THE INFLUENCE OF INTERNATIONAL TRADE ON INDUSTRIAL SECTOR

(Study at Batam Indonesia Free Zone Authority, Period 2002-2012)

MINOR THESIS

Proposed for undergraduate exam

At Faculty of Administrative Science University of Brawijaya

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MOTTO

LIFE is NOT EASIER, BUT we must STRENGHT to FACE the TROBLE!

Never give up!

Keep Trying though failed

The vote of each Effort is a Process…

DECLARATION

The work in this minor thesis is based on research carried out on The Influence of International Trade on Industrial Sector, Study at Batam Indonesia Free Zone Authority on period 2010-2012, to the best of my knowledge, no part of this minor thesis has been submitted elsewhere for any degree or qualification and it all my own work except due to the refference has been given.

Malang, 08 Oktober 2014

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SUMMARY

Fitria Intan Ayuningtias, 2014. **The Influence of International Trade on Industrial Sector, (Study at Batam Indonesia Free Zone Authority).** Prof. Dr. Suhadak, M.Ec and Nila Firdausi Nuzula, M.Si, Ph.D, 95 pages+xv.

Batam Indonesia Free Zone Authority (BIFZA) is the special agency from the Central Government in Indonesia located at Batam, Riau Island, Indonesia. Batam Indonesia Free Zone Authority (BIFZA) is being the anchor of Batam since the beginning of the development. Batam Indonesia Free Zone Authority (BIFZA) is manage all sectors and take opportunities that exist in the whole of Batam, especially about industrial sector. Batam Indonesia Free Zone Authority (BIFZA) policies have to make the economics of Batam are increase and develop.

The purpose of this study is to analyze the influence of export on economic growth, analyzing the influence of import on economic growth, analyzing the influence of export on employment, and analyzing the influence of import on employment in Batam. this study will explain the develop of international trade on industrial sector during 10 years.

The research method employ in this research is by using explanatory research with quantitative approach. This method is useful to explain the relationship between export and import with economic growth and employment. The numerical data in quantitative research method is also useful to explain the development of Batam economy.

The result of this study was shows the export and import as measurement of international trade have influences on industrial sector. the industrial sector is measuring by economic growth and employment. This study that have been proofed by the previous research.

FOREWORDS

Alhamdulillah hirabbil'alamin, thanks to Allah, that grace and have guide the researcher to finish the minor thesis entitled as **"The Influence of International Trade on Industrial Sector, (Study at Batam Indonesia Free Zone Authority)".**

This minor thesis is a final project proposed to comply with the requirement to get the degree of Bachelor of Business Administration at Faculty of Administrative Science.

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TABLE OF CONTENTS

LIST OF TABLE

LIST OF FIGURE

CHAPTER I

INTRODUCTION

A. Background

This time, globalization has become a discussion among the society, although globalization is discussed everywhere but there is no widely accepted definition. In the fact, globalization has increased a country's interdependency with other countries and has made the distance or geography not become an obstacle to perform business cooperations and agreements.

There are some definitions of globalization, according to Sukirno (2006:428), globalization is improvement in the relations and interdependence of economic and trade activities among countries in the world. In the economic terms, globalization is a process in which the countries that directly involved in the global economy activities and the process of economic globalization is changing the world of economy that has characteristic of basic and structural (Tambunan, 2004:1). The changes are getting stronger by the presence of international trade.

International trade consists of export and imports (Ball, 2006:37). According to Pratama (2012:24), in international trade, sale activity is stated as export and buy activity is stated as import. Export and import activities are constituted by a condition in which each country has different characteristic, either natural resources, climate, geography, demographic, economic structure, and social structure. These

differences cause different produced process, the composition necessary cost, quality, and quantity of product. In any transaction of export and import, the country will gain an advantage in form of foreign exchange. This foreign exchange will be reserve of the national wealth.

The existences of export and import activities the countries expected to reach the optimal economic growth. A country can be said has experiencing the economic growth if the total of goods and services is increase (Manurung, 2008:129). The economic growth shows the changing level of the economic activity generally (Madura, 2007:122).

The economic growth is the problem of macroeconomic. Various countries not always can be reaching the economic growth that appropriate with the development of production ability that owned by production factors be more and more increase (Sukirno, 2005:13). The employment is the one of important factor in production process. Thus, it can be said that the employment will increase if the output (goods and services) is increase.

Table 1.1 shows that Riau island is in the top 10 largest region that performs export and import. that performs large number of export and import in industry. In the export area, Riau island is number 7 after provinces of Sumatera Utara and Kalimantan Selatan in Indonesia. in the import area, Riau island is number 3 under provinces of DKI Jakarta and East Java. The capital City of Riau island is Batam.

TABLE 1.1 Export & Import non-oil in Indonesia Based on province

in Million (US$)

No	Province	Export			Import		
		2010	2011	2012	2010	2011	2012
1	DKI Jakarta	39,546	46,376	48,073	67,651	84,767	92,861
2	Kalimantan Timur	12,776	17,180	16,800	1,747	2,133	2,785
3	Jawa Timur	13,806	17,424	15,524	12,373	16,779	17,741
4	Riau	10,142	13,364	12,588	985	1,643	1,786
5	Sumatera Utara	9,107	11,883	10,393	2,673	3,858	3,746
6	Kalimantan Selatan	6,373	9,709	9,611	417	687	663
7	**Kepulauan Riau**	8,528	10,530	9,586	8,982	9,647	10,713
8	Jawa Tengah	3,674	4,260	4,513	4,072	4,468	5,292
9	Sumatera Selatan	3,013	4,556	3,734	347	532	473
10	Lampung	2,467	3,223	3,698	692	1,170	850
11	Sumatera Barat	2,215	3,032	2,364	147	204	232
12	Papua	5,081	3,662	2,122	688	849	723
13	Irian Jaya Barat	1,084	2,209	2,063	49	31	33
14	Bangka Belitung	1,653	2,381	1,762	67	80	81
15	Sulawesi Selatan	2,319	1,904	1,560	529	718	794
16	Kalimantan Barat	922	1,868	1,301	107	196	348
17	Jambi	1,209	1,751	1,114	247	172	105
18	Sulawesi Tenggara	542	1,096	1,061	0	19	37
19	Jawa Barat	535	695	968	171	117	205
20	Sulawesi Utara	376	750	957	69	140	118
21	NTB	1,995	1,137	596	294	348	274
22	Banten	578	806	563	5,401	7,657	8,727
23	Maluku Utara	294	608	551	14	38	9
24	Kalimantan Tengah	443	466	418	56	86	129
25	Bali	372	375	347	249	179	159
26	Sulawesi Tengah	396	324	305	15	11	1
27	Bengkulu	129	247	271	5	16	3
28	Maluku	74	92	109	105	35	36
29	Aceh	25	77	60	36	112	80
30	Gorontalo	15	3	14	15	28	55
31	D.I Yogyakarta	13	13	13	1	1	1
32	NTT	16	19	8	46	12	67
33	Sulawesi Barat	24	3	-	-	-	-
TOTAL		**129,740**	**162,020**	**153,046**	**108,251**	**136,734**	**149,127**

Source : Agency of Statistic Centre, processed by DJPEN

Following the table 1.1, it shows that Batam has been transforming itself into one of influential cities in Indonesia. Batam is also known as the investment and tourism destination supported by modern facilities and infrastructures. Frost & Sullivan (2011 : 29) stated that Batam is the first Free Trade Zone (FTZ) development in Indonesia.

Table 1.2 The Employees Based on Business Sector

No	Business Sector	Total Companies	Total Employment			
			Indonesian		Foreign	
			Male	Female	Male	Female
1	Industry	1884	86723	92563	2745	181
2	Trading, Hotels	1214	25273	11529	866	35
3	Construction	817	27277	6072	554	12
4	Public Service	646	23590	24668	175	74
5	Finance, Insurance	480	14891	11223	152	4
6	Transportation, Communication	173	3127	765	18	9
7	Agriculture	44	1276	170	1105	1
8	Mining	26	483	44	29	1
9	Electricity, Gas, Water	16	738	180	9	-
TOTAL		**5300**	**183378**	**147214**	**5653**	**317**
			330592		**5970**	
			336562 Person			

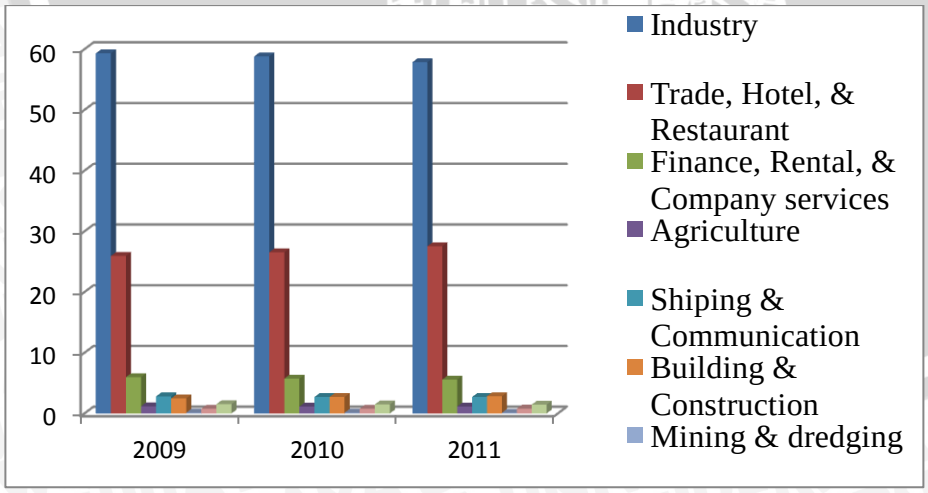
Source : BIFZA 2012

Table 1.2 shows that Batam Free Trade Zone has become an effort that accelerates the economic growth in Riau island. The employment in Batam is more and more increase because the productivity in Batam is increasing, especially in industrial sector. Thus, Batam has attractiveness itself for the workforce in all regions

of Indonesia. This success factor of industrialization in Batam has been supported by financial incentive and low material cost.

All the successes and the increasing of development in Batam FTZ are not separated from special authority of the Central Government to Otorita Batam, which is based on Presidential Decree Number 41/1973, the development of Batam is entrusted to the government agency named Otorita for the Batam industrial development. Government Regulation Number 46/2007, stated that Otorita Batam was renamed as Badan Pengusahaan Kawasan Perdagangan Bebas dan Pelabuhan Bebas or recognized as Batam Indonesia Free Zone Authority (BIFZA).

Batam Indonesia Free Zone Authority (BIFZA) to manage all sectors and take the opportunities that exist in the whole region of Batam, especially industrial sector. Figure 1 shows that the industrial sector is the dominant sector in Batam economic structures and the second dominant sector is trade, hotel and restaurant.



Source : Batam Indonesia Free Zone Authority (2012)

Figure 1.1 Batam Economic Structure

The description in figure 1, it shows that the industrial sector is very important. In attempt to defend the existence of Batam in international trade. Thus, need to know the factors that influence the international trade on industrial sector. In this research the development of industrial sector is measured by economic growth and employment (Glaeser, 1992:20). The international trade can be seen through export and import activities.

Batam has certain strong area, e.g. strategic location along important route of world trade, strong connectivity with Singapore economic, and ability to attract the human capital from all Indonesian area. The right decision when the government focus on Batam as Free Trade Zone (FTZ) in international trade, this is done in order to Batam able to advance the existing sectors, specially the industrial sector. Based on that relationship, the researcher create the title of this research **"The Influence of International Trade on Industrial Sector in Batam" (study at BIFZA period 2002-2012).**

B. Problem Statements

Based on the cover, the problem statements of this research are:

1. Does export has influence on economic growth in Batam ?
2. Does import has influence on economic growth in Batam ?
3. Does export has influence on employment in Batam ?
4. Does import has influence on employment in Batam ?

C. Research Purposes

Based on the problem statements above, the research purposes are:

1. Analyzing the influence of export on the economic growth in Batam.
2. Analyzing the influence of import on the economic growth in Batam.
3. Analyzing the influence of export on the employment in Batam
4. Analyzing the influence of import on the employment in Batam

D. Research Contribution

1. For the Batam Indonesia Free Zone Authority (BIFZA)

   This research is expected to help Batam Indonesia Free Zone Authority (BIFZA) more understand about international trade that can affect industrial sector in Batam FTZ.

2. For the companies

   This research is expected to finding core relationship of export, import, economic growth, and employment can support company in making the future decision related with those four cores.

3. For the next researcher

   This research can be used for reference, for those who are taking the topic about international trade to support the industrial sector.

E. Writing Structure

Writing structure is short summaries and outline from content of research, that used to assist clarified and understand the content of research systematically. Part of discussion on this minor thesis research as follows :

CHAPTER I : INTRODUCTION

This chapter consists of background of research, problem statements, research purposes, research contribution, and also part of discussion.

CHAPTER II : THEORITICAL REVIEWS

This chapter is presenting theories related with the title of research. Discussion on this theoretical reviews includes a review of the theory about prior research, international trade, export, import, industrial sector, economic growth, employees, framework of thinking, and hypothesis.

CHAPTER III : RESEARCH METHOD

This chapter consists of research methods, location and time of research, variables and the measurement, population and sample, data collection technique, and data analysis.

CHAPTER IV : RESULT AND DISCUSSION

This chapter consists of history of BIFZA, overview of Batam free trade zone, analysis and data presentation, and analysis and result of Eviews 8 approach.

CHAPTER V : CONCLUSION AND RECOMMENDATION

This chapter contains the conclusion of the analysis that has been done and the recommendation from the research as a reference and improvement for company and similar research in the future.

CHAPTER II

THEORETICAL REVIEWS

A. Prior Research

The result of prior research in this research as basic to obtain the representation and arrange the framework of thinking about this research. Some research that related with the influence of international trade on the industrial sector as follow:

1. Konya & Singh (2006)

   Quoted from the international journal with the title "Exports, Imports, and Economic Growth in India" on the exports, imports, and GDP in India from 1951/52 to 2003/2004. The aim in this research is to study the potentially causal relationship between the logarithms of exports, imports, and GDP and to test whether : the export and/or import and GDP are co-integrated and export and/or import Granger cause GDP or vice versa. This sample period includes 13 years of the post-reform era, possible to capture the effects of liberalization on exports, imports and output growth, if there is any effect at all. The data on Indian exports, imports and GDP are measured in current prices and in local currency (Indian rupees). The result of this research export and import growth is crucial in providing the impetus for economic growth in developing countries and imports provide the important 'virtuous' link between trade and output growth. Imports have positive influence on economic growth.

2. Kogid, et al (2011)

   Quoted from the international journal with the title "Does Import Affect Economic Growth in Malaysia" on the period from the year 1970 to 2007. The aim in this study is to analyze the relationship between the economic growth and the import in Malaysia from 1970 to 2007. Import has a paramount role in spurring the growth of the economy especially in the short run. More emphasis should be accorded on this determining factor especially in the drafting of the long term economic growth policies of the country. This study uses annual time series data from 1970 to 2007 which were obtained from international Financial Statistics (IFS) and Department of Statistic Malaysia. This study applies the Engle-Granger two steps, Johansen, Hsiao's Granger, and the Toda-Yamamoto (TY) procedures for bivariate cointegration and causality. The result of this study are the economic growth is significantly influenced by import, as well as import is significantly influenced by economic growth.

3. Afaha & Oluwatobi (2012)

   Quoted from Arabian journal of business and management review with the title "Foreign Trade and Economic Growth : Evidence from Nigeria" on the period from the year 1980 to 2010. The relationship between trade and growth is envisaged through an export led growth strategy. The study focuses on the impact of trade on Nigeria economic growth. This study has examined the performance of foreign trade in relations to economic growth. The data from the Central Bank of Nigeria Statistical Bulletin, annual report, and statement of

account for the year 2010 over the period 1980-2010. The sample is used for all variables over the period 1980-2010. The result of this research shows that export, import, and per capital income (a ratio of total trade to GDP) are positively related to real GDP for the period reviewed.

4. Achchuthan & Velnampy (2013)

   Quoted from journal of economic and sustainable development with the title "Export, Import, and Economic Growth : Evidence from Sri Lanka" on the period from the year 1970 to 2010. This research focuses on the research question as what extent the export and import influence on economic growth in the Sri Lanka perspective. According to this literature, the relationship between export and economic growth is determined by different factors. The data used secondary data which are collected from the Central Bank reports. The sample data in this research on the export, import, and economic growth from the year 1970 to 2010. The result of this research is the export and import have the significant positive relationship and also both export and import have the significant impact on the economic growth. Further, the export and import have been associated by 98% which denotes that there is a strong positive association between export and import.

5. Chinyere and Ugochukwu (2013)

   Quoted from International journal of economics, business, and finance with the title "The Impact of Export Trading on Economic Growth in Nigeria" on the period from years 1986 to 2011. The research reveals that oil export has a

positive and significantly impact on economic growth in Nigeria proxied by GDP. This research the researcher seeks to evaluate export-led growth with a particular reference to Nigeria. The techniques of data analysis used OLS multiple regression analysis to determine the effect of the independent variable on the dependent variable. The result of the researcher are oil export and non-oil export have positive and significant impact on economic growth in Nigeria proxied by GDP. And the foreign exchange reserve has a positive and significant impact on economic growth.

6. Kiyota (2014)

Quoted from the international journal with the title "Exports and Employment in China, Indonesia, Japan, and Korea", on the period from years 1995 to 2009. this research examines the effects of exports on employment in China, Indonesia, Japan, and Korea. This research draws on the World Input-Output Database (WIOD) for the period from 1995 to 2009, which enables us to estimate the effects of exports on each industry's employment (i.e. direct effect) and on other industries' employment through intra-industry linkages (i.e. indirect effects). The result of this research is there are four major findings. First, at the aggregate level, the implied employment from exports increased in China, Japan, and Korea. Second, at the industry level, exports and the shares of implied employment from exports increased in machinery-related industries such as machinery (NEC), electrical and optical equipment, and transport equipment in China, Indonesia, and Korea. Third, although more than 80% of exports in the

four study countries are from manufacturing industries, the employment effects are not limited to manufacturing industries. Fourth, in 2009, the share of implied employment from Chinese final demand exceeded that from US final demand in both Japan and Korea. This research it may also be useful to examine not only the effects of exports but also those of imports.

Table 2.1 Mapping Prior Research

Research	Variables	Findings
Konya & Singh (2006)	export import economic growth (GDP)	The export and import growth is crucial in providing the impetus for economic growth in developing countries and imports provide the important 'virtuous' link between trade and output growth. Imports have positive influence on economic growth.
Kogid, et al (2011)	Import economic growth	The economic growth is significantly influenced by import, as well as import is significantly influenced by economic growth
Afaha & Oluwatobi (2012)	Foreign trade Economic growth	Export, import, and per capital income (a ratio of total trade to GDP) are positively related to real GDP for the period reviewed
Achchuthan & Velnampy (2013)	Export Import Economic growth	Export and import have the significant positive relationship and also both Export and import have the significant impact on the economic growth

Research	Variables	Finding
Chinyere & Ugochukwu (2013)	Export Foreign reserve Economic growth	oil export and non-oil export have positive and significant impact on economic growth in Nigeria proxied by GDP. Foreign exchange reserve has a positive and significant impact on economic growth.
Kiyota (2014)	Export Employment	Exports have influence on employment, as well as the employment effects are not limited to manufacturing industries

B. International Trade

1. Definition

According to Seyoum (2009:7), the international trade is the exchange of goods and services across national boundaries. International trade, consist of exports and imports (Ball, 2006:37). Pratama (2012:24) stated that the international trade is implemented through agreements of sale and buy, he also stated that the international trade is called the agreement of export/import. In this type agreement, sale activity is stated as export and buy activity is stated as import.

The international trade is a trade that engage the party of more than one country. International trade as a consequence of the interaction between the competing demand and supply (Hakim, 2012:29). Which is the demand is import and supply is export. According to Ginting (2009:1), International trade is the implementation of

the agreement expeditionary with the goods traded and the payment methods will be used. The main point of that agreement is how to trade for both parties with purpose to make importer obtain the goods that compliance and the exporter obtain the payment from importer.

When a country wants an advanced economy, this country have to perform the international trade. Because the international trade is a significant factor to accelerate the progress of the national economic in the world (Hata, 2009:1). The existence of international trade makes, a country be able to fulfill the equipment that cannot be produce in their country itself. Based on the statement of classical expert of economic in Sukirno (2006:406), the classical expert of economic emphasize to the international free trade, namely foreign trade between countries that unconstrained by import tax barriers.

2. Theories of International Trade

According to Ball (2006:75), there are several theories of international trade are:

a) Mercantilism
   Mercantilism is an economic philosophy based on the belief that a nation's wealth depends on accumulated treasure, usually gold and to increase wealth, government policies should promote exports and discourage imports.
b) Theory of Absolute Advantage
   First suggested by Adam Smith, in the theory a country as an absolute advantage if it can produce or product (goods or service) more efficiently than others.
c) Theory of Comparative Advantage
   David Ricardo stated that, the comparative advantage is a nation having absolute disadvantages in the production of two goods with respect to another nation has a comparative or relative advantage in the production of the goods in which its absolute disadvantage is less.
d) Heckscher-Ohlin Theory Factor Endowment

The Heckscher-Ohlin theory stated that countries export products require large amounts of their abundant production factors and import products require large amounts of their scarce production factors.

e) International Product Life Cycle (IPLC)
This is formulated by Raymond Vernon in 1960s, a theory explaining why does a product that begins as a nation's export eventually becomes its import.

The theories are attempted to address important proportion of predicting the direction, composition, and volume of goods trade. These theories are as follow:

Mercantilism, the direction of mercantilisms are obtaining the authority and power of the country to be rich and powerful by doing promoted export and stifled import, as well as import restriction. The composition are export that bring dollars to this country (positive) and import that bring dollars to other country (negative) the volume of goods is producing the export surplus through flow of gold and silver.

Theory of absolute advantage, the direction is almost the same as mercantilism. That is the wealth of a country accomplished by export surplus with the way produce a goods and services per unit and use fewer resources compared with capability of other countries. The composition, value of a goods is measured by number of labor used to produce the goods. The more labor used to be higher the value of goods. Volume of goods, the single source of income is production of labor and economy resources.

Theory of comparative advantage, the direction is international trade can occur despite the country has no absolute advantage, that is producing the goods and services that can be produced in its own country. The composition is one country full specialization on the goods that can be produced in the country rather than producing

a various commodities and the volume of goods is relative amount of labor and capital in the country.

Factor endowment, the direction is international trade to do the production exchange between one country to another country, attributed to differences the opportunity cost of a product in a country. The composition of factor endowment is the countries with production factors are relatively numerous and cheap will perform specialization of product and exported to other countries, and otherwise the country will import certain goods if the country has a production factor which relatively scarce and expensive. The volume of goods are production factor and exchange rate.

The direction of IPLC is a theory that explain the reason and process of a export product became import product from a country. The composition of IPLC is originally creating a new product introduced in the market. After that, the product will become a standard. Volume of goods the trade is based on four levels of production namely innovation, growth, maturity, and decline.

3. The Affecting Factors of International Trade

International trade can significantly affect a country's economy, it is important to identify and monitor the important factors. According to Madura (2007:51), the most influential factors are:

a) Inflation
   Consumers and cooperation in that country will most likely purchase more goods overseas (due to high local inflation), while the country's exports to other countries will be decline.
b) National income
   When the income level (adjusted for inflation) rises, so does consumption of goods. A percentage of that increase in consumption (sometime referred to as the

marginal propensity to import) will most likely an increased demand for foreign goods.

c) Government restriction
This is related with the government system, among the most commonly used trade are tariffs and quotas.

d) Exchange rates
Each company is valued in terms of other currencies through the using of exchange rates thus the currencies can be exchanged to facilitate international transactions. When the rise in value against other currencies, goods exported in country will become more expensive for the foreign purchaser using a different currency.

The four factor above influence by implementation of export and import are; The occurrence of inflation, exporter will be loss because inflation creates the price of goods and services in this country increased into weaknesses the purchasing power of importer.

National income shows the numbers of export and import in a country, where the increasing national income shows that the number of export higher than the number of import. And the other way, decreasing national income shows that the number of export lower than the number of import.

Exporter's country that applied the government restriction will be influence the quantity of imported goods, because government restriction consist of tariff and quota. When the exporter's government issued the higher tax for imported goods, the importer will reduce the quantity of imported goods to avoid the tax tariff. The Government restriction performed to protect a domestic product.

Increasing exchange rate in exporter's country can reduce the power consumption of importer, because price of goods is increased. The other way, when

the exchange rate in exporter's country is decreased, the power consumption of importer will be increased, because the price of goods is cheaper or normally price.

4. Payment Method

In payment of foreign economic transactions, the company be able to use some methods. According to Ginting (2009:2), Payment method in international trade consist of Letter of Credit (LC) or Documentary Credit and non-Letter of Credit. The differences are Letter of Credit (LC) there are responsibility of bank to payment of LC, namely issuing bank, whereas in non-Letter of Credit there aren't responsibility of bank to payment cause bank only as intermediary institution in the implementation of the international trade transaction that performed by exporter and importer.

Whereas according to Pratama (2012:24), there are some payments in export and import such as cash payment, open account, and Letter of Credit (L/C). According to Madura (2012:57), in general, there are five basic methods of payment used to settle international transactions, each of them have different degree of risk to the exporter and importer. Those are prepayment, Letter of Credit, Draft (sight/time), Consignment, Open account.

5. Risks of international trade

According to Tandjung (2011:56), some general risk in international trade, as follow:

a) Commercial credit risk

Commercial risk is related with creditworthiness parties, where the goods that will be send to the exporter are not accepted by importer. Commercial risk

consists of financial risk, acceptance risk, operational risk, transaction risk, and fraud in international trade.

b) Political and country risks

This is caused by various political condition factors in importer's country, applied government system, restriction in freedom of trade, situation of being inconstant. This risk will appeared when the foreign currency needed by importer is not freely sell-buy (the country that strict supervision of foreign exchange), where the importer must proposed allocating the foreign exchange to central bank first. Thus it will be delayed or retard the implementation of transferred to exporter.

c) Documentary risks

Documentary risk is a failure to fulfill the requirements of completeness document based on regulation in importer's country, thus it cause the delay in spending goods from customs (excise) and often certain system causing sequestration or imposition with big fines or higher tax to the goods that received.

d) Foreign exchange risks

Foreign exchange risks is caused by the changing and the fluctuations of foreign exchange rates in time by time against the weak currency. The risk that obtained by exporter is the depreciation of currency in exporter's country.

e) Pitfall on L/C

Pitfall on L/C is the risks which caused by human error, for example typos in writing so that the importer tries to find the reason to delay the payment or unpaid.

C. Export

1. Definition of Export

The export is one of international trade activities. According to Amir in Pinem (2009:20), "Export is attempting to run or perform the sale of commodities that we have to other nations or foreign countries in accordance with the provisions of government with expected payment in foreign currency and perform with foreign country".

Bishop (2004:1) stated that exporters are at the beginning of any international trade transaction and they sell goods or services to overseas buyers in a variety of ways. The exporter aims to sell their goods to buyers around the world in the quickest way. Sasandra in Aulia (2010:22) stated that the export constitute the total of goods and service that sold by a country to other country, including the goods, insurances, and services on certainty period. In business, in order to improve the production and profit, mostly the company will try to expand market to the foreign country.

According to Sukirno (2006:410), export is an effort to sell the goods that produce in international market. This activity commonly performs with the other company in foreign country by using agreement inter-company (between exporter and importer). Export activities that performed by each country have the purpose to

increase the income in country, because the export is one of component of aggregate output that will be reached. When the export increase, the aggregate output will be increase too and then will be stimulating the economic growth a country (Prasetyo, 2011:25)

2. The Role of Export

According to Ahmad (2011:24), the role of export are as follows:

a) Overseas market is able to expand the markets for certain goods as emphasized by classical economists, an industry be able to grow quickly if that industry be able to sell the result beyond in overseas rather than just in domestic market narrower.

b) Export creates new demand effectively, as a result of demand for goods in domestic market is increasing. The occurrence of competition encourages domestic industries looking for innovation aimed to raise productivity.

c) Expansion of export activities facilitate the development, because certain industry is growing without need an investment in social capital as much as it needed. If the goods that will be sold in domestic country for the example because narrowness domestic market as a result of low levels of real income or transport connection inadequate.

Based on the explanation above, there are some explanation about the role of export are industry of a country can be said to be advanced if the industry can sell its products to larger area, namely international area. The existence of goods and services in international area will improve the competitiveness of the more

competitive among industry players. Thus the industry should be create new innovations in goods and services to raising the productivity because the increasing demand for goods.

3. Requirements of Export

Based on the Law No.17/2006 about Customs, the requirement of export includes:

a) Export is able to be performed by each companies or individual that had :
   1) Sign List of Trading Venture or Trade Business License.
   2) Business License of Technical Department or government agency non-department based on the applicable legislation
   3) Sign List Company
b) Each exporter who perform exports that regulated their export should fulfill the requirements as intended in point 1 above, and have obtained the recognition as exporter list from Ministry of industry and trade, in this case the General Director of foreign exchange.
c) Each exporter who perform exports that is supervised its export should fulfill the requirements as intended in point 1 above and has approved export from Ministry of Industry and Trade, in this case the Director of export of industry and mining product or director of export of agricultural and chemical product with consider the proposal from the Director of technical supervision concerned in environmental of Department of Industry and Trade and or institute related.
d) Against certain export product, Ministry of Industry and Trade in this case Director of General Foreign Trade set the export benchmark price periodically as the basis of calculation export tax.

4. Categories of Exported Goods

Based on Decision of Ministry of Industry and Trade No.01/M-DAG/PER/1/2007 date on January 22, 2007 (www.disperindag.kalbarprov.go.id) . There are four categories of export goods are;

a) The goods are regulated export

Regulation of export conducted in accordance with provisions the agreement of international, bilateral, regional, and multilateral in order to guarantee the availability of raw materials for the domestic industry. Commodity goods are regulated export consist of

1) Plantation product : coffee
2) Forestry product : rattan, forestry industry product (wood chips)
3) Industrial product : precursor
4) Mining product : diamond and tin bars

b) The goods are controlled export

It is because the goods are needed in the country to maintain stability of supply and domestic consumption. The goods are controlled export consist of:

1) farm product : cow and buffalo, crocodile leather in form of wet blue, wild animals, and natural vegetation
2) Fishery product : child napoleon fish and milkfish seed
3) Plantation product : palm kernel
4) Mining product : oil and gas, pure gold/silver
5) Industrial product : fertilizer area, scrap from iron/steel, scrap stainless, copper, brass, and aluminum.

c) The goods are prohibited export

Determination of provisions to the goods are prohibited export because does not meet the quality standards and constitute a valuable historical and cultural goods, the commodity goods that are prohibited include;

1) Fishery product : child fish and arowana fish, sidat fish seed, ornamental fish types botia, giant prawns, and penaedae shrimp.
2) Forestry product : wood and sawn wood, rattan derived from natural forest.
3) Mining product : natural sand, clay, tin ore and concentrates, and precious stone
4) Plantation product : rubber lumps, remailing materials, and smoke house.
5) Farm product : raw leather, pickled and wet blue from reptiles, wild animals, and plants are protected.
6) Industrial product : scrap from iron/steel (except from Batam island), scrap from the output of remelting.
7) Goods of culture : ancient are worth cultures.

d) The goods are free export

The goods that are not included in the classification number a, b, and c to the aims of diversifying product and market.

Based on the explain above, The goods that have to be regulated of its export is goods that can only be done by registered exporters. The goods that have to be controlled of its export are the goods that can only be done with the approval of the minister of industry and trade or appointed official. The goods that prohibited to be exported are the goods that cannot be exported with a consideration to keep the procurement of raw materials.

D. Import

1. Definition of import

Import is one of international trade activities. According to Sukirno et al (2004:411), import is an activity of a company by which the firm buy goods produced by other companies. Pinem (2009:36) mentions that statistic data of international trade, import is equal to trading with the way of entering goods from foreign country to Indonesian custom to comply with the requirement applicable.

Import had the opposite characteristic with export. The presence of import of goods is not only useful for an economy, but also creates high competitiveness of industry in country. Thus the country that only produces locally manufactured product are usually not be able to produce high competitiveness.

2. Regulation of import

According to Pinem (2009:41), the regulation of Ministerial of Trade consists of:

a) Tariff of trade

Tariff is a list of all types of goods which are subject to a tax charge, either import tax or transit tax, that is a tax imposed on goods through the country but the real destination is another country. For example, the goods from Germany will be taken to Batam but through Singapore, then Singapore be able to impose transit duties (tax).

b) Import quota

Quota is physical restriction quantitatively performed on entering and expenditures of goods from or to the country to protect the interest of industry

and consumer. According to World Trade Organization (WTO), the quota system is only be able to be used in these cases:

1) Protecting the result of agriculture
2) Maintaining the equilibrium of balance of payment
3) Protecting the economic interest of international

c) Subsidy

Subsidy is a government regulation protected by assistance to domestic industry in form of dispensation of tax, return of tax, credit facilities, price subsidization, and other to aim as follows:

1) Increasing the domestic production
2) Maintaining the amount of domestic consumption
3) Selling with low price than import product

Whereas According to Sukirno (2006:426), this regulation consist of :

a) Tariff

Tariff or import tax is the charges upon goods imported. Those charges commonly in form a tax on the value of the imported goods by assigning a percentage of the tax predetermine in advance.

b) Quota

Quota is restriction on the amount of goods that can be imported in any given year. Though quota can determine the amount of goods that should be import to fulfill the production needed in country.

c) Embargo

Embargo import prohibition, namely no one of the goods can entrance a country. It means to save the industry in country, although the industry already has develop.

3. Requirement of import

Deloitte (2012 : 28) mentions that the importer must have :

a) Custom Identification Number (CIN)
In order to enable fulfilling customs obligations, a service user (importer, exporter, customs broker, transporter, and other) must register themselves in the Directorate General of Custom and Exercise (DGCE) to obtain the CIN and it will remain valid unless it is cancelled by DGCE.

b) Importer Identification Number (IIN)
An importer must have IIN. Currently there are two types of IIn, as summarized in the table below:

Table 2.2 Type of Importer Identification Number

TYPE OF IIN	USER (INDUSTRY)
General Importer Identification Number	Granted to importers that import goods for trading or transfer to other parties
Producer Importer Identification Number	Granted to importers that import goods for their own use as raw materials, supporting materials and/or for supporting production process.

Source : Deloitte Tax Sollution 2012

c) Special Importer Identification Number (SIIN)
SIIN be able to obtained by importer when the importer already has an IIN. The valid of SIIN is five years.

d) Registered Imported Number (RIN)
Certain products can only be imported by a Registered Importer of Certain Products (ITPT). The currently listed certain products that can only be imported by ITPT are as follows:
1) electronic products,
2) ready-made garments,
3) toys,
4) footwear,
5) food and drink products,

6) cosmetic products, and
7) traditional and herbal medicines.

e) Special Approval for Importation of using Capital Goods
Import of using capital goods (un-new machine) can only be done by the following type of importers with special approval from the Minister of Trade.
1) Direct User,
2) Reconditioning Company,
3) Remanufacturing Company, and/ or
4) Hospital Equipment Supplier.

There are some explanation from Sugianto (2007:8), Custom Identification Number is a private identity number which is given by the General Directorate of Custom and Excise to the importer who have done the registration to access or to connect to the system of the custom which use the information technology or manually.

Setianto et al (2008:197) stated that the Importer Identification Number is a proof of the permission which is given by the Ministry of Commerce to the importer to do the import trading. Tandjung (2011:383) stated that the import without IIN should obtain the acceptance from the Director of the Ministry of Commerce. Tandjung (2011:384) stated that SIIN aims to keep the industry in country. Siswosoediro (2008:76) stated that Registered Imported Number is the identification of special importer which has to be owned by the certain goods import trading company.

4. Categories of imported goods

Based on general policy of Minister of Trade in 2007, the categories of import goods are:

a) The goods are regulated import
1) Import of capital good not new
2) Plastic raw material

3) Salt
4) Textile and product textile
5) Precursor
6) Ozone layer crasher
7) Nitro cellulose
8) Lubricating oil
9) Sugar
10) Rice
11) Dangerous material
12) Explosive device or dynamite
13) Minor
14) Clove
15) Photocopy color

b) The goods are prohibited export
1) Shrimp
2) Meat cow
3) New and secondhand crap
4) Dangerous and toxic waste material
5) Remaining paring and scrap of plastic
6) Industrial product of printing in Indonesian language or local language
7) Pesticides etilindibromida
8) Good of secondhand
9) Derivatives of halogenisasi, sulfonasi, nitration from phenol alcohol only contain halogen and salt.
10) Psychotropic
11) Narcotics
12) chemical weapon.

c) The goods are free import
All of types good is not included on group of arranged, supervised, and banned as well as import be able to performed by each company had the number definition number.

E. Industrial Sector

1. Definition of industrial sector

According to Utoyo (2006:89), industry is all of human activity in economic field that are productive and commercial to fulfill the necessities of life. Pearce (2007:133) stated that the industry is a collection of companies which offer the

similar product or service. The similar product is the product which is considered by the consumer that it can provide. The industrial sector can be measured by economic growth and employment.

The industry can be classified based on certain criteria. The classified criteria are raw materials, labor, market share, capital, or the type of technology used. The example of industry classification based on material is use of wood for company as raw material. Wood can be process into a lot of things, such as paper and furniture. For work in process goods there will be paper and for finished goods there come furniture or interior product. The other example of industry classification based on labor, the company who have classified as small company have only 1-25 people, medium company 26-100 people, and large company have more than 100 people.

2. The aims of industrial sector

According to Utoyo (2006:90), some aims of industrial sector are;

a) Strengthen economic structure and foreign exchange
b) Expanding employment
c) Reducing the dependence on foreign product
d) Improving the Small and Medium business

The measurement of some aims the activity of industrial sector above are Soetrisno (2012:111) stated that, the economic structure or the economic composition of Indonesia can be seen from the GNP composition side, employment side, and the international economic relationship. And the strengthen the foreign exchange can be

measured by seeing the inflation rate, real interest rate, and the economic growth rate, and the political risk (Pujiningsih, 2009:7)

From the data of BPS-statistic of Nangroe Aceh Darussalam Province collaboration with BAPPEDA (2007:24), the condition of the safety and the pleasure of doing business as well as a high society purchasing ability will expand the business and will immediately expand the employment, thus the unemployment will decrease. Logically, the safety and pleasure condition of business are able to attract the investor to invest their funds in the domestic industry. Thus, the expansion of employment would happen. Based on the explanation above, the same condition can give same impact in difference place, the example are Batam, Jakarta and other place who have specific demographic characteristic. The safety and pleasure of doing business will increase employment in those areas because they have similar culture who love to work in safety and pleasure condition..

The next aim of industrial sector is measuring the dependency of foreign product. The dependency of foreign product can be measure from trend, consumption (purchasing ability), and the value of import. The last aim of industrial sector is measuring the Small and Medium Enterprises. The indicator of the measurement of Small and Medium Enterprises development is the total of business, the employment, the value of export, GDP, and the total of credit (Manurung, 2008:09).

F. Economic Growth

The economic growth as measurement indicator of industrial sector (Glaeser, 1992:20). According to Madura (2007:122), economic growth is change of economic activity in general scale. Every country will try to reach the most optimal economic growth. Because the economic growth shows the changing of the level of the economic activity generally (Madura, 2007:122). Where the high level of economic growth indicates the purchasing ability of society is high. Thus, it can be said that the society's income is high.

Generally, economic condition can be grow if remuneration (salary, wages, interest, rent, profit) into production factor (employee, equity, land, and skill) in certain year bigger than before. Sjafrizal (2008:85) stated that economic growth has various target which suitable with economic potential in each territory, from high teritorial economic growth, there come expectation to increase community welfare. Nensy (2008:16) stated that some important factors that have been long being regarded by economists as an important source of economic growth that can realize that are:

1. Amount and quality of society and employment

   The increasing of society will increase the amount of employment and it allows the country to increase the production. Besides that, as a result of the education, training, working experience, and skills of society that is always increase. Thus the productivity will increase furthermore will lead to increase the production faster than the increase of employment

2. Land and other natural resources

   Land and natural resources will be able to facilitate the effort to build the economy of a country, especially in the early stages from the process of economic growth.

3. The capital goods and technology

   The capital goods enhance the efficiency of economic growth, and technological advances give the positive impact of economic growth, namely the technological advances can increase the efficiency of goods productivity and lead to the discovery of new items that have not been produced before. Thus the progress can increase the goods and services that can be used by the public.

4. Broad market as a growth area.

   The broad market as a measure the entrepreneurs in use the productivity, because the broad market can encourage the industry to use modern technologies that high level of productivity.

5. The social system and community attitudes

   Traditional customs that can inhibit society to use the ways that modern production and high productivity. Thus the economic growth cannot be accelerated, with the change in the society attitudes toward more advanced and hard working to earn revenues and more profits can be done by expanding education.

G. Employment

The employment as indicator to measure the development of industrial sector (Glaeser, 1992:7). Based on UU No. 13 at 2003, employment is everything that has relationship with employee whenever working period take place (Agusmidah, 2010:4). Nurrachmad (2008:1) stated that employment is every people who work with receiving salary and any other remuneration. Andayani (2008:6) mention that in economic, there is a theory of employment such as:

1. Classical theory,

   If the prices of goods is growth up, the demand for employment is fixed.

2. Modern theory (Keynes),

   If the prices of goods is growth up, the demand for employment will be increase.

The main issue of labor comes from the lack of competitiveness the employment against growth rate of national employment. The factors affecting the employment issues are demography factors, the development of education, economic growth issue and growth of work force, and the availability of employment opportunities.

Every worker who will work in company or government agency will make work agreement with company or agency itself. According to Nurrachmad (2009:2), working agreement is agreement between owner or company with worker which contain requirement, rights and duty of each party. Working agreement will create relationship that has work element such as job, salary and order.

H. Relation of Export and Industrial Sector

The country which has industry level advanced, the source of foreign exchange is the output of export production industry (Amir, 2004:101). Thus, the increasing of export create the increasing of industry level. It means that the industrial sector increase can be determined with export increase. The industrial can be measured by economic growth and employment.

Increasing the amount of export create the foreign exchange in country will be increase. The amount of foreign exchange can develop the economic growth highly. The other side, when the export is increase the company need to add more employee to increase productivity in fulfilling export demand. Thus company will recruit more employee in order to improve productivity. It also means that increasing export will increasing employment.

When the export is decreasing, then the productivity of the industry will decrease. Ahmad (2010:8) mentioned that, an industry be able to growth quickly, if domestic industry sell their industries output (goods and services) to international area rather than to national market.

The other impact of export into industrial sector is diversity promotes growth as knowledge spill over industry. Diversity in this case can be described as amount of different place where company sell the product, this term include export as one of the way to reach those destination place. With export, industrial sector can be grow rapidly with amount of knowledge which spill over industry. This is very important

for industrial sector since to reach demand effectively, knowledge is the main factor to facilitate that development.

I. Relation of Import and Industrial Sector

Gilarso (2008:293) mentions that Indonesia's import is mostly consist of the materials and instruments needed by the domestic industry but the domestic industry cannot fulfill its needs. Thus, the industry needs import to fulfill the needs in order to increase the productivity of industrial sector. But the industry has to do the limitation to the import to protect the domestic products and keep the stability of foreign exchange. Import activity gives the opposite effect of export activities (Sukirno, 2006:412) stated that the flow outward of foreign currency will be valid and lowering available foreign exchange.

The relation of import to industrial sector can be reversed than export to industrial sector. Increasing of import will decrease the economic growth in country, because country (local industry) will transfer the foreign exchange saving into other country. In other words, country will pay the import although company pay and do transaction. Actually, import is quite good for economic growth activity since some material can't be produce in country. But too much import is very dangerous for economic stability and decreasing the economic growth.

The impact of import to economic growth can be bad, but the impact to employment is not always bad. Bad influence of import can decrease the employment with certain condition. The condition is when company import finished good or

company as distributor of multinational company product. Good influence of import can increase the employment, but with condition like if company importing raw material or component. Because the raw material or component is still needed more employee to process the raw material into finished goods.

J. Conceptual Model

Figure 2.1 Conceptual Model

K. Hypothesis

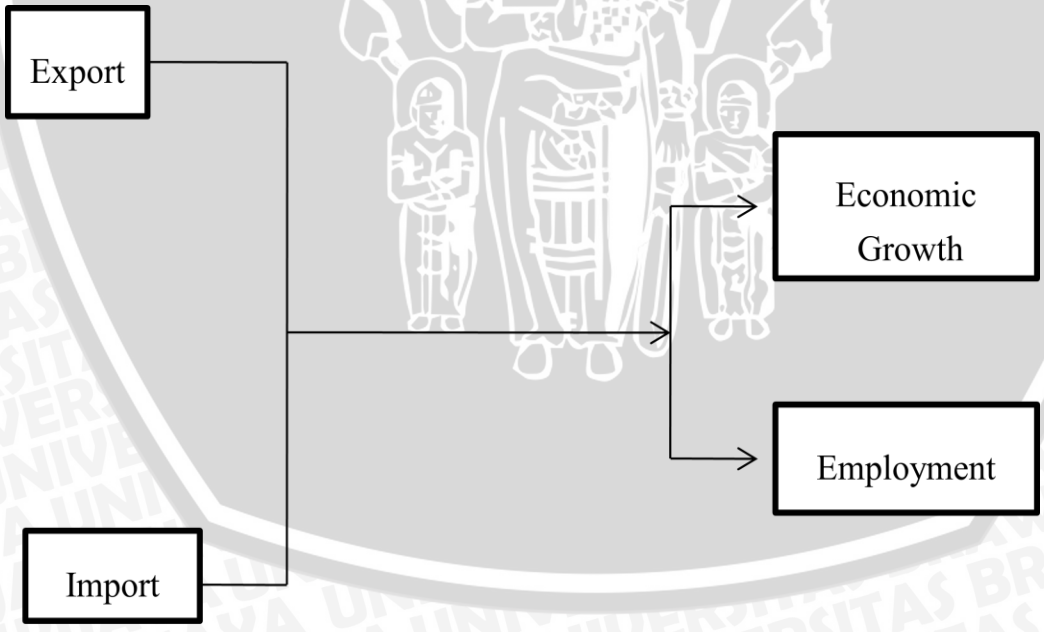


Figure 2.2 Hypothesis

1. Hypothesis 1 : Export has influence on economic growth
2. Hypothesis 2 : Import has influence on economic growth
3. Hypothesis 3 : Export has influence on employment
4. Hypothesis 4 : Import has influence on employment

CHAPTER III

RESEARCH METHODS

A. Research Methods

This research aim to understand the influence of international trade on the industrial sector. In accordance with the formulation of the problem and research objectives, the type of research used is explanatory research with quantitative approach. Explanatory research is research that aims to explain the position of the variables studied and the relationship between one variable with another variable (Sugiyono, 2009:10). Muijs (2011:1) mention that quantitative research is explaining phenomena by collecting numerical data that are analyzed using mathematically based methods (in particular statistics).

B. Location of Research

This research is implementing in Directorate of Traffic Goods of Batam Indonesia Free Zone Authority (BIFZA) at Jl. Engku Putri Batam Centre, Batam Island. The researcher choose BIFZA as the location of research because BIFZA is the authority agency that administers the process and manage the overall withdrawal investors in the industrial Batam area. The choice of location is based on the data availability and completeness of information about the studied issue. The researcher also collect related data from the official website of the BIFZA (www.bpbatam.go.id).

C. Variable and The Measurement

Research variable basically is any form of everything that defined by the researcher to be studied then obtained the information and make a conclusion about it (Sugiyono, 2009:58). In this research, there are two kinds of variables, firstly independent variables and the secondly one is dependent variable. With the criteria variable:

1. Dependent Variable of industrial sector are represented by:
   a) Economic growth (Y_1)
   b) Employment (Y_2)
2. Independent Variables of international trade are represented by:
   a) Export (X_1)
   b) Import (X_2)

D. Operational Definition of Variables

Definition of operational variable is a study or limitation used to set the relationship between two or more variables in a hypothesis and will be executed after each qualitative variables is set off. This operational definition, the variables that will be observed in this research preparation are:

1. Export as independent variable X_1

   Sukirno (2006:410) stated that, export is an effort to sell the goods that produced in international trade. Export is measured by the number of foreign exchange in rupiahs. Export data used in this research is yearly data from 2002 to 2012.

2. Import as independent variable X_2

   Sukirno et al (2004:411) stated that, import is an activity of a company by which the firm buy goods produced by other country. Import is measured by the number of foreign exchange in rupiahs. Import data used in this research is yearly data from 2002 to 2012.

3. Economic growth as dependent variable Y_1

   The economic growth as the indicator to measure the development of industrial sector. The economic growth shows the changing of level of the economic activity generally (Madura, 2007:122). The economic growth is measured by the total of Gross Domestic Regional Product (GDRP) in percentage. The data used in this research is yearly data from 2002 to 2012.

4. Employment as dependent variable Y_2

   The employment is the society which was within the limits of working age (Purba, 2008:31). The employment is measured by the increasing of the total employees. The data used in this research is yearly data from 2002 to 2012.

E. Population and Sample

The population of the research is economic growth rate and employment in Batam. According to Sugiono (2009:90), population is the generalized area consist of object or subject that have quality and certain characteristic which determined by researcher to be learned and then create the conclusion. And sample is the part of population, as material of research to explain the expectation through example which

is taken from the population to representative population (Supangat, 2008:4). The sample data in this research on the export, import, economic growth, and employment from 2002 until 2012 (11 years). The number of elements of the population studied was 11. Full sample is 11 observation

F. Data Collection Techniques

Data collection is the process of gathering and measuring information on systematic ways that enables the researcher to answer the research question, test hypothesis, and evaluate outcomes. The data used in this research are secondary data. Secondary data is data support research that obtains from many sources to assist the conclusion of research.

G. Data Analysis

Data analysis technique for quantitative study use statistic. In this research, data analysis use descriptive and inferential statistic. Data analysis is the process of reducing large amounts of collected data to make sense of them (Kawulich, 2004:97). In this research, the data that have been collected are analyzed using the latest version of Eviews that called Eviews 8. Eviews 8 program is user friendly and provides the facility of regression estimation method more complete than other software (Ghozali, 2013:13). Eviews 8 also has more advantages compared with SPSS for testing and correcting classic assumption of OLS regression (Ordinary Least Square).

1) Descriptive analysis

Descriptive statistic is the statistic used to analyze the data by describing or drawing the collected data as it is without want to make the conclusion happen for the public or generalization (Sugiyono, 2009:206). The measurement of descriptive statistic is useful to facilitate the observation by calculating the mean, minimum value, and standard deviation. With the descriptive analysis, the raw data is transformed into a form that will make them easy to understand and interpret. In general, describing response is the first stage of analysis, involving calculation of average, frequency distributions, and percentages.

2) Inferential analysis

Inferential analysis is a statistical science related with the way to make conclusion about population based on the sample of data (Lind et al, 2007:177). Inferential analysis uses statistical tests to determine if there is a relationship between an intervention and an outcome, as well as the strength of that relationship. The steps in inferential analysis are:

a) Normality test

Normality test aims to test whether in regression models the residual variable has a normally distributed or not (Ghozali, 2013:165). In this research, normality test will use Jarque-Bera with criteria:

1) If the value of residual significant > 0.05, then the data has normal distribution.

2) If the value of residual significant < 0.05, then the data used doesn't has normal distribution.

b) Classic assumption test

Before doing the hypothesis testing, the first thing to do is perform the test that determine whether the regression model obtained has a predictive value that not biased and must pass the classical assumption test, as follows:

1) Heteroskedasticity

Heteroskedasticity has purpose to test if there is an unequal variant of residual for all the observation in the regression model. Good regression model is if there is no problem of heterokedasticity (Priyatno, 2012:62). Ghozali (2013:95) stated that there are two ways to detect the heteroskedasticity, such as: graphic (informal test) and statistic test method (formal test). There are some test in statistic test method to detect the presences of heteroscedasticity, such as:

a. Glejser test

Glejser test proposes to regress the absolute value of residual (AbsUi) against other independent variables to the regression equation (Ghozali, 2013:98).

b. White test

White test proposes to regress the squared residuals (U^2i) with the independent variables, independent variable squared, and

multiplying (interaction) between the independently variables (Ghozali, 2013:104).

c. Breusch-Pagan Godfrey test (BPG test)

Breusch-Pagan Godfrey test (BPG test) is used to estimate the variances of the residuals from a regression are dependent on the values of independent variables (Ghozali, 2013:106).

d. Harvey test

Harvey test is used to estimate the log squares of error.

e. Auto-Regressive Conditional Heteroscedasticity test (ARCH test)

This test is assuming the variance of the current error term to be a function of the actual sizes of the previous time period error term.

2) Multicollinearity test

Multicollinearity means that that two or more independent variables have perfect relationship. A good regression accepted when there is no perfect relationship between the independent variables (Ghozali, 2013:77). There are some the way to know if there is any multicollinearity are:

a. Regression model

To provide an overview how to detect multicollinearity. The value of $R^2 > 0.80$ but there is no independent variables is significant (Ghozali, 2013:79).

b. Correlation

To know how much level of correlation between variables, as well as to get the definite the correlation is significant or not. Ghozali (2013:79), stated that he value of correlation between the independently variables more than 0.80 (correlation > 0.80).

c. Auxiliary regression

The presence of multicollinearity it can be seen the value of F-statistic less than F-table.

d. Tolerance and Variant Inflation Factor (VIF)

If the VIF < 10 and Tolerance > 0.10. it means that there is no multicollinearity.

3) Autocorrelation test

Autocorrelation happens when in the regression model has correlation among residual of (t) period with the previous period. Good regression means that there is no problem related with autocorrelation. There are several ways that can be used to detect the presence or absence of autocorrelation, such as:

a. Durbin-Watson test

Durbin-Watson test to know data autocorrelation exist or not in this research. The decision making of Durbin-Watson test is:

1. if d < dl positive autocorrelation
2. if d > (4 – dl) negative autocorrelation

3. if du < d < (4 – dl) no autocorrelation

4. if dl < d < du or (4 – du) cannot be concluded

b. Lagrange Multiplier test (LM test)

LM test will produce Breusch-Godfrey (BG test) statistic. BG test conducted by regress the residual (Ut) using the autogressive model.

c) Multiple linier regression

According to Sulaiman (2004 : 79), multiple linear regression is a general statistic method that used to observe the relationship between dependent variable and independent variable known, to forecasting the value of dependent variable. Multiple linier regressions are used in this study because the variables used in this study are more than one, and the equation as follows:

$$Y_1 = b_0 + b_1X_1 + b_2X_2 + e$$

$$Y_2 = b_0 + b_1X_1 + b_2X_2 + e$$

Note :

Y_1 = economic growth
Y_2 = employment
b_0 = constant
b_1 = regression coefficient of export
b_2 = regression coefficient of import
X_1 = export
X_2 = import
e = error term

d) Hypothesis test

Testing the hypothesis by looking at the statistical significance test (real effect) independent variable (X) on the dependent variable (Y), either simultaneously through statistical F-test or partially through t-test.

1) Coefficient of determination

   Determination coefficient test has purpose to know how far and how big the contribution percentage of independent variable's influence on dependent variable. Determination coefficient shows the perfect relationship if its value 1 (100%), while if the value of determination coefficient is 0 then it shows that there is no perfect relationship between the predicted variable with independent variables.

2) F-statistic Test

   F test has purpose to know whether export (X_1) and import (X_2) has simultaneous influence on industrial sector (Y) or not. F test used to test the hypothesis:

   a. $H_0 : b_i = 0$, i = 1, 2, 3, means that there is no significant influence among independent variables on dependent variable.

   b. $H_a : b_i \neq 0$, i = 1, 2, 3, means that there is a significant influence among independent variables on dependent variable.

   F test done by comparing sig F and level of significance (α), then it will known if the hypothesis is accepted or rejected, by seeing:

   1. Sig F < level of significance (α) : H_0 rejected
   2. Sig F > level of significance (α) : H_0 accepted

3) T-statistic Test

T test is done to know if there is partial influence among export (X_1) and import (X_2) on industrial sector (Y).

a. X_1 variable on Y

H_0 : $b_1 = 0$, means that there is no significance influence of X_1 variable on Y variable.

H_a : $b_1 \neq 0$, means that there is a significance influence of X_1 variable on Y variable.

b. X2 variable on Y

H_0 : $b_2 = 0$, means that there is no significance influence of X_2 variable on Y variable.

H_a : $b_2 \neq 0$, means that there is a significance influence of X_2 variable on Y variable..

t test done by comparing sig t and level of significance (α) with value α = 0.05 so it can be known if the hypothesis is accepted or rejected by:

1) Sig t < level of significance (α) : H_0 rejected

2) Sig t > level of significance (α) : H_0 accepted

CHAPTER IV

RESULT AND DISCUSSION

A. History of Batam Indonesia Free Zone Authority (BIFZA)

Batam Indonesia Free Zone Authoriy (BIFZA) or Badan Pengusahaan Kawasan Perdagangan Bebas dan Pelabuhan Bebas Batam previously is known as Otorita for the Batam Industrial Development before its name changed though Government Regulation Number 46/2007. Batam Indonesia Free Zone Authority (BIFZA) is being the anchor of Batam since the beginning of the development. In 2004, the Central Government published a new regulation (Law Number 32/2004) which delegates the Batam Indonesia Free Zone Authority (BIFZA) to cooperate intensively with local governments to manage Batam Free Trade Zone.

This policy is a part of decentralized administration governing in Indonesia. Keeping the relevance to the national development and a dynamic of the world economic, Batam Indonesia Free Zone Authority (BIFZA) takes initiative to evaluate the role of agency (local government) as well as the position of Batam as a location choice for foreign direct investment. In the development of Batam island, the development is divided to some period, such as:

1. Period l (1971-1976), as a period of preparation, led by Dr. Ibnu Sutowo.
2. Period ll (1976-1978), as a period of consolidation, led by Prof. Dr. JB. Sumarlin
3. 1978-1998, as a period of infrastructure development and investment, led by Prof. Dr. BJ. Habibie.

4. On the March until July 1998, known as period of infrastructure development and continued investment, led by J.E Habibie.
5. 1998 – 2002, called as period of developing of infrastructure development and continued investment with greater attention to the public welfare and improving the investment climate, led by Ismeth Abdullah.
6. And now led by Mustofa Widjaja, Batam in addition to functioning as industrial state but also have three other key functions such as trade center, tourism, and over the ship. Batam's economics wth continues to increase and capable to survive when the global crisis hit the world and have placed Batam as a locomotive of national economic development. with the growth capability, the goverment make Batam as Batam Indonesia Free Zone Authority (Free Trade Zone) was inaugurated by president of indonesian country Susilo Bambang Yudhoyono on date January 19th 2009.

B. Overview of Batam Free Trade Zone

Based on Government Regulation 46/2007, Batam is prepared to be free trade zone and free port for a term of 70 years. Development on Batam as Free Trade Zone prove that Batam have certain power area, such as: strategic location along important trade routes of the world, strong connectivity with Singapore economy, and also the ability to attracting the human capital in all Indonesian area. Batam faced certain challenge from external and internal, such as: susceptibility due to impact from lack of diversification economy, decline labor productivity, low business formation,

limited land and water sources, less focus on innovation and perception of collision policy and role and also responsibility of nation and authority related with regional.

Table 4.1 SWOT Analysis

STRENGTHS	WEAKNESSES
1. Strategic location 2. The existence of labor 3. Regional economic relationship is complemented.	1. Limited labor reliable 2. There is no integration between the processes and procedures in business application. 3. Conflict policies among agency of Batam free trade zone with the local government. 4. Lack of policy and supporting infrastructure to train the local labor became labor reliable. 5. Low levels of business formation 6. Limited availability for future development 7. Limited water sources 8. There is no environmental as innovation support.
OPPORTUNITIES	**THREATS**
1. Indonesia has became the attractive investment location 2. The growing ASEAN become important economic blocks 3. Potential of Indonesia as center of shipping and logistic 4. Relocated the location of company due to globalization 5. The appearance of new economic sector	1. The competence from other industry 2. The changed on dynamically of Singapore economy. 3. The obstacle of trade that hold the development of economy.

Source : Frost & Sullivan (2011)

Following the table 4.1 above, it shows that the factors of strengths, weaknesses, opportunities, and threats in Batam. The problems in Batam Free Trade zone are:

1. The infrastructure and facilities that exist now is still not sufficient to support the industrial sector. The going power is often outages without advance notice before, it's disrupt the production process.
2. Limitation producing semi-finished goods and component in the country. In Batam, almost all industries imported the raw materials from Singapore than buy the raw materials from area in this country.

3. The environmental business is not conducive to attract the investor to invest. The issue of employment create worried to the investor who will invest or doing business in Batam.
4. The Government Regulation about import is faded the nationality in domestic product.

Currently, Batam has been transforming itself into one of the influential cities to increasing the investment in Indonesia. Batam is also known as the investment and tourism destination with modern facilities as well as infrastructure.

C. Analysis and Data Presentation

Variables described in this study are export (X_1) and import (X_2) as exogenous or independent variables and economic growth and employment as endogenous or dependent variables. Below are the description of each variable of 11 sample of time series research studied during the 2002-2012 period :

1. Export (X_1)

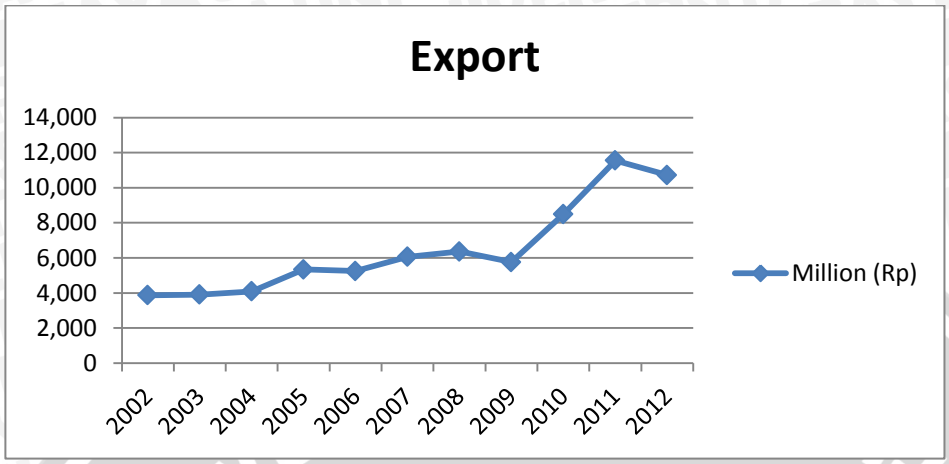
Export is an effort to sell the goods that produce in international market (Sukirno, 2006:410). In this research, the researcher measure the data of export in Batam on period 2002 to 2012. The data obtained from Batam Indonesia Free Zone Authority. In order to analyze the growth of export, the researcher show the data in form of table and graphic, as follows:

Table 4.2 Export Yearly Data

Year	Export (Million Rupiah)
2002	3,870
2003	3,910
2004	4,090
2005	5,335
2006	5,243
2007	6,061
2008	6,361
2009	5,754
2010	8,487
2011	11,551
2012	10,724
Mean	5,754
Minimum	3,870
Maximum	11,551
Average	6,490

Source : IT Centre, BIFZA

Based on the table 4.2, it can be seen that the highest export is in 2011 as much 11,551 (million), while the lowest export is in 2002 as much 3,870 (million). The mean value of export is in 2009 as much as 5.754 (million). The average export in the period of 2002-2012 is 6,490 (million).



Source : processed data

Figure 4.1 Export Yearly Data Chart Periods of 2002-2012

Based on figure 4.1, export growth rate has dynamic change. It can be seen on 2002-2008 export growth constantly increase, but in 2009 export growth decrease until 5.754 (million) with difference point decrease as 607 (million) compare to last year. In 2010, export growth increase 2.733 (million) with export value 8.487 (million). In 2011, economic growth has significant increase in 3.063 (million) with export value 11.551 (million). In 2012, growth rate decrease in 827 (million).

2. Import (X_2)

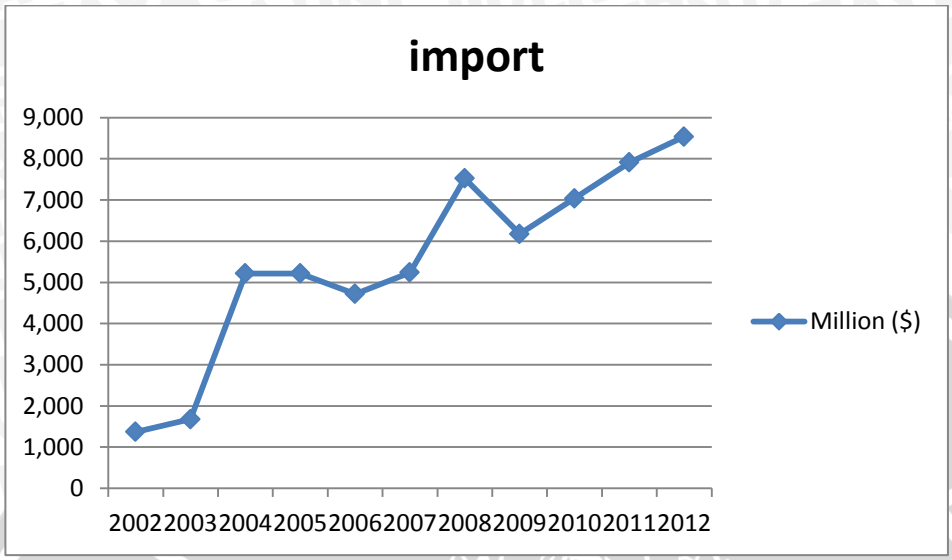
Import is an activity of a company by which the buy goods produced by other companies (Sukirno et al, 2004:411). In this research, the researcher measures the data of import in Batam on period 2002 to 2012. The data obtained from Batam Indonesia Free Zone Authority. In order to analyze the growth of export, the researcher show the data in form of table and graphic, as follows:

Table 4.3 Import Yearly Data

Year	Import (Million Dollars)
2002	1,369
2003	1,678
2004	5,216
2005	5,217
2006	4,720
2007	5,241
2008	7,522
2009	6,174
2010	7,039
2011	7,913
2012	8,536
Mean	5,241
Minimum	1,369
Maximum	8,536
Average	5,511

Source : IT Centre, BIFZA

Based on the table 4.3, it can be seen that the highest import is in 2012 as much 8,536 (million), while the lowest import is in 2002 as much 1,369 (million). The mean value of import is in 2007 as much as 5.241 (million) The average import in the period of 2002-2012 is 5,511 (million).



Source : processed data

Figure 4.2 Import Yearly Data Chart Periods of 2002-2012

Based on figure 4.2, import growth rate has dynamic change. It can be seen in 2005 until 2010, fluctuation value in inconsistent. In 2006, import growth decrease 497 (million) which in last year always has increase in import growth. In 2007, import growth has increase in 521 (million) with import value 5.241 (million). In 2009, import growth has decrease 1.348 (million) and still exist in value 6.174 (million). In 2010, import growth increase at 348 (million).

3. Economic growth (Y_1)

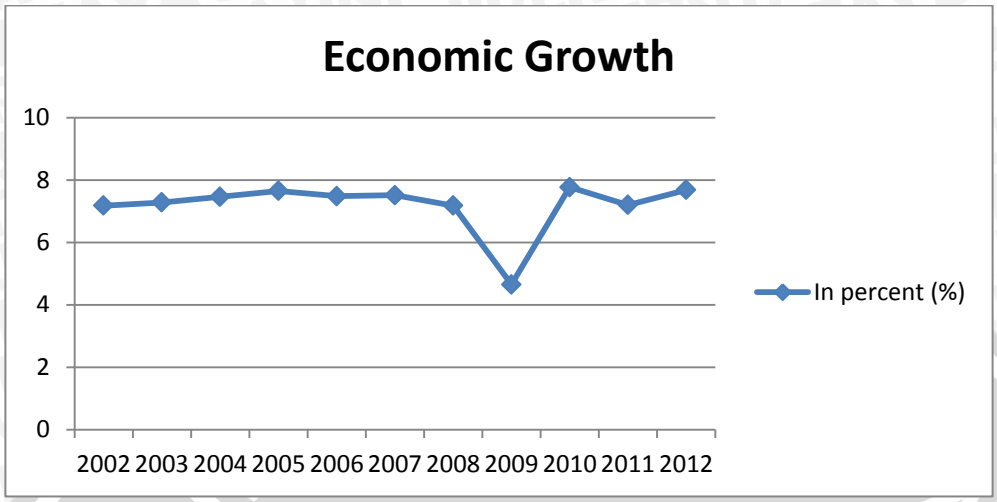
Economic growth is change of economic activity in general scale (Madura, 2007:122). In this research, the researcher measure the data of economic growth in Batam on period 2002 to 2012. The data obtained from Batam Indonesia Free Zone Authority. In order analyze the growth of economic growth, the researcher show the data in form of table and graphic, as follows:

Table 4.4 Economic Growth Yearly Data

Year	Economic Growth (%)
2002	7.18
2003	7.28
2004	7.46
2005	7.65
2006	7.48
2007	7.51
2008	7.18
2009	4.65
2010	7.77
2011	7.20
2012	7.68
Mean	7.46
Minimum	4.65
Maximum	7.77
Average	7.19

Source : IT Centre, BIFZA

Based on the table and chart above, it can be seen that the highest economic growth is in 2010 as much 7.77%, while the lowest economic growth is in 2009 as much 4.65% (million). The mean value of economic growth is in 2004 as much 7.46%. The average economic growth in the period of 2002-2012 is 7.19%.



Source : processed data

Figure 4.3 Economic Growth Yearly Data Chart Periods of 2002-2012

Based on Figure 4.3 show that economic growth in 2002 until 2012 has been dynamically change. This thing can be seen in 2002-2005 economic growth steadily increase, but in 2006 economic growth decrease 0,17% with economic growth value 7,48%. Economic growth in 2007 increase 0,03%. In 2008 economic growth value 7,18% show that economic growth has value decrease 0,33%.In 2009 economic growth value as 4,65% shows that drastic decreasing of economic growth value until 2,53%. But in the next year, Batam government can increase economic growth until 7,77%. Even though in 2010 has decrease value, but it doesn't as much as in 2009.

4. Employment (Y_2)

Employment is every people who work any receive salary and any other remuneration (Nurrachmad, 2008:1) In this research, the researcher measure the data of employment in Batam on period 2002 to 2012. The data obtained from Batam Indonesia Free Zone Authority. In order analyze the growth of

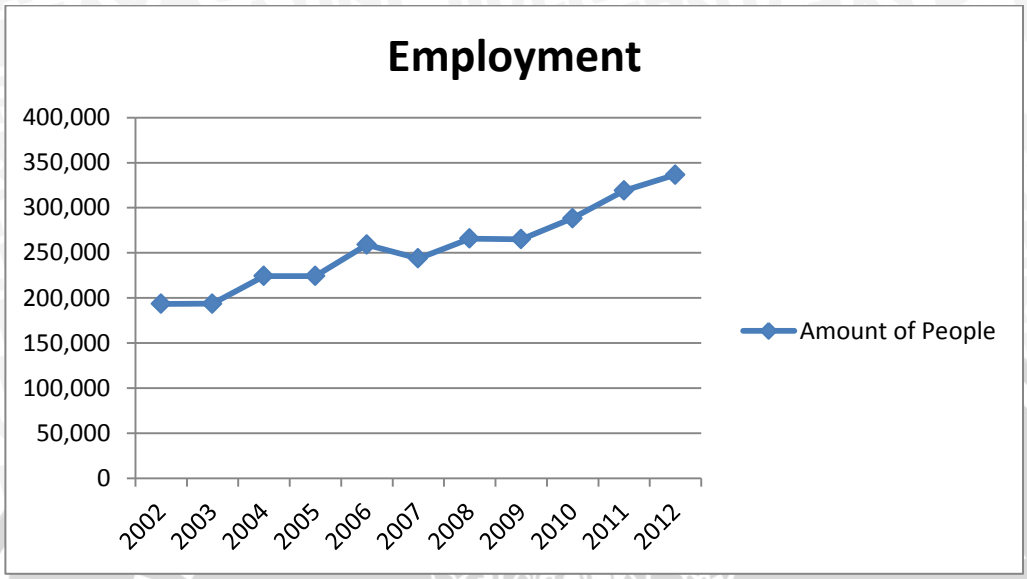
employment, the researcher show the data in form of table and graphic, as follows:

Table 4.5 Employment Yearly Data

Year	Employment (People)
2002	193,403
2003	193,565
2004	224,252
2005	224,379
2006	259,131
2007	243,856
2008	265,775
2009	265,047
2010	288,318
2011	319,082
2012	336,562
Mean	259,131
Minimum	193,403
Maximum	336,562
Average	255,761

Source : IT Centre, BIFZA

Based on the table 4.5, it can be seen that the highest employment is in 2012 as much 336,562 people, while the lowest employment is in 2003 as much 193,403 people. The mean value of employment is in 2006 as much 259,131 people. The average employment in the period of 2002-2012 is 255,761 people.



Source : processed data

Figure 4.4 Employment Yearly Data Chart Periods of 2002-2012

Based on figure 4.4 employment yearly data has fluctuation value from 2002 until 2012. It can be seen in 2007 employment growth has decrease as much as 15,275 people. But in next year amount of employment increase at 21,991 people. In 2009, employment growth decrease again 728 people and increase again at 2010 as much as 23.271 people. Years after, employment growth steadily increase until 2012.

D. Analysis and Result of Eviews 8 Approach

1. Research's result

The first stage of Eviews 8 is the data will be processed in the form of multiple linear regression using Eviews 8 program. the result of regression model will be tested by the OLS (Ordinary Least Square) method to ensure that the resulting models is BLUE (Best Linear Unbiased Estimator), so before testing the significance

of the model would first will be conducted classic assumption test that includes normality test, autocorrelation test, multicollinearity test, and heteroskedasticity test. If the resulting model is BLUE, so will be conducted the significance test to analyzing the result of regression. If the model still not BLUE, the researcher will conduct remedial in accordance with the assumption violation that happened. After getting the models that is BLUE, the researcher can interpretation and analyzing the resulting model and compare with the theory that already exist.

2. Descriptive statistic

The measurement of descriptive statistics is useful to facilitate the observation by calculating the mean, minimum value, maximum value, and standard deviation. Thus will be obtained a sample data outline description of the population that close to the truth. The descriptive statistic from variables will be used in this research as follow:

Table 4.6 Descriptive Statistic Variables

Date: 09/08/14 Time: 22:46
Sample: 2002 2012

	Y1	Y2	X1	X2
Mean	0.671991	0.924472	0.127548	0.124607
Median	0.697914	0.925422	0.126958	0.125778
Maximum	0.717972	0.933614	0.135521	0.131856
Minimum	0.429746	0.915962	0.121891	0.107891
Std. Dev.	0.081550	0.005809	0.004742	0.007970
Skewness	-2.693921	-0.026627	0.450857	-1.321079
Kurtosis	8.592334	2.055680	2.053981	3.308092
Jarque-Bera	27.63889	0.410014	0.782852	3.243130
Probability	0.000001	0.814642	0.676092	0.197589
Sum	7.391906	10.16919	1.403027	1.370674
Sum Sq. Dev.	0.066504	0.000337	0.000225	0.000635
Observations	11	11	11	11

Explanation :

Y1 : Economic Growth

Y2 : Employment

X1 : Export

X2 : Import

Based on the table 4.1, it can be concluded are:

a) The variable dependend economic growth has an average growth rate as much 67.1991% per year. The minimum growth rate as much 42.92746% and the maximum growth rate is 71.7972% with the standard deviation as much 8.1550%. The variable dependend employment has an average growth rate as much 92.4472% per year. The minimum growth rate as much 91.5962% and maximum growth rate is 93.3614% with the standard deviation 0.5809%.

b) The variable dependent economic growth is not normally distributed. It can be seen from the probability of Jarque-Bera on variable value is less than the significance level ($\alpha = 0.05$) shows that the value is rejecting the zeo hyphotesis (Ho) or in other words, the data are not normally distributed. The presence of data that is not normally distributed does not make problem on the significance of regresion analysis in to be performed, with the requirement is residual of the resulting regression is still normally distributed. While variable employment, export, and import already normally distributed. The normally distributed variables can be seen from the

probability of Jarque-Bera on variable value is greater than the significance level ($\alpha = 0.05$) shows that the value is failed to rejects the zero hyphotesis (Ho) which means that the data has been normally distributed.

3. Inferential statistic

a) Normality test

Normality test aims to test whether in regression models the residual variable has a normally distributed or not. Normality test can be performed use the Jarque-Bera test.

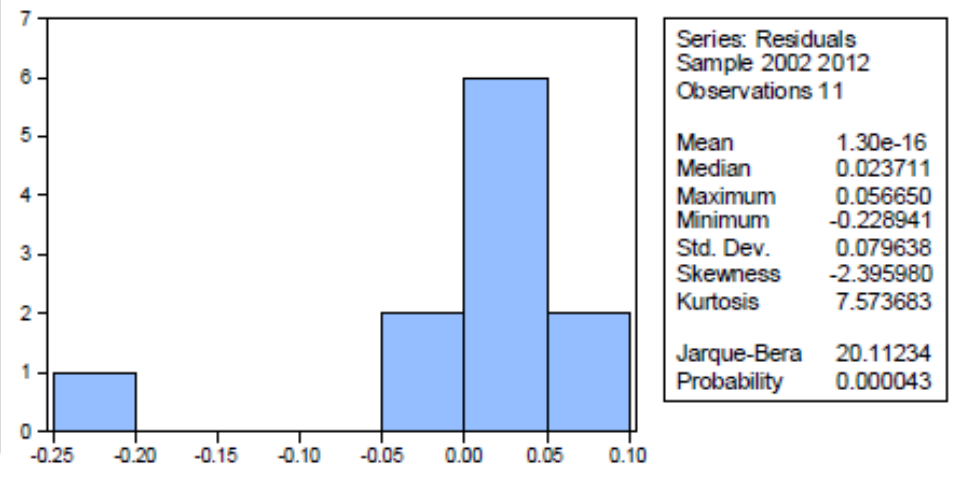


Figure 4.5 Normality test on economic growth (Y1)

Based on the figure 4.5 above, the value of probability Jarque-Bera is less than the significance level (0.000043 < 0.05). it shows that the hypothesis is reject, which means that the residual of a model of economic growth is not normally distributed thus t-test and F-test cannot be performed to see the significance of model.

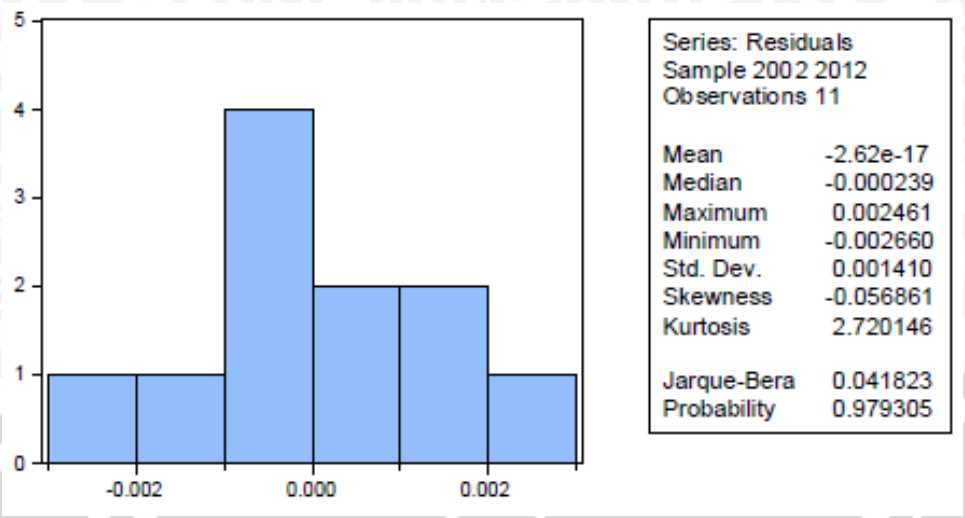


Figure 4.6 Normality test on employment (Y2)

Based on the figure 4.5 above, the value of probability Jarque-Bera is greater than the significance level (0.979305 > 0.05). it shows that the zero hypothesis is failed to reject, which means that the residual of a model of employment is normally distributed thus t-test and F-test can be performed to see the significance of model.

b) Classic assumption test

To obtain the regression model is BLUE, the researcher will conduct the classic assumption test before on the equation model of regression result. If the test of regression result there were violations classic assumption test, the researcher will conduct the remedial appropriate with the violation that occurred.

1) Heteroskedasticity test

The heteroskedasticity test aims to find out whether a variant of error is constant or not. On the variant of classic assumption of error should be

constant. Ghozali (2013:95) stated that there are two ways to detect the heteroskedasticity, such as: graphic (informal test) and statistic test method (formal test).

a. Graphical method

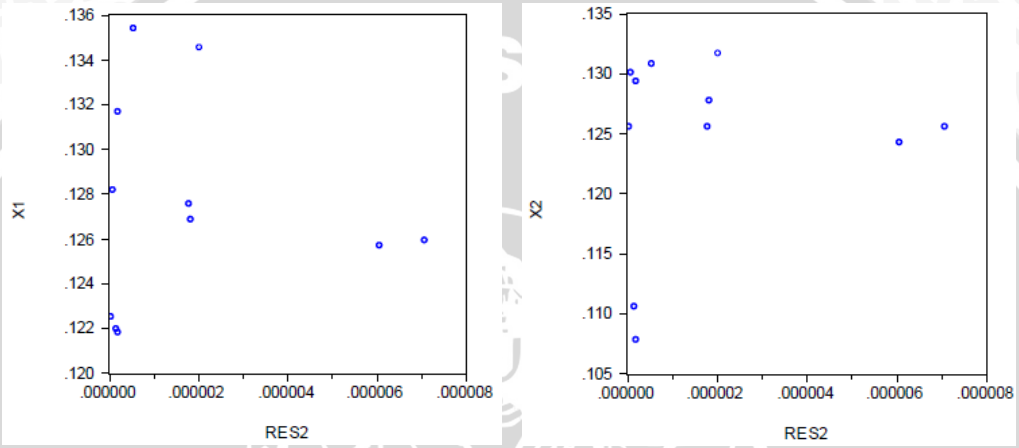


Figure 4.7 Residual of independent variables

Based on the figure 4.7 above, it show that the residuals are randomly scattered and does not following a specific pattern. this indicates the possibility of heteroscedasticity in the model because the residual plot spread out irregularly.

b. Statistic test method

There are some statistic test can be used to detect the presence of heteroscedasticity, such as:

1) Glejser test

Glejser test proposes to regress the absolute value of residual (AbsUi) against other independent variables to the regression equation, as follow:

Table 4.7 Glejser test on Y1

Heteroskedasticity Test: Glejser			
F-statistic	1.019832	Prob. F(2,8)	0.4032
Obs*R-squared	2.234766	Prob. Chi-Square(2)	0.3271
Scaled explained SS	2.749782	Prob. Chi-Square(2)	0.2529

Test Equation:
Dependent Variable: ARESID
Method: Least Squares
Date: 09/09/14 Time: 12:48
Sample: 2002 2012
Included observations: 11

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.355080	0.551141	0.644264	0.5374
X1	-7.716259	6.437876	-1.198572	0.2650
X2	5.426992	3.830713	1.416706	0.1943

R-squared	0.203161	Mean dependent var	0.047127
Adjusted R-squared	0.003951	S.D. dependent var	0.062443
S.E. of regression	0.062320	Akaike info criterion	-2.486073
Sum squared resid	0.031070	Schwarz criterion	-2.377556
Log likelihood	16.67340	Hannan-Quinn criter.	-2.554477
F-statistic	1.019832	Durbin-Watson stat	2.385336
Prob(F-statistic)	0.403165		

Based on the table 4.7 above, it shows that the export (X1) and import (X2) on the model of economic growth have the value that are not significant ($\alpha = 0.05$), namely are 0.2650 and 0.1943. The value indicates that there is no heteroscedasticity. The hypothyesis alternative in the glejser test is the presence of heteroscedasticity in the model. Thus when the value in glejser test is significant, it shows that there is heteroscedasticity

Table 4.8 Glejser test on Y2

Heteroskedasticity Test: Glejser			
F-statistic	0.251489	Prob. F(2,8)	0.7836
Obs*R-squared	0.650685	Prob. Chi-Square(2)	0.7223
Scaled explained SS	0.503343	Prob. Chi-Square(2)	0.7775

Test Equation:
Dependent Variable: ARESID
Method: Least Squares
Date: 09/09/14 Time: 12:49
Sample: 2002 2012
Included observations: 11

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.000526	0.008405	0.062542	0.9517
X1	-0.033690	0.098176	-0.343162	0.7403
X2	0.038715	0.058418	0.662734	0.5261

R-squared	0.059153	Mean dependent var	0.001053
Adjusted R-squared	-0.176059	S.D. dependent var	0.000876
S.E. of regression	0.000950	Akaike info criterion	-10.85245
Sum squared resid	7.23E-06	Schwarz criterion	-10.74393
Log likelihood	62.68847	Hannan-Quinn criter.	-10.92085
F-statistic	0.251489	Durbin-Watson stat	1.781326
Prob(F-statistic)	0.783566		

Based on the table 4.8 above, it shows that the export (X1) and import (X2) on the model of employment have the value that are not significant (α = 0.05), namely are 0.7403 and 0.5261. the value indicates that there is no heteroscedasticity. The hypothyesis alternative in the glejser test is the presence of heteroscedasticity in the model. Thus when the value in glejser test is significant, it shows that there is heteroscedasticity

2) White test

Basically White test similar to the Glejser test. According to White, this test can be done by regress squared residuals (U^2i) with the independent variables, independent variable squared, and multiplying (interaction) between the independently variables.

Table 4.9 White test on Y1

Heteroskedasticity Test: White			
F-statistic	0.173439	Prob. F(5,5)	0.9614
Obs*R-squared	1.625847	Prob. Chi-Square(5)	0.8981
Scaled explained SS	2.826527	Prob. Chi-Square(5)	0.7267

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 09/09/14 Time: 15:22
Sample: 2002 2012
Included observations: 11

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.764528	14.33482	-0.262614	0.8033
X1^2	-140.3536	1032.311	-0.135961	0.8972
X1*X2	-209.2003	2251.256	-0.092926	0.9296
X1	61.56492	125.2260	0.491631	0.6438
X2^2	124.2814	598.5124	0.207650	0.8437
X2	-3.229921	153.9235	-0.020984	0.9841

R-squared	0.147804	Mean dependent var	0.005766
Adjusted R-squared	-0.704391	S.D. dependent var	0.015504
S.E. of regression	0.020241	Akaike info criterion	-4.659749
Sum squared resid	0.002049	Schwarz criterion	-4.442716
Log likelihood	31.62862	Hannan-Quinn criter.	-4.796559
F-statistic	0.173439	Durbin-Watson stat	2.649775
Prob(F-statistic)	0.961387		

Based on the table 4.9 above, the result White test on economic growth model shows that Obs*R-Squared has a probability Chi-Square value is not significant 0.05 (p=0.8981). Thus, the alternative hypothesis (Ho) shows that the absence of heterocedasticity. The hypothyesis alternative in the white test is the presence of heteroscedasticity in the model. Thus when the value in white test is significant, it shows that there is heteroscedasticity

Table 4.10 White test on Y2

Heteroskedasticity Test: White			
F-statistic	0.807808	Prob. F(5,5)	0.5897
Obs*R-squared	4.915282	Prob. Chi-Square(5)	0.4263
Scaled explained SS	2.236034	Prob. Chi-Square(5)	0.8156

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 09/09/14 Time: 15:30
Sample: 2002 2012
Included observations: 11

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.000273	0.001851	-0.147239	0.8887
X1^2	-0.094603	0.133290	-0.709758	0.5096
X1*X2	0.154679	0.290677	0.532133	0.6174
X1	0.004791	0.016169	0.296292	0.7789
X2^2	-0.079891	0.077279	-1.033808	0.3486
X2	-0.000105	0.019874	-0.005282	0.9960

R-squared	0.446844	Mean dependent var	1.81E-06
Adjusted R-squared	-0.106312	S.D. dependent var	2.48E-06
S.E. of regression	2.61E-06	Akaike info criterion	-22.56932
Sum squared resid	3.42E-11	Schwarz criterion	-22.35229
Log likelihood	130.1313	Hannan-Quinn criter.	-22.70613
F-statistic	0.807808	Durbin-Watson stat	1.866052
Prob(F-statistic)	0.589732		

Based on the table 4.10 above, the result White test on employment model shows that Obs*R-Squared has a probability Chi-Square value is not significant 0.05 (p=0.4263). Thus, the alternative hypothesis (Ha) shows that the absence of heterocedasticity. The hypothyesis alternative in the white test is the presence of heteroscedasticity in the model. Thus when the value in white test is significant, it shows that there is heteroscedasticity

3) Breusch-Pagan Godfrey test (BPG test)

This test is used to test for heteroscedasticity in a linear regression model. It test whether the estimated variance of the residuals from a regression are dependent on the values of the independent variables.

Table 4.11 Breusch-Pagan Godfrey test on Y1

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	0.422405	Prob. F(2,8)	0.6693
Obs*R-squared	1.050661	Prob. Chi-Square(2)	0.5914
Scaled explained SS	1.826569	Prob. Chi-Square(2)	0.4012

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 09/09/14 Time: 15:45
Sample: 2002 2012
Included observations: 11

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.065209	0.145795	0.447263	0.6665
X1	-1.360537	1.703028	-0.798893	0.4474
X2	0.915606	1.013348	0.903545	0.3926

R-squared	0.095515	Mean dependent var	0.005766
Adjusted R-squared	-0.130607	S.D. dependent var	0.015504
S.E. of regression	0.016486	Akaike info criterion	-5.145654
Sum squared resid	0.002174	Schwarz criterion	-5.037137
Log likelihood	31.30110	Hannan-Quinn criter.	-5.214059
F-statistic	0.422405	Durbin-Watson stat	2.304792
Prob(F-statistic)	0.669277		

Based on the table 4.11 above, the result Breusch-Pagan Godfrey test on economic growth model shows that Obs*R-Squared has a probability Chi-Square value is not significant 0.05 (p=0.5914). Thus, the hypothesis as much 0.5923 is accepted by heteroscedasticity, it shows the absence of heterocedasticity. The hypothyesis alternative in the BPG test is the presence of heteroscedasticity in the model. Thus when the value in BPG test is significant, it shows that there is heteroscedasticity

Table 4.12 Breusch-Pagan Godfrey (BPG) on Y2

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.346358	Prob. F(2,8)	0.7174
Obs*R-squared	0.876581	Prob. Chi-Square(2)	0.6451
Scaled explained SS	0.398770	Prob. Chi-Square(2)	0.8192

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 09/09/14 Time: 15:46
Sample: 2002 2012
Included observations: 11

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.91E-06	2.36E-05	0.420543	0.6852
X1	-0.000195	0.000275	-0.709153	0.4984
X2	0.000135	0.000164	0.822852	0.4344

R-squared	0.079689	Mean dependent var	1.81E-06
Adjusted R-squared	-0.150389	S.D. dependent var	2.48E-06
S.E. of regression	2.67E-06	Akaike info criterion	-22.60570
Sum squared resid	5.68E-11	Schwarz criterion	-22.49719
Log likelihood	127.3314	Hannan-Quinn criter.	-22.67411
F-statistic	0.346358	Durbin-Watson stat	1.629461
Prob(F-statistic)	0.717362		

Based on the table 4.11 above, the result Breusch-Pagan Godfrey test on employment model shows that Obs*R-Squared has a probability Chi-Square value is not significant 0.05 (p=0.6451). Thus, the hypothesis as much 0.6451 is accepted by heteroscedasticity, it shows the absence of heterocedasticity. The hypothyesis alternative in the BPG test is the presence of heteroscedasticity in the model. Thus when the value in BPG test is significant, it shows that there is heteroscedasticity

4) Harvey test

This test is used to test for heteroscedasticity in a linear regression model. This is a modified Lagrange Multiplier test where the log of the errors squared, the residuals need not be normally distributed.

Table 4.12 Harvey test on Y1

Heteroskedasticity Test: Harvey			
F-statistic	4.016152	Prob. F(2,8)	0.0620
Obs*R-squared	5.511082	Prob. Chi-Square(2)	0.0636
Scaled explained SS	6.897281	Prob. Chi-Square(2)	0.0318

Test Equation:
Dependent Variable: LRESID2
Method: Least Squares
Date: 09/09/14 Time: 15:55
Sample: 2002 2012
Included observations: 11

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-6.804438	18.20496	-0.373768	0.7183
X1	-342.0205	212.6522	-1.608356	0.1464
X2	346.0355	126.5339	2.734725	0.0257

R-squared	0.501007	Mean dependent var	-7.310083
Adjusted R-squared	0.376259	S.D. dependent var	2.606464
S.E. of regression	2.058514	Akaike info criterion	4.508846
Sum squared resid	33.89983	Schwarz criterion	4.617363
Log likelihood	-21.79866	Hannan-Quinn criter.	4.440442
F-statistic	4.016152	Durbin-Watson stat	2.551997
Prob(F-statistic)	0.061998		

Based on the table 4.12 above, the result Harvey test on economic growth model shows that Obs*R-Squared has a probability Chi-Square value is not significant 0.05 (p=0.0636). Thus, the hypothesis as much 0.0620 is accepted by heteroscedasticity, it shows the absence of heterocedasticity. The hypothyesis alternative in the harvey test is the presence of heteroscedasticity in the model. Thus when the value in harvey test is significant, it shows that there is heteroscedasticity

Table 4.13 Harvey test on Y2

Heteroskedasticity Test: Harvey			
F-statistic	0.306838	Prob. F(2,8)	0.7441
Obs*R-squared	0.783687	Prob. Chi-Square(2)	0.6758
Scaled explained SS	0.524146	Prob. Chi-Square(2)	0.7695

Test Equation:
Dependent Variable: LRESID2
Method: Least Squares
Date: 09/09/14 Time: 15:56
Sample: 2002 2012
Included observations: 11

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-27.68139	18.15632	-1.524615	0.1659
X1	94.21501	212.0840	0.444234	0.6686
X2	9.745780	126.1958	0.077227	0.9403

R-squared	0.071244	Mean dependent var	-14.45007
Adjusted R-squared	-0.160945	S.D. dependent var	1.905399
S.E. of regression	2.053013	Akaike info criterion	4.503495
Sum squared resid	33.71890	Schwarz criterion	4.612012
Log likelihood	-21.76922	Hannan-Quinn criter.	4.435090
F-statistic	0.306838	Durbin-Watson stat	2.102843
Prob(F-statistic)	0.744057		

Based on the table 4.13 above, the result Harvey test on employment model shows that Obs*R-Squared has a probability Chi-Square value is not significant 0.05 (p=0.6758). Thus, the hypothesis as much 0.6758 is accepted by heteroscedasticity, it shows the absence of heterocedasticity. The hypothyesis alternative in the harvey test is the presence of heteroscedasticity in the model. Thus when the value in harvey test is significant, it shows that there is heteroscedasticity

5) Auto-Regressive Conditional Heteroskedasticity test (ARCH test)

ARCH test is a model are used to characterize and model observed time series. This test model assume the variance of the current error term to be a function of the actual sizes of the previous time periods' error term: often the variance is related to the squares of the previous error term.

Table 4.14 ARCH test on Y1

Heteroskedasticity Test: ARCH			
F-statistic	0.118481	Prob. F(1,8)	0.7396
Obs*R-squared	0.145939	Prob. Chi-Square(1)	0.7024

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 09/09/14 Time: 16:03
Sample (adjusted): 2003 2012
Included observations: 10 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.007081	0.005835	1.213606	0.2595
RESID^2(-1)	-0.120695	0.350643	-0.344210	0.7396

R-squared	0.014594	Mean dependent var	0.006323
Adjusted R-squared	-0.108582	S.D. dependent var	0.016226
S.E. of regression	0.017085	Akaike info criterion	-5.124410
Sum squared resid	0.002335	Schwarz criterion	-5.063893
Log likelihood	27.62205	Hannan-Quinn criter.	-5.190797
F-statistic	0.118481	Durbin-Watson stat	2.038552
Prob(F-statistic)	0.739561		

Based on the table 4.14 above, the result ARCH test on economic growth model shows that Obs*R-Squared has a probability Chi-Square value is not significant 0.05 (p=0.7024). Thus, the hypothesis as much 0.7024 is accepted by heteroscedasticity, it shows the absence of heterocedasticity. The hypothyesis alternative in the ARCH test is the presence of heteroscedasticity in the model. Thus when the value in ARCH test is significant, it shows that there is heteroscedasticity

Table 4.15 ARCH test on Y2

Heteroskedasticity Test: ARCH			
F-statistic	1.041541	Prob. F(1,8)	0.3373
Obs*R-squared	1.151951	Prob. Chi-Square(1)	0.2831

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 09/09/14 Time: 16:03
Sample (adjusted): 2003 2012
Included observations: 10 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.38E-06	9.93E-07	1.387072	0.2028
RESID^2(-1)	0.331367	0.324692	1.020559	0.3373

R-squared	0.115195	Mean dependent var	1.97E-06
Adjusted R-squared	0.004594	S.D. dependent var	2.56E-06
S.E. of regression	2.55E-06	Akaike info criterion	-22.74386
Sum squared resid	5.20E-11	Schwarz criterion	-22.68334
Log likelihood	115.7193	Hannan-Quinn criter.	-22.81024
F-statistic	1.041541	Durbin-Watson stat	1.728921
Prob(F-statistic)	0.337331		

Based on the table 4.14 above, the result ARCH test on economic growth model shows that Obs*R-Squared has a probability Chi-Square value is not significant 0.05 (p=0.2831). Thus, the hypothesis as much 0.2831 is accepted by heteroscedasticity, it shows the absence of heterocedasticity. The hypothyesis alternative in the ARCH test is the presence of heteroscedasticity in the model. Thus when the value in ARCH test is significant, it shows that there is heteroscedasticity

The result of heteroscedasticity based on the glejser test, white test, BPG test, harvey test, and ARCH test, as follows:

- ✓ There is no heteroscedasticity on the economic growth model
- ✓ There is no heteroscedasticity on the employment model

2) Multicollinearity test

Multicollinearity test aims to test whether the regression model found a high correlation or perfect between interdependently variables. To detect the presence of multicollinearity then conducted, as follow:

a. Regression model

To provide an overview how to detect multicollinearity with Eviews 8 program, the researcher used regression models to estimate the regression equation.

Table 4.15 Regression Model on Y1

Dependent Variable: Y1
Method: Least Squares
Date: 09/08/14 Time: 23:40
Sample: 2002 2012
Included observations: 11

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.354929	0.787430	0.450744	0.6641
X1	5.519879	9.197973	0.600119	0.5650
X2	-3.105662	5.473046	-0.567447	0.5860

R-squared	0.046337	Mean dependent var	0.671991
Adjusted R-squared	-0.192078	S.D. dependent var	0.081550
S.E. of regression	0.089038	Akaike info criterion	-1.772504
Sum squared resid	0.063422	Schwarz criterion	-1.663987
Log likelihood	12.74877	Hannan-Quinn criter.	-1.840908
F-statistic	0.194356	Durbin-Watson stat	2.233315
Prob(F-statistic)	0.827140		

Following the table 4.15 above, the result of multicollinearity detection on economic growth model shows that the R^2 value is lower than 80% (R^2=4.6337%), while all the independent variables (export and import) have the value of t-statistic are not significant at 0.05, because R2 is low and all

the independent variables are not significant, it indicates that the presence of multicollinearity between independently variables.

Table 4.16 Regression Model on Y2

Dependent Variable: Y2
Method: Least Squares
Date: 09/08/14 Time: 23:43
Sample: 2002 2012
Included observations: 11

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.786820	0.013938	56.45296	0.0000
X1	0.832930	0.162805	5.116107	0.0009
X2	0.252095	0.096874	2.602310	0.0315

R-squared	0.941121	Mean dependent var	0.924472
Adjusted R-squared	0.926402	S.D. dependent var	0.005809
S.E. of regression	0.001576	Akaike info criterion	-9.840868
Sum squared resid	1.99E-05	Schwarz criterion	-9.732351
Log likelihood	57.12478	Hannan-Quinn criter.	-9.909273
F-statistic	63.93627	Durbin-Watson stat	3.074584
Prob(F-statistic)	0.000012		

Following the table 4.16 above, the result of multicollinearity detection on employment model shows that the R^2 value is higher than 80% (R^2=94.1121%%), while all the independent variables (export and import) have the value of t-statistic are significant at 0.05. because R^2 is high and all the independent variables are significant, it indicates that the absence of multicollinearity between independently variables.

b. Correlation

Ghozali (2013:79) stated that the correlation between the independently variables exceeds 0.80 can be sign that serious problem or presence the multicollinearity.

Table 4.17 Correlation of Independently variables

	X1	X2
X1	1.000000	0.763747
X2	0.763747	1.000000

Based on table 4.17 above, it shows that the correlation between export (X1) and import (X2) as much 0.763747 is indicates the absence of multicolliniearity.

c. Auxiliary regression

From the F-table, the researcher obtained F-table as much 4.46. following table 4.15, it shows that the auxiliary regression on economic model is indicates the hypothesis about there is no presence the multicollinearity is accepted. It can be seen from the values of F-statistic less than F-table (0.194356 < 4.46). Following table 4.16, it shows that the auxiliary regression on employment model is indicates the hypothesis about there is the multicolliniearity is accepted. It can be seen from the values of F-statistic higher than F-table (63.93627 > 4.46).

d. Tolerance and Variance Inflation Factor (VIF)

The both of measurement show that each independent variables are explained by other independent variables.

Table 4.18 Tolerance and VIF

Variance Inflation Factors
Date: 09/09/14 Time: 11:23
Sample: 2002 2012
Included observations: 11

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.620046	860.3294	NA
X1	84.60270	1912.129	2.399867
X2	29.95423	647.7305	2.399867

Based on table 4.18 above, overall it can be concluded that there is no multicollinearity because VIF on export (X1) and import (X2) less than number 10 (VIF = 2.399867).

3) Autocorrelation test

Autocorrelation test aims to test whether a linear regression model there is a correlation or not between the residual in t-period with an error in period t-1 autocorrelation. Autocorrelation arises because sequential observations over time are related to each other. There are several ways that can be used to detect the presence or absence of autocorrelation, such as:

a. Durbin-Watson test

Durbin-Watson test is used to first order autocorrelation and requires the intercept (constant) in the regression model and there is no lag variable between the independent variables. In test using a number observation as much 11 (n = 11) and the number of independent variables as much 2 (k = 2)

as well as the significance (α = 0.05) then the researcher obtained values are dl = 0.519 and du = 1.297.

From the processing of Eviews 8 values obtained Durbin-Watson statistic (d) in the regression model of economic growth as much 2.233315. the result d value is between du and 4-du (1.297 < 2.233315 < 2.703), it means that Ho is fails to reject. Thus, it can be concluded there is no positive or negative autocorrelation in regression models of economic growth. The result d value in the regression model of employment as much 3.074584. this d value is located between 4-du and 4-dl (2.703 < 3.074584 < 3.481), it means that the results are inconclusive.

b. Lagrange Multiplier test (LM test)

LM test will produce Breusch-Godfrey (BG test) statistic. BG test conducted by regress the residual (Ut) using the autogressive model.

Table 4.19 LM test on Y1

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.050771	Prob. F(2,6)	0.9509
Obs*R-squared	0.183063	Prob. Chi-Square(2)	0.9125

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 09/09/14 Time: 17:20
Sample: 2002 2012
Included observations: 11
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.094892	1.105815	0.085812	0.9344
X1	-1.145736	13.08495	-0.087561	0.9331
X2	0.408788	6.865064	0.059546	0.9545
RESID(-1)	-0.138348	0.446887	-0.309581	0.7673
RESID(-2)	-0.012265	0.493602	-0.024848	0.9810

R-squared	0.016642	Mean dependent var	1.30E-16
Adjusted R-squared	-0.638930	S.D. dependent var	0.079638
S.E. of regression	0.101953	Akaike info criterion	-1.425649
Sum squared resid	0.062367	Schwarz criterion	-1.244788
Log likelihood	12.84107	Hannan-Quinn criter.	-1.539657
F-statistic	0.025386	Durbin-Watson stat	1.991598
Prob(F-statistic)	0.998375		

Based on the table 4.19 above, the result LM test on economic growth model shows that Obs*R-Squared has a probability Chi-Square value is not significant 0.05 (p=0.183063). it means that there is no autocorrelation.

Table 4.20 LM test on Y2

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	4.603847	Prob. F(2,6)	0.0614
Obs*R-squared	6.660092	Prob. Chi-Square(2)	0.0358

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 09/09/14 Time: 17:21
Sample: 2002 2012
Included observations: 11
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.004893	0.010307	-0.474754	0.6517
X1	0.086059	0.121766	0.706760	0.5062
X2	-0.050241	0.072187	-0.695975	0.5125
RESID(-1)	-1.080238	0.357062	-3.025347	0.0232
RESID(-2)	-0.616083	0.356918	-1.726117	0.1351

R-squared	0.605463	Mean dependent var	-2.62E-17
Adjusted R-squared	0.342438	S.D. dependent var	0.001410
S.E. of regression	0.001143	Akaike info criterion	-10.40727
Sum squared resid	7.84E-06	Schwarz criterion	-10.22641
Log likelihood	62.24001	Hannan-Quinn criter.	-10.52128
F-statistic	2.301924	Durbin-Watson stat	2.361900
Prob(F-statistic)	0.172964		

Based on the table 4.20 above, the result LM test on employment model shows that Obs*R-Squared has a probability Chi-Square value is not significant 0.05 (p = 6.660092). it means that there is no autocorrelation.

c) Multiple Linear Regression

The researcher used a multiple linear regression model to determine the effect of international variables on industrial sector variables. The international variables represented by export and import. And the industrial sector variables represented by economic growth and employment.

Table 4.21 Regression Model on Y1

Dependent Variable: Y1
Method: Least Squares
Date: 09/08/14 Time: 23:40
Sample: 2002 2012
Included observations: 11

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.354929	0.787430	0.450744	0.6641
X1	5.519879	9.197973	0.600119	0.5650
X2	-3.105662	5.473046	-0.567447	0.5860

R-squared	0.046337	Mean dependent var	0.671991
Adjusted R-squared	-0.192078	S.D. dependent var	0.081550
S.E. of regression	0.089038	Akaike info criterion	-1.772504
Sum squared resid	0.063422	Schwarz criterion	-1.663987
Log likelihood	12.74877	Hannan-Quinn criter.	-1.840908
F-statistic	0.194356	Durbin-Watson stat	2.233315
Prob(F-statistic)	0.827140		

Table 4.22 Regression Model on Y2

Dependent Variable: Y2
Method: Least Squares
Date: 09/08/14 Time: 23:43
Sample: 2002 2012
Included observations: 11

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.786820	0.013938	56.45296	0.0000
X1	0.832930	0.162805	5.116107	0.0009
X2	0.252095	0.096874	2.602310	0.0315

R-squared	0.941121	Mean dependent var	0.924472
Adjusted R-squared	0.926402	S.D. dependent var	0.005809
S.E. of regression	0.001576	Akaike info criterion	-9.840868
Sum squared resid	1.99E-05	Schwarz criterion	-9.732351
Log likelihood	57.12478	Hannan-Quinn criter.	-9.909273
F-statistic	63.93627	Durbin-Watson stat	3.074584
Prob(F-statistic)	0.000012		

d) Hypothesis test

1) Coefficient of determination

The coefficient of determination (R^2) is used to measure how far the ability of the model explains the variation of the dependent variables. The value of coefficient of determination is between zero and one. The small value of R2 means the ability of the independent variables in explaining the dependent variable is very limited. If the value is close to one means that the independent variables provide almost all of the information that needed to predict the variation of the dependent variable. The fundamental weakness using the coefficient of determination is biased against the number of independent variables included in the model.

Based on table 4.21 above, the regression on economic growth model shows that the value of adjusted R-Squared as much -0.192078, it means that the variant of two independent variables export (X1) and import (X2) are able to explain 19.2% variation in dependent variables of economic growth. According to Gujarati in Ghozali (2013:60) stated that if the empirical test obtained adjusted R-Squared value is negative, then the adjusted R-Squared value is considered zero. The value of standard error of estimate (S.E of Regression) on economic growth model as much 0.089038, it shows that the regression model is appropriate to predict the independent variables because the standard error value is small.

Based on table 4.22 above, the regression on employment model shows that the value of adjusted R-Squared as much 0.926402, it means that the variant of two independent variables export (X1) and import (X2) are able to explain 92.6% variation in dependent variables of employment. While the rest (100% - 92.6% = 7.4%) is explained by other variables not examined. Thus, it can be said that the model is a very good regression model. The value of standard error of estimate (S.E of Regression) on employment model as much 0.01576, it shows that the regression model is very appropriate to predict the independent variables. The smaller of S.E of regression value will be more appropriate to predict the independent variables.

2) F-Statistic test

F-statistic test is used to know the significance result of the regression analysis. If the result is significance, thus Ho is rejected and H_1 is accepted. Vice versa, when the result is not significance thus Ho is accepted and H_1 is rejected.

Based on table 4.21 above, the regression on economic growth model is obtained F-statistic as much 0.194356 with probability (Prob F-statistic) as much 0.827140. Therefore the probability is higher than 0.05, it can be concluded that the regression coefficients of export (X1) and import (X2) are have not effect on economic growth.

Based on table 4.22 above, the regression on employment model is obtained F-statistic as much 63.93627 with probability (Prob F-statistic) as much 0.000012. Therefore the probability is less than 0.05, it can be concluded that the regression coefficients of export (X1) and import (X2) are have effect on employment.

3) t-statistic test

t-test is used to determine whether there is an effect or individual of a export and import variable to economic growth and employment, as well as to prove the most dominant variable.

Based on table 4.21 above, the regression on economic growth model show that the independent variables export (X1) and import (X2) does not have effect on economic growth. It can be seen from the both significance of probabilities is greater than 0.05, the value of probabilities as much 0.5650 and 0.5860. Thus, it can be concluded that the economic growth variables give not affected by the export and import with the mathematical equation is

$Y1 = 0.354929 + 5.519879X1 – 3.105662X2$

The mathematical equation above, it can be interpretation are the constant value as much 0.354929 shows that if the variables considered constant, the average increase economic growth by 0.35%. The regression coefficient X1 shows that every increase the number of export will be increasing the economic growth as much 5.52%. While the regression

coefficient X2 shows that every increase the number of import will be reducing the economic growth as much 3.11%.

Based on table 4.22 above, the regression on employment model shows that the independent variables export (X1) and import (X2) have effect on employment. It can be seen from the both significance of probabilities is less than 0.05, the value of probabilities as much 0.0009 and 0.0315. Thus, it can be concluded that employment variables give affected by the export and import with the mathematical equation is

Y2 = 0.786820 + 0.832930X1 + 0.252095X2

The mathematical equation above, it can be interpretation are the constant value as much 0.786820 shows that if the variables considered constant, the average increase employment by 0.79%.the regression coefficient X1 shows that every increase the number of export will be increasing the employment as much 0.83%. while the regression coefficient X2 shows that every increase the number of import will be increasing the employment as much 0.25%.

Based on the result of the hypothesis test can be concluded are:

Hypothesis 1 : The Influence of Export on Economic Growth

The result of statistical calculation in the table 4.21 shows that export coefficient is 5.519879. This number indicates the relationship between export and economic growth is positive. The increasing of 1% change in export is resulting in the increasing of 5.52% in the economic growth. Actually this coefficient doesn't has

meaning partially, because the export is statistically doesn't has significant effect on the economic growth. The result of the research about the relationship of export and economic growth is not supported by research conducted by Achchutan & Velnampy (2013) which found that export has a significant and positive influence on economic growth. The result of the research also not supported by Chinyere and Ugochukwu (2013), which found that oil and non-oil export have positive and significant influence on economic growth in Nigeria proxied by GDP

Hypothesis 2 : The influence of import on economic growth

The result of statistical calculation in the table 4.21 shows that import coefficient is 3.105662. This number indicates the relationship between import and economic growth is negative. The increasing of 1% change in import is resulting in the decreasing of 3.11% in the economic growth. Actually this coefficient doesn't has meaning partially, because the import is statistically doesn't has significant effect on the economic growth. The result of the research about the relationship of import and economic growth is supported by Kogid (2011). Kogid (2011) found that economic growth is significantly influenced by import. Adversely, the result of the research is not supported by research conducted by Konya & Singh (2006) which found that import has positive influence on economic growth.

Hypothesis 3 : The influence of export on employment

The result of statistical calculation in table 4.22 shows that export coefficient is 0.832930. This number indicates the relationship between export and employment is positive. The increasing of 1% change in export is resulting in the increasing of

0.83% with the condition other variables is constant. The result of the research about the relationship of export and employment is supported by research conducted by Kiyota (2014) which found that the export have potential effect (negative or positive effect) on employment, it caused by export oriented in each countries and depend on the classification of industries (manufacturing or non-manufacturing).

Hypothesis 4 :The influence of import on employment

The result of statistical calculation in table 4.22 shows that the import coefficient is 0.252095. This number indicates the relationship between import and employment is positive. The increasing 1% change in import is resulting in the increasing of 0.25% in the employment.

CHAPTER V

CONCLUSION AND RECOMMENDATION

A. Conclusion

Based on the discussion above, the aims of the research are to analyze the influence of export on economic growth, the influence of import on economic growth, the influence of export on employment, and the influence of import on employment. Analyzing those influence are important for BIFZA because it provides BIFZA with the information and understanding on factors that they should put into consideration in order to develop the Batam island in international economy. The conclusions of this study are summarized as follows:

1. The research found that export has influence on economic growth.

   In the result of F-statistic test and t-statistic test, the export does not has influence on the economic growth. But the regression coefficient shows that the increasing number of export, will increase the percentage of economic growth as much as 5.52%. Thus, it can be said that the export has positive influence on economic growth.

2. Research results also found that import has influence on economic growth

   In the result of F-statistic test and t-statistic test, the import does not has influence on the economic growth. But the mathematical regression shows that the increasing number of import, will decrease the percentage of economic

growth as much as 3.11%. Thus, it can be said that the import has negative influence on economic growth.

3. The result of the research result prove that export has influence on employment

   Export has influence on employment, because the F-test value of export is significant. Based on the t-test, the increasing number of export will also increase the employment percentage as much as 0.83%.

4. Result of this study reveal that import has influence on employment

   Import has influence on employment, because the F-test value of export is significant. Based on the t-test, the increasing number of import will also increase the employment percentage as much as 0.25%.

B. Recommendation

1. For the Batam Indonesia Free Zone Authority (BIFZA)

This study can be used as a consideration for Batam Indonesia Free Zone Authority (BIFZA) to make decision in the next policy. BIFZA should have more control the international trade flows by restrict imports and increase exports, in order to increase the economic growth (especially in the industrial sector) that will be followed by the increasing number of employment in Batam area.

2. For the companies

This research can be used as a material for making the future decision related with export, import, economic growth, and employment. My recommendation

are keeping good relationship between government, industry company, and employment can keep good rate of international trade, because no party can survive alone. The government regulation can be hindrance, but dispensation is still possible. Determining high amount of employment turn over will give impact to bad productivity. High demand can't be fulfilled if human resources not enough.

3. **For the next researcher**

For the next researcher who wants to conduct a research on industrial sector are suggested to add other variables to make differences and create a better research. This study period was limited in the period of 2002-2012, for further research is recommended to add a newer study period to produce better research results.

REFERENCES

Administrasi dan Perencaan. 2007. *Laporan Kegiatan Pendataan Industri di Pulau Batam tahun 2006*. Batam : Otorita Pengembangan Daerah Industri Pulau Batam.

Agusmidah. 2010. *Dinamika Hukum Ketenagakerjaan Indonesia*. Medan : USU Press 2010.

Ahmad, Aulia. 2010. Globalisasi Ekonomi dan Produksi Crude Palm Oil (CPO) di Sumatera Utara. *Thesis*. Medan: Universitas Sumatera Utara

Amir. 2004. *Seluk Beluk Perdagangan Luar Negeri*. Jakarta : Percetakan Victory Jaya Abadi

Andayani, Dewi. 2007. Analisis Faktor-Faktor yang Mempengaruhi Produktivitas Tenaga Kerja di Sumatera Utara. *Thesis*. Medan : Universitas Sumatera Utara.

Badan Pusat Statistik. 2013. *Statistik Perdagangan Luar Negeri Indonesia*. Jakarta : Direktorat Jenderal Pengembangan Ekspor Nasional

Ball, Don A, dkk. 2006. *International Business The Challenge of Global Competition 10th edition*. America. : Mc.Graw-Hill Irwin

Bishop, Eric. 2004. *Finance of International Trade*. Oxford : Elsevier Butterworth-Heinemann

Centre for Data and Information Centre. 2012. *Development Progress of Batam*. Batam : Badan Pengusahaan Batam

Clark, et al. 2004. *Arbitrage, Hedging, and Speculation*. United States of America : Greenwood Publising Group,Inc

Deloitte. 2012. *Indonesian Customs Guide*. Jakarta : Deloitte Tax Sollution

Eitman, David K, et al. 2006. *Multinational Business Finance, Eleven edition*. London : Addison Wesley

Ghozali, H. Imam. 2013. *Analisis Multivariat dan Ekonometrika Teori, Konsep, dan Aplikasi dengan Eviews 8*. Semarang : UNDIP

Gilarso, T. 2004. *Pengantar Ilmu Ekonomi Makro*. Yogyakarta : KANSIUS

Ginting, Ramlan. 2009. *Metode Pembayaran Perdagangan Internasional*. Jakarta : Universitas Trisakti

Glaeser, Edward Ludwig, et al. 1992. Growth in Cities. USA : University of Chicago

Hakim, Rahman. 2012. Hubungan Ekspor, Impor, dan Produk Domestik Bruto (PDB) Sektor Keuangan Perbankan Indonesia Periode Tahun 2000:Q1 - 2011: Q4: Suatu Pendekatan dengan Model Analisis Vector Autoregression (VAR). *Thesis.* Jakarta : Universitas Indonesia

Hatta. 2006. *Perdagangan Internasional dalam sistem GATT & WTO aspek-aspek hukum & non hukum*. Bandung : PT. Refika Aditama

Konya & Singh. 2006. Exports, Imports, and Economic Growth in India. *International Journal*. India : CSS Haryana Agricultural University

Lind, et al. 2007. *Statistical Technique in Businessand Economic with Global Data Sets, edition 13*. New York : MCGraw Hill

Madura, J & Fox. 2007. *International Financial Management*. London : Thomson

Madura, Jeff. 2007. *Pengantar Bisnis, edisi 4*. London : Thomson

Madura, Jeff. 2012. *International Corporate Finance*. Mason : South-Western Cengage Learning.

Manurung, Adler Haymans. 2008. *Modal untuk Bisnis UKM*. Jakarta : PT. Kompas Media Nusantara

Manurung, Mandala & Rahardja. 2008. *Teori Ekonomi Makro*. Jakarta : Lembaga Penerbit Fakultas Ekonomi Universitas Indonesia

Marketing Division. 2012. *Batam Industrial Estate Profile*. Batam : BIFZA BATAM

Marketing Division. 2013. *Expanding Our Horizon Cost of Foing Business in Batam*. Batam : BIFZA BATAM

Muijs, Daniel. 2011. *Doing Quantitative Research in Education with SPSS (2nd edition)*. London : SAGE Publications Inc

Nurrachmad, Much. 2008. *Cara Menghitung Upah Pokok, Uang Lembur, Pesangon, & Dana Pensiun*. Jakarta : Visimedia

Pinem, Juniartha R. 2009. Analisis Pengaruh Ekspor, Impor, Kurs Nilai Tukar Rupiah terhadap cadangan devisa Indonesia. *Undergraduate Thesis*. Medan: Universitas Sumatera Utara

Prasetyo, Eko. 2011. Analisis Pengaruh Penanaman Modal DalamNegeri (PMDN), Tenaga Kerja, dan Ekspor terhadap Pertumbuhan Ekonomi di Jawa Tengah Periode Tahun 1985 -2009. *Undergradute Thesis*. Semarang : Universitas Negeri Semarang

Pratama, Bambang heri. 2012. Analisis Yuridis Pembayaran Melalui Internet Banking dengan KUHP Perdata dan Undang Undang Perbankan (study pada Bank X). *Thesis*. Medan: Universitas Sumatera Utara

Salim, Joko. 2008. *Panduan Praktis Bermain Valas Lewat Internet*. Jakarta : Media Kita

Setianto, dkk. 2008. *Panduan Lengkap Mengurus Segala Dokumen Perijinan, Pribadi, Keluarga, Bisnis, & Pendidikan*. Jakarta : Forum Sahabat.

Siswoediro, Henry S. 2008. *Buku Pintar Pengurusan Perizinan & Dokumen*. Jakarta Selatan : Visimedia

Seyoum, Belay. 2009. *Export-Import Theory, Practices, and Procedures*. New York: Routledge

Sjafrizal. 2008. *Ekonomi Regional Teori dan Aplikasi*. Medan : Badouse Media

Sugianto. 2007. *Pengantar Kepabean dan Cukai*. Jakarta : Cikal Sakti

Sugiyono. 2009. *Metode Penelitian Kuantitatif dan Kualitatif*. Bandung : CV.Alfabeta

Sukirno, Sadono, dkk. 2006. *Pengantar Bisnis*. Jakarta : Kencana Prenada Media Group

Suliyanto. 2006. *Metode Riset Bisnis*. Yogyakarta : ANDI

Supangat, Andi. 2004. *Statistika: Dalam Kajian Deskriptif, Inferensial, dan nonparametic, edisi I*. Jakarta : Kencana

Sylvester & Oluwatobi. 2012. Foreign Trade and Economic Growth : Evidence from Nigeria. *Arabian journal of busines and management review*. Nigeria :

Department of Economics, Colege of Social and Management Caleb University, Imota Lagos.

Szirmai, Adam. 2005. *The Dynamics of Socio-Economic Development an Introduction*. UK : Cambridge University Press

Reposisi Hubungan Singapura dan kepulauan riau. Batampos.co.id. 2014. Accessed: May18th 2014.

Tambunan, T. H. Tulus. 2004. *Globalisasi dan Perdagangan*. Bogor Selatan : Ghalia Indonesia

Tandelilin, Eduardus. 2010. *Porfolio dan Investasi*. Yogyakarta : KANSIUS

Tandjung, Marolop. 2011. *Aspek dan Prosedur Ekspor-Impor*. Jakarta : Salemba Empat

Ugochukwu & Chinyere. 2013. The impact of Export Trading on Economic Growth in Nigeria. *International Journal of Economic Business and Finance*. Nigeria : Department of Banking and Finance

Umar, Husein. 2007. *Metode Penelitian untuk Skripsi dan Tesis Bisnis*. Jakarta : PT. Raja Grafindo Persada

Utoyo, Bambang. 2006. *Geografi membuka cakrawala Dunia*. Jakarta : Setia Purna

Widjajanta, Bambang, dkk. 2007. *Mengasah Kemampuan Ekonomi*. Jakarta : CV. Citra Praya

Velnampy & Achchuthan. 2013. Export, Import, and Economic Growth : Evidence from Sri Lanka. *Journal of Economic and Sustainable Development*. Sri Lanka : IISTE

Appendix

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1. SD Negeri I Kutorejo Graduated 2004
2. SMP Negeri I Pandaan Graduated 2007
3. SMA Negeri I Pandaan Graduated 2010
4. University of Brawijaya Graduated 2014

Organization experience :
1. Committee of "Perumusan Peran dan Fungsi Batam Techno Park dalam Mendukung Industri Bebasis Inovasi dalam Kerangka SIDa" 2013
2. Coordinator of Funds Business at Himpunan Mahasiswa Bisnis 2010

Internship Experience : Batam Indonesia Free Zone Authority, Kepulauan Riau 2013

Research experience : The Influence of International Trade on Industrial Sector (Study at Batam Indonesia Free Zone Authority)