MACROECONOMICS PERFORMANCE AND ECONOMIC GROWTH IN JAPAN

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ABSTRACT

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This study empirically examines the relationship among macroeconomic performance (export, FDI, government expenditure) and economic growth in Japan. The time series data from year 1970 until year 2008 are used in this study. The causal relationship among macroeconomic performance (export, FDI, government expenditure) and economic growth is examined by using five methods, that there are Augmented Dickey-Fuller (ADF) Test, Phillips-Perron (PP) Test, Johansen and Juselius (1990) Cointegration Test, and VEC Granger Causality. The results show that all of the variables are cointegration. Johansen and Juselius (1990) cointegration test proved there is existence of a long run relation among the four of the variables. VEC Granger causality found that bi-directional causal relation and unidirectional causal relation occurs. As a consequence, certain policy such as promotes lower barriers to trade and investment, and improve the quantities and qualities of goods and services for export; and recommendations needed to improve the circumstances have been plan in this study in order to improve and increase economic growth in Japan.

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List of Abbreviation

ADF	:	Augmented Dickey-Fuller unit root test
ECM	:	Error Correction Model
ECT	:	Error Correction Terms
FDI	:	Foreign Direct Investment
GATT	:	General Agreement on Tariff and Trade
GDP	:	Gross Domestic Product
GE	:	Government Expenditure
IFS	:	International Financial Statistics
IMF	:	International Monetary Fund
LR	:	Likelihood Ratios
PP	:	Phillips-Perron unit root test
UNCTAD	:	United Nations Conference on Trade and Development
VECM	:	Vector Error Correction Model
WTO	:	World Trade Organization

CHAPTER ONE

INTRODUCTION

1.1 Introduction

Japan becomes the world's second largest economy after the World War II (1939-1945). The World War II led Japan to a devastating defeat marked by the United States atomic bombing of the cities of Hiroshima and Nagasaki. Therefore, the war overwhelmed the Japanese economy and destroyed most of the industrial base and infrastructure. In the 1940s, Japan began restoring its free-enterprise economy and industries. In the 1950s, Japanese economy began to expand and continued its impressive growth as a highly modern mature industrial economy until the earl1990s.

Japan is one of a developed country in the world. Although Japan is developed country, the export, foreign direct investment (FDI) and government expenditure still are important macroeconomics performance that influences Japan economic growth.

1.1.1 Export

Export[1] revenues play an important role in achieving economic growth in both developed and developing countries. The contest on the relation between export and economic growth has show signs of significant interest in the field of development economics. According to the Bardham and Lewis (1970), the economic theory

[1] Export is defined as transported of any goods and commodity from one country to another country. Export goods and services are provided by domestic producers to foreign consumers. Besides, export plays an important part of international trade.

suggests that economic growth promoted by export via two ways. The two ways are improving efficiency in the allocation of productive resources and increasing the quantity of productive resources through capital accumulation.

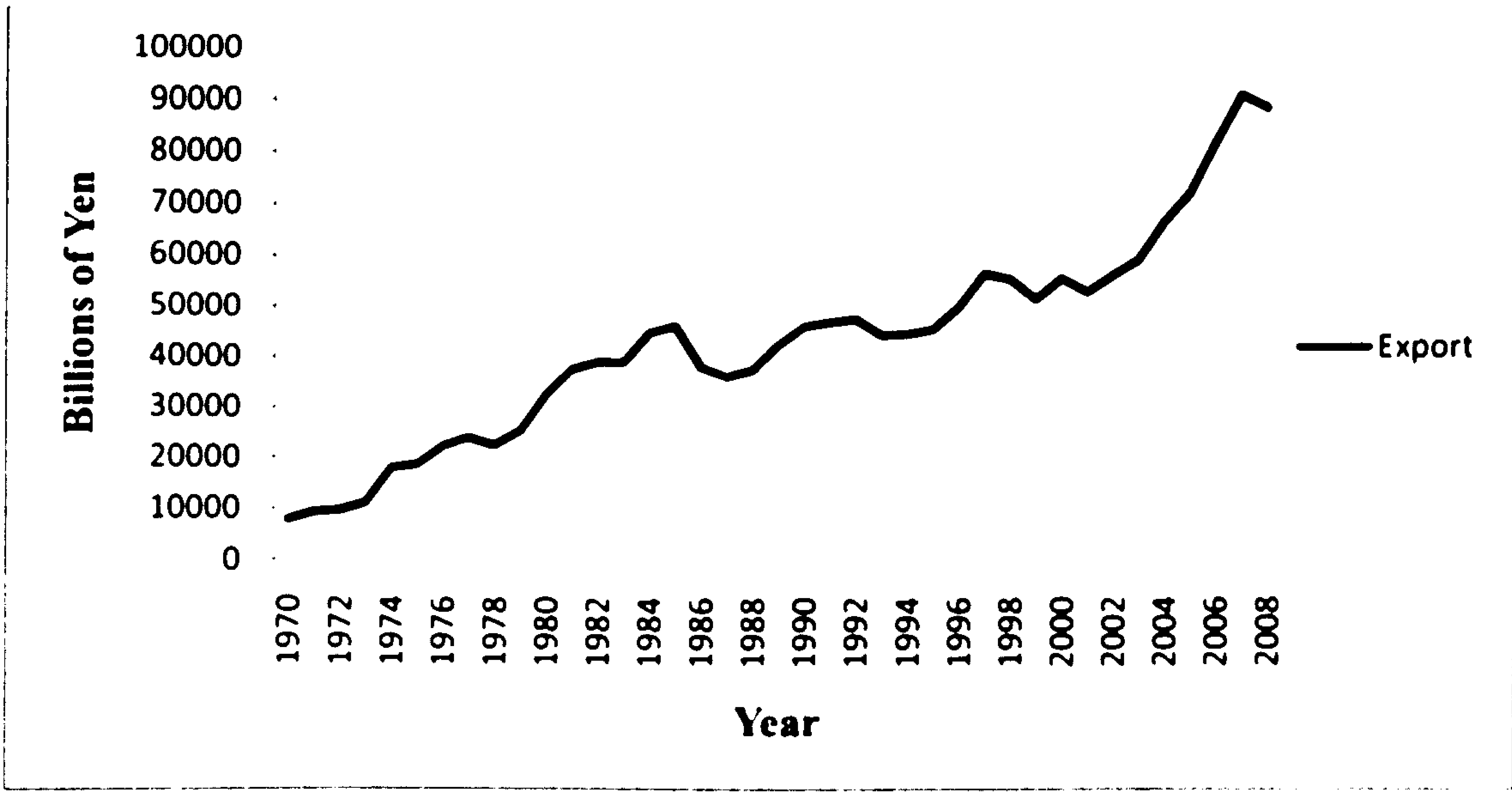
In the 1950s, Japan promoted economic growth through rapid achievement of advanced foreign technology and expansion of manufactured exports. Thus, Japan's economy is heavily dependent on export for growth. But, Japan must import much of its raw materials and commodities from the other countries such as United States. Japan has offered special challenges to the General Agreement on Tariff and Trade (GATT) and World Trade Organization (WTO) trading system. These are because Japan's economy and Japan's share of the world export has been so large, and associated bilateral trade imbalances with United States have been so obvious.

Japan's exports are crucial to sustaining a trade balance. For instance, in year 2008, Japan faced the current economic crisis that the global recession causes decreased demand in high-technology goods which Japan's economy is based on. In the other hand, until the end of Japan's fiscal year in March of year 2009, Japan had continued trade surpluses for 28 years straight years. Both of this situation shows that export can help to improve and damage the economic growth in Japan.

According to Porter (1990), both products and management techniques will be improved when competitive domestic conditions are maintains that highly. Then, he also stated that demanding consumers and unusual demand conditions also played a key role, as well to the availability of factors of production, mainly physical and human capital. In this analysis, the result of rather than the reason for strong domestic productivity growth was the Japan's export expertise.

Export of goods and services in Japan is show in figure 1. The export of goods and services in Japan is increasing consecutive from year 1970 to year 1977. In year 1970, the total export is 7,926.1 Billions of Yen and increase to 24,307.6 Billions of Yen in year 1977. For year 1985, the total export is 46,176 Billions of Yen. But, total of export decrease sharply in year 1986 that decrease as much as 8,118 Billions of Yen to 38,058 Billions of Yen. Total export decrease again in year 1987 that decrease to 36,180 Billions of Yen. This is because Yen's rise against the Dollar in year 1987. This scenario show that the Dollar's fall is likely to raise Japanese export price. When the Japanese export price is increase, then the total of export will reduce.

Figure 1: Export of Goods and Services in Japan



Source: International Monetary Fund, 2009.

In year 1997, the total export is 56,073.6 Billions of Yen. Then, compare to year 1997, the total of export is decreasing to 55,051 Billions of Yen in year 1998. The total export in Japan decrease again in year 1999 that decreases to 51,143.5 Billions of Yen. This condition happened since year 1997, Asian countries such as Indonesia, Malaysia and Thailand faced financial crisis. This Asian financial crisis affected many market of importance to Japan. Besides, this financial crisis worsened Japan's economy decreased by reducing of export demand. In the other word, Asian financial crisis indirectly was the major external factor that responsible for Japan's economic downturn.

Then, in year 2008, the export is reducing to 88,473.8 Billions of Yen compare 90,830.4 Billions of Yen in year 2007. This situation happened because the global financial crisis was deepening in year 2008. Hence, the world's economies that also included Japan's economy get into recession. At that time, the export from Japan to other countries will decrease indirectly.

1.1.2 Foreign Direct Investment

Japan has inward foreign direct investment[2] (FDI) from many countries such as United States and China. The standard theory suggest that the foreign direct investment (FDI) is a form of long-term international capital movement where accompanied by the investors' intangible assets (Caves, 1982 and Dunning, 1988).

The role of FDI is that carrier of the foreign technology that can improve economic growth (Findlay, 1978). According to Moosa (2002), the gap in the technology between the host country and foreign country is the main impact of FDI, that there are improves the productivity and growth of the host country.

Both of the situation show that the FDI can help to increase and improve the economic growth. The standard of living in a country also will be increase and

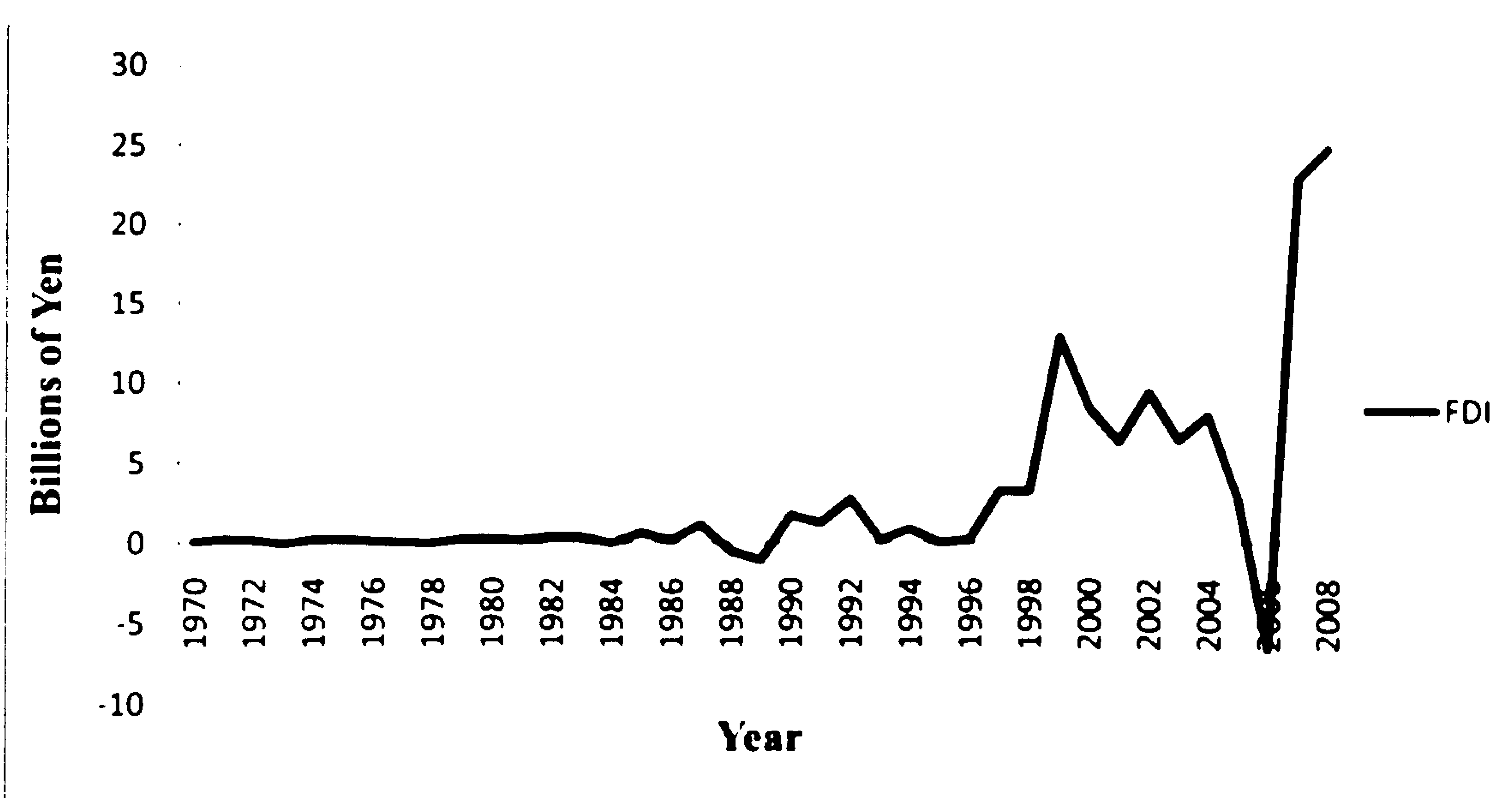
[2] Foreign direct investment (FDI) defined as a company from other country making a physical investment into building a factory in a country. On the other hand, the FDI also can define as an investments made to acquire lasting interest in enterprises operating outside of the economy of the investor.

improve indirectly. This is because inward FDI into a country can help to promote more jobs opportunity to the nation in the country. Subsequently, the nation in the country can get jobs and earn salary. Indirectly, this situation can help to increase economic growth in the country.

For example, in figure 2, the Japan inward FDI by the world in year 2002 are US$ 9,089 million. But this inward FDI by the world was decrease 31.37% to US $ 6,238 million in year 2003 (Japanese Trade and Investment Statistics).

According to the Le and Suruga (2005), since the post-Second World War period when the European countries and Japan needed capital from the US to finance reconstruction following the damage caused by the war, the economists were subject of interest to the foreign direct investment (FDI). Since that time, FDI has grown continuously, and it accounted for about a quarter of international capital outflows in 1990s.

Figure 2: Inward Foreign Direct Investment in Japan



Source: United Nations Conference on Trade and Development, 2010.

In figure 2 shows that the inward FDI was drop from year 2004 until 2006. FDI inflows decreased substantially 0.5 trillion Yen to 0.3 trillion Yen in year 2005 compare 0.8 trillion Yen in 2004 (Japan's balance of payments statistics). This inward FDI decrease was due in particular to a substantial fall in investment from Western Europe. On the other hand, inward FDI in Japan remains substantially lower than outward FDI.

1.1.3 Government Expenditure

In Japan, government also play an important role to enhance the economic growth. According to Barro (1990), government expenditure[3] is as a public good into the production function of individual firms. Japan's government provides economic infrastructure to facilitate economic growth, improve resources allocation and enhance productivity of the economy. Thus, the government expenditure can help to increase the economic growth in Japan. In other word, the public expenditure is an important for government to control the economy in a country. According to Loizides and Vamvoukas (2005), the macroeconomics especially the Keynesian school of Thought suggests that the government spending accelerates economic growth. As a result, government expenditure is regarded as the changes of aggregate output that also known as exogenous force.

The government expenditure has increasingly after the countries have moved towards economic freedom and open markets (Gwartney, Holcombe and Lawson,

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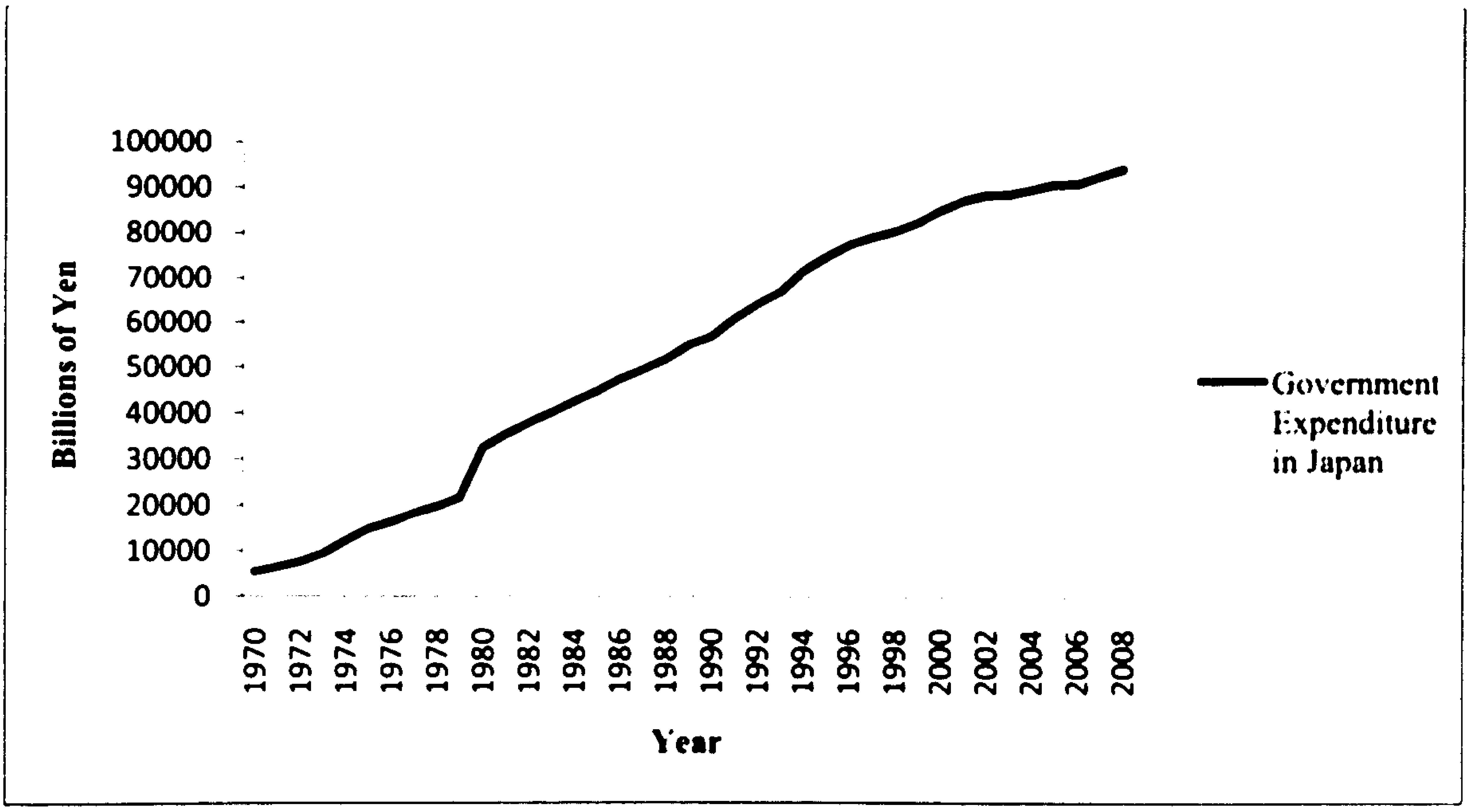
[3] In economics, government expenditure is classified into three main types. Firstly is government consumption that government purchases of goods and services for current. Secondly is government investment that government purchases of goods and services intended to create future benefits such as infrastructure investment. Lastly is transfer payments that the government expenditures that ate not purchases of goods and services, and instead just represent transfers of money such as social security payments. Then, the government expenditure can be financed by taxes or government borrowing.

1998). The economic freedom and open markets has also been found such as in Malaysia. When the government expenditure has increasingly, thus the economic growth in the country also will increase.

For instance, base on the data of International Monetary Fund (IMF), in year 2000, the government expenditure was 84,941.7 billion yen. Then, government expenditure was increase to 87,122.4 billion yen in year 2001. This incident shows that the government expenditure is increase 2.57% in year 2001. Besides that, in year 2005, the government expenditure is 90,684.3 billion yen. Moreover, in year 2006, the amount of government expenditure was increase 0.24% to 90,897.7 billion yen (IMF, 2009).

From the figure 3, it shows that the government expenditure in Japan. Japan's government expenditure is increase from year 1970 until 2008. In year 1970, the total of government expenditure is 5,455.3 Billions of Yen. This amount has increase to 93,980.2 Billions of Yen in year 2008. The government expenditures are spend on such as education sector, social security and other. For example, the government expenditures are included the subsidies to private schools and provide schools for handicapped. Besides, Japanese government also play role in supporting weak economic activity. For instance in year 1998, Japanese government has launched two major stimulus packages that there were over 16 trillion yen and around 27 trillion yen.

Figure 3: Government Expenditure in Japan



Source: International Monetary Fund, 2009.

1.1.4 Gross Domestic Product

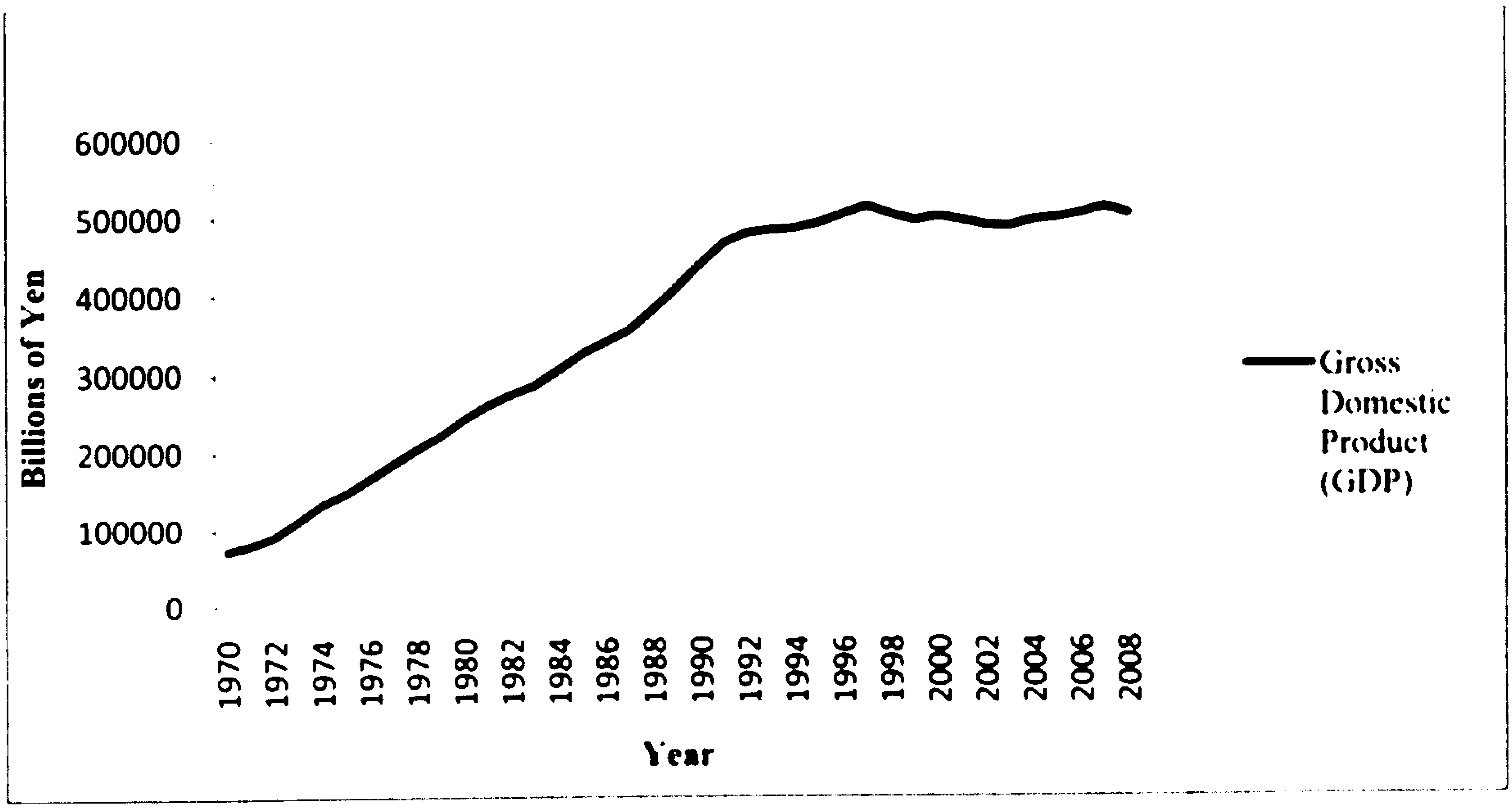
After United States and China, Japan is the third largest economy in the world. Figure 3 shows that the Japan's gross domestic product (GDP[4]) is increasing consecutive from year 1970 until year 1997. The total of GDP is increasing from 73,344.9 Billions of Yen in year 1970 to 515,249 Billions of Yen in year 1997. Afterward, the GDP is decrease to 504,843 Billions of Yen in year 1998 and decrease consecutive until year 1999. This shows that the GDP was decrease consecutive from year 1998 until 1999 during the Asian Financial crisis.

The Asian countries such as Malaysia and Thailand were faced financial crisis in year 1997 and 1998. Hence, the countries were reducing their import from other countries including Japan. This Asian financial crisis affected many market which

[4] GDP is a basic measure of a country's economic performance. Besides, GDP also is the market value of all final goods and services made within the borders of a country in a year.

importance to Japan and worsened Japan's economy decreased by reducing of export demand. As the export is a major source of revenue to Japan. Hence, the reduction of export demand from Asian countries indirectly reduces the economic growth in Japan. In the other hand, during the 1997 Asian financial crisis, there are three major Japanese banks bankruptcy and decrease in consumption further damaged the Japanese economy.

Figure 4: Gross Domestic Product in Japan



Source: International Monetary Fund, 2009.

In year 2000, the total of GDP is increase to 502,990 Billions of Yen. But, once again the total of GDP decreases from year 2001 to year 2003. After that, the total of GDP increase consecutive from year 2005 until year 2007 and decrease again in year 2008. In year 2008, the Japanese bank was downgraded its mid-term economic view, while deciding to maintain a neutral policy stance. This situation shows that the economic growth in Japan has been slow against the conditions of high energy and materials prices and weaker growth in exports. Hence, the economic growth in Japan will decrease indirectly.

1.1.5 Economic Policy in Japan

Export promotion was a large issue in Japanese government policy since them belief that the need to promote export is strong and is a part of Japan's self-image as a processing nation. Under the guidelines of General Agreement on Tariff and Trade (GATT[5]), nations of Japan have been reluctant to raise tariffs or enforce import quotas. On the other hand, nations of Japan also raising tariffs that goes against the general trend among industrial nations. As an alternative, they have resorted to convincing the exporting country to willingly control export of the offering product.

Besides that, Japan also has offered special challenges to the World Trade Organization (WTO[6]) trading system. The WTO promotes lower barriers to trade and investment. Hence, this scenario encouraged Japan to make a trade with the other countries with lower barriers. Alternatively, the WTO also encouraged more inflow FDI from other countries to Japan.

1.2 Problem Statement

According to the Balassa (1978), correlation between export and economic growth through other economic growth determining variables in a production type function that included capital formation, manufacturing and total export considered the differential impacts of export on economic growth depending on the level of development in the country.

[5] GATT is an international agreement. GATT's main objective was the reduction of barriers to international trade. The objectives of GATT were achieved via the reduction of tariff barriers, quantitative restrictions and subsidies on trade via a series of agreements.
[6] WTO is primarily responsible for policing the world trading system and making sure that the nation-state adheres to the rules laid down in the trade treaties signed by WTO members.

The foreign direct investment (FDI) is uncertain to contribute in economic growth (Wu and Hsu, 2008). According to the Haddad and Harrsion (1993), through the technology transfer, the FDI can increase the rate of growth in the host economy. Then, both of the statements show that the relation among FDI and economic growth is still ambiguous.

According to Singh and Sahni (1985), the government expansion has a positive effect on the economic growth in a country. In the other hand, the government expansion has a negative impact on the economic growth for many developed and less-developed countries (Landau, 1983).

There are many econometrics analysis, both in time series and cross sectional are have been to test for the relation between macroeconomics performance (export, FDI and government expenditure) and economic growth in Japan. But, there is no clear answer for the relationship between macroeconomics performance and economic growth in Japan either stationary or non-stationary, and the cointegration relation between the variables in long run and short run.

Therefore, in this study is want to examine the three macroeconomics performance (export, FDI and government expenditure) will affect the economic growth in Japan either stationary or non-stationary, and the cointegration relation between the variables in long run and short run. The data of macroeconomics performance (export, FDI and government expenditure) and economic growth in Japan is from year 1970 until year 2008.

As a consequence of this analysis, it is important to have better understanding about the relation between macroeconomics performance (export, FDI and government expenditure) and economic growth in Japan. Besides that, this study also aimed to study the effectiveness of the policy of Japan's government which help to improve the economic growth in Japan.

In the other hand, this study also can be helpful to help Malaysian to increase and improve the Malaysia economic growth. Since the macroeconomics performance that there are export, FDI and government expenditure are play a role that contributed to the gross domestic product (GDP) in Malaysia. Above and beyond, in year 1982, Malaysian has the 'Dasar Pandang ke Timur'. These 'Dasar Pandang ke Timur' occurred in Malaysia as the Malaysian want to increase and improve the level of technologies and increase the using of the technologies in Malaysia like the Japanese. Therefore, Malaysian can increase their inflow FDI like the Japanese have done for the inflow FDI in Japan.

Moreover, the macroeconomics performances in Japan have increase and improve by the policy in Japan. Thus, the Malaysian can use the Japan policies which are suitable and appropriate to Malaysian development. Besides, Japan can play as a role model to Malaysia to help to increase the economic growth and improve the development of Malaysia.

1.3 Research Objectives

1.3.1 General Objective

The objective of the study is to study the shocks of macroeconomics performance that there are export, foreign direct investment (FDI) and government expenditure to economic growth in Japan.

1.3.2 Specific Objective

i. To examine either the shock of macroeconomics performance (export, FDI and government expenditure) has a stationary or non-stationary effect to economic growth in Japan.

ii. To examine the causality relationship between macroeconomics performance (export, FDI and government expenditure) and economic growth in Japan.

iii. To identify the long run causal relationship between macroeconomics performance (export, FDI and government expenditure) and economic growth in Japan.

1.4 Significance of Study

The decreasing and increasing in macroeconomics performance such as export, FDI and government expenditure can influence the economic growth in Japan. Thus, in this study is conducted to get an alternative comprehension about the influences and effecting of the export, FDI and government expenditure to the economic growth in Japan. Then, this study can be helpful reference to the investors from other countries, the exporter and government to get an idea and understand the possible links on the export, FDI and government expenditure to the economic growth in Japan.

In light of these findings, the study is useful for the both government and private sectors to understand the link between export, FDI and government expenditure and economic growth in Japan. As a result, both of the sectors must identify strategies and policy to increase and improve export, FDI and government expenditure. Hence, when the export, FDI and government expenditure are increased and improved, then the economic growth in Japan also will be increase also.

Besides that, this study also helpful to the future researchers to do the further study that is related to the research by showing the relation between macroeconomics performance (export, FDI and government expenditure) and economic growth in Japan. On the other hand, this study also can help to focus on a deeper understanding of the policy applications that matter in the reality.

1.5 Scope of Study

The scope of this study is examining the macroeconomics performance (export, FDI and government expenditure) and economic growth in Japan. In this case, the sample period will be use is annually data which from year 1970 until 2008.

In the chapter one, the study will focus on the introduction of the research. Followed by is chapter two, the literature review will be developed for discussion on various views of the previous researchers which is related to the study.

Then, in the chapter three, the study will focus on the methodology and theoretical framework. Besides, the use of types of econometrics methodology will be explained and discussed. In chapter four, the study will focus on the empirical result and analysis of the result. Finally, in the chapter five, the study will focus on conclusion and recommendation for overall of this study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The question of relation among the export, foreign direct investment (FDI), and government expenditure toward economic in the developed countries still come into view. Many empirical studies had done by researchers have provided widespread insights on causal relation among export and gross domestic product (GDP), foreign direct investment (FDI) and gross domestic product (GDP), and government expenditure and gross domestic product (GDP). The empirical studies contain data from developing countries and developed countries. However, the empirical results of this relation turned out to be dissimilar for different countries.

These chapters are organized into five sections. The first section in this chapter reviews the research of export led growth. Second section will be foreign direct investment led growth and the third section is government expenditure led growth. Afterword, the fourth and fifth section is government expenditure and FDI led growth, and eexport and FDI led growth. Finally, the last section will be reviews the research of the export, FDI and government expenditure led growth.

2.2 Export-led Growth

Hsiao (1987) was study about the test of causality and exogeneity between exports and economic growth that the case of Asian NICs. In this study, Hsiao argued that economic policy play important roles to increase and improve economic growth