to that reduce the expenditures for social health insurance. Recommendations for future research that collect more items, it is in order to facilitate future analysis central and location sports funding more the detail discuss that other issue. Hence, Suggestion apply causality method for other study area.

(1) Maintaining invests sports funding for reducing health care expenditures.

(2) Maintaining plan more appropriating sports and leisure projects, it increasing sports activity participating number.

(3) Offering Doctors sports medical plan and regional health care funding reduce plan. This reducing plan aims to improve sports prescription for reducing medical health care expenditures.

(4) Because this is the conception of preventive medicine, doctors the main income is not drugs prescription, on the contrary, based on regional using drugs reducing rate.

## **References**

- Barry, M. (2014). *Heart Foundation's Blueprint for an active Australia*. Melbourne: National Heart Foundation of Australia.
- Diederich, A., & Salzmann, D. (2015). Public preferences regarding therapeutic

- benefit, costs of a medical treatment and evidence-based medicine as prioritization criteria. *Journal of Public Health*, 23(3), 137-148.
- Hoye, R., Smith, A., Westerbeek, H., Stewart, B., & Nicholson, M. (2006). *Sport Management: Principles and Applications*. Oxford, UK: Elsevier's Science & Technology.
- Hsiao, C-T., Liu, C-S., Liang, H-C., & Wu, C-F. (2012). The influencing factor analysis of security reserve fund Taiwan's National Health Insurance Program. *Taiwan Business Performance Journal, Taipei, Taiwan*, 5(2), 241-255.
- Leeahtam, P., Sriboonjit, J., Sriboonchitta, S., Chaitip, P., Chaiboonsri, C., Peter, H., & Calkins, P. H. (2011). Efficiency and Satisfaction Evaluation of Thailand's Universal Health Care in Meeting the Millennium Development Goals. *International Journal of Intelligent Technologies and Applied Statistics*, 4(3), 303-326.
- Li, H-N., Blake, A., & Thomas, R. (2013). Modelling the economic impact of sports events: The case of the Beijing Olympics. *Economic Modelling*, 30, 235-244.
- Milton, K., Smith, B., & Bull, F. (2014). Action area 3: Health care. In: M. Barry (Ed.), *Heart Foundation's Blueprint for an active Australia* (2<sup>nd</sup>) (pp. 26-31). Melbourne: National Heart Foundation of Australia.
- Plotnikoff, R., Healy, G., Morgan, P., Gilson, N., & Kennedy, S. (2014). Action area 2: Workplaces. In: M. Barry (Ed.), *Heart Foundation's Blueprint for an active Australia* (2<sup>nd</sup>) (pp. 20-25). Melbourne: National Heart Foundation of Australia.
- Salmon, J., Foreman, R., Eime, R., Brown, H., Hodge, S., & Milton, K. (2014). Action area 6: Sport and active recreation. In: M. Barry (Ed.), *Heart Foundation's Blueprint for an active Australia* (2<sup>nd</sup>) (pp. 44-49). Melbourne: National Heart Foundation of Australia.
- Samadzadeh, M., Abbasi, M., & Shahbazzadegan, B. (2011). Comparison of sensation seeking and self-esteem with mental health in professional and amateur athletes, and non-athletes. *Procedia-Social and Behavioral Sciences*, 15, 1942-1950.
- World Health Organization. (2012). WHO Library cataloging-in-Publication Data. World Health Organization 2012, Geneva, Switzerland: WHO Document Services.
- Zeng, J. (2012). Conduction Mechanism of Medical Service with Environmental Factors: A Nonparametric Approach. *International Journal of Intelligent Technologies and Applied Statistics*, 5(1), 87-100.

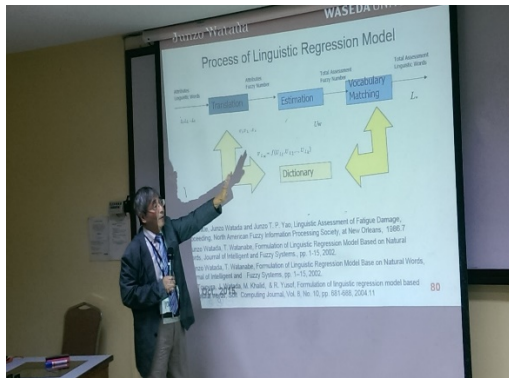
## 第二節、活動照片



(MMU University Campus)  
MMU 主辦國際研討會的會場



田劉從國珠李教授於國際研討會前，  
在會場前會場攝影。



會議主席日本 Pro. Dr. WATADA  
現場專題演講



田劉從國助理教授在會議的  
現場口頭報告



田劉從國助理教授與該場次與會  
學者們會後留影



田劉從國助理教授受獎況，由 MMU  
Dean LAU 與 Pro. WATADA 頒獎



田劉從國助理教授獲頒  
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