

# THE INFLUENCE OF INTERNATIONAL TRADE ON INDUSTRIAL SECTOR (A Study at Batam Indonesia Free Zone Authority, Periods of 2002-2012)

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## ABSTRAK

Dengan adanya Batam sebagai kawasan perdagangan bebas, Batam berjuang keras untuk mempertahankan eksistensi di perdagangan internasional. Perdagangan internasional terdiri dari kegiatan ekspor dan impor (Ball, 2006:37). Eksistensi kegiatan ekspor dan impor diharapkan mampu mencapai pertumbuhan ekonomi yang optimal, serta memberi dampak positif pada jumlah tenaga kerja pada proses produksi. Pertumbuhan ekonomi dan tenaga kerja sebagai indikator mengukur sektor industri (Glaeser, 1992:20). Sektor industri sangat penting untuk memperkuat struktur ekonomi dan devisa, memperluas tenaga kerja, mengurangi ketergantungan pada produk luar negeri, dan memperbaiki bisnis skala kecil medium (Utoyo, 2006:90). Penelitian ini fokus pada pertanyaan penelitian, yakni: apakah ekspor memiliki pengaruh pada pertumbuhan ekonomi, apakah impor memiliki pengaruh pada pertumbuhan ekonomi, apakah ekspor memiliki pengaruh pada tenaga kerja, dan apakah impor memiliki pengaruh pada tenaga kerja. Data pada pertumbuhan ekonomi, tenaga kerja, ekspor, dan impor dari tahun 2002 sampai 2012 telah dikumpulkan sebagai penelitian. Penelitian ini menunjukkan bahwa, ekspor tidak memiliki pengaruh signifikan terhadap pertumbuhan ekonomi serta impor tidak memiliki pengaruh signifikan terhadap pertumbuhan ekonomi. Namun disisi lain, ekspor memiliki pengaruh signifikan positif terhadap tenaga kerja dan impor juga memiliki pengaruh signifikan terhadap tenaga kerja. Variabel dominan yang mempengaruhi sektor industri adalah ekspor-impor pada tenaga kerja dan koefisien determinasi sebesar 92.6%.

**Kata kunci : ekspor, impor, pertumbuhan ekonomi, dan tenaga kerja.**

## ABSTRACT

*As Free Trade Zone, Batam strive to defend the existency in international trade. The international trade consists of export and import activities (Ball, 2006:37). The existence of export and import activities are expected to reach the optimal economic growth, as well as give positive impact on the amount of employment in process of productivity. The economic growth and employment as measurement indicator of industrial sector (Glaeser, 1992:20). Industrial sector is very important to strengthen the economic structure and foreign exchange, expanding employment, reducing the dependence on foreign product, and improving the SMEs (Utoyo, 2006:90). This research is focus on the research question as does export has influence on economic growth in Batam, does export has influence on employment in Batam, does import has influence on economic growth in Batam, and does import has influence on employment in Batam. This research used annual time series data from 2002-2012, the data was obtained from Batam Indonesian Free Trade Zone (BIFZA). The research shows that, the export does not has significant influence on economic growth as well as the import does not has significant influence on economic growth. But the other side, the export has positive significant influence on employment and the import also has significant influence on employment. The dominant variable in influencing the industrial sector is export-import on the employment and the determination coefficient is 92.6%.*

**Keywords : export, import, economic growth, and employment.**

## INTRODUCTION

The economic globalization are getting stronger by the presence of international trade (Tambunan, 2004:1). The international trade consists of export and import activities (Ball, 2006:37). The existences of export and import activities the countries expected to reach the optimal economic growth. 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 (good and services) is increase.

Currently, Batam is known as the investment and tourism destination supported by modern facilities and infrastructures. Thus the government make into Batam as the first Free Trade Zone (FTZ) in Indonesia (Frost & Sullivan, 2011:29). Batam Free Trade Zone (FTZ) has become an effort that accelerates the economic growth and expanding the employment in Riau island. Industrial sector is the dominant sector in Batam economic structures. According to Utoyo, 2006:90, the industrial sector is very important to strengthen economic structure and foreign exchange, expanding employment, reducing the dependence on foreign product, and improving the SMEs.

In this research the development of industrial sector is measured by economic growth and employment. This research will focus on the research question as does export has influence on economic growth in Batam, does export has influence on employment in Batam, does import has influence on economic growth in Batam, and does import has influence on employment in Batam. The variables used are export, import, economic growth, and employment. This research uses annual time series data from 2002-2012, obtained from the Batam Indonesia Free Trade Zone Authority (BIFZA).

## THEORETICAL REVIEWS

### A. International Trade

The international trade is the exchange of goods and services across national boundaries or foreign country (Seyoum, 2009:7). According to Ball (2006:37), the international trade consist of export and import activities. Which is the export as sale activities and the import as buy activities (Pratama, 2012:24). When a country wants and advanced economy, this country have to perform the international trade. Because the international

trade is a significant factor to accelerate the progress of national economic in the world (Hatta, 2009:1). The presence of international trade makes the country be able to fulfill the equipment that cannot be produce in their country itself.

### B. Export

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 (Pinem, 2009:20). The presence of export can be advanced the income in country, especially for industrial sector because the existence of goods and services in international trade 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. In international trade, the export is included the demand.

### C. Import

Import had opposite characteristic with export. The import is equal to trading with the way of entering goods from foreign country to Indonesian custom to comply with the requirement applicable (Pinem, 2009:36). aImport the goods useful for an economy and create high competitiveness of industry in country. Nevertheless, the government has to do limitation on import to protect the domestic products and keep the stability of foreign exchange.

### D. Industrial Sector

Industry is all of human activity in economic field that are productive and commercial to fulfill the necessities of life (Utoyo, 2006:89). The industry can be classified based on certain criteria as follows; based on raw material, labor, market, capital, or the type of technology. According Glaeser (1992:20), the industrial sector can also measured by economic growth and employment. Utoyo (2006:90) stated that, some aims of industrial sector are; strengthen economic structure and foreign exchange, expanding employment, reducing the dependence on foreign product, and improving the SMEs.

### E. Economic Growth

Economic growth is the change of economic activity in general scale (Madura, 2007:122). Thus, every country will try to reach the most optimal economic growth. When the country has reached the optimal level economic growth, those indicates

the purchasing ability of society is high cause of the society's income is high.

### F. Employment

The employment is every people who work with receiving salary and any other remuneration (Nurrachmad, 2008:1). Every worker who will work in company or government agency will make work agreement with company or agency itself. The main issue of employment comes from the lack of competitiveness the employment against growth rate of national employment. It caused by demography factors, the development of education, and the availability of employment opportunities.

### G. Relation The Export on Industrial Sector

Increasing of export create the increasing of industry level. Ahmad (2010:8) stated that, an industry be able to growth quickly when the domestic industry sell their industries output (goods and services) to international area rather than to national market. The industrial sector can use the economic growth and employment as measurement (Glaeser, 1992:20).

The export is one of sources to produce the foreign exchange (Amir, 2004:101). Thus, increasing the amount of export make the foreign exchange in country is increase. The amount of foreign exchange can develop the economic growth highly.

And the other side, when the export is increase, the company need to add more employment to increase the productivity in fulfilling the demand. Thus, company will recruit more employment in order to improve th eproductivity. It also means that increasing the export will increasing the employment.

### H. Relation The Import on Industrial Sector

Doing the import is mostly consist of the materials and instruments needed by the domestic industry, but the domestic industry cannot fulfill its needs (Gilarso, 2008:293). Thus the industry need import to fulfill their needs in order to increasing the productivity of industrial sector. Nevertheless, the industry must doing the limitation on import to protect the domestic products and keep the stability of foreign exchange. Because the import will be lowering the foreign exchange (Sukirno, 2006:412). The industrial sector can use the economic growth and employment as measurement (Glaeser, 1992:20).

When the import is increase, the economic growth will decrease. It caused by the country (domestic industry) will transfer the foreign

exchange saving into other country (foreign industry). it will be dangerous, when the industry is over doing the import. Actually, import is quite good for economic growth activity as long as industry imported material that cannot produce in country.

The other side, the impact of import on employment is not always give negative impact. Negative impact because the import can decrease the employment with certain condition. The condition is when the industry import finished goods or the company as distributor of multinational company. And the positive impact, the import can increase the employment when the industry importing raw material or component. Because the raw material or component is still needed more employment to process the raw material into finished goods.

### I. Hypothesis Model

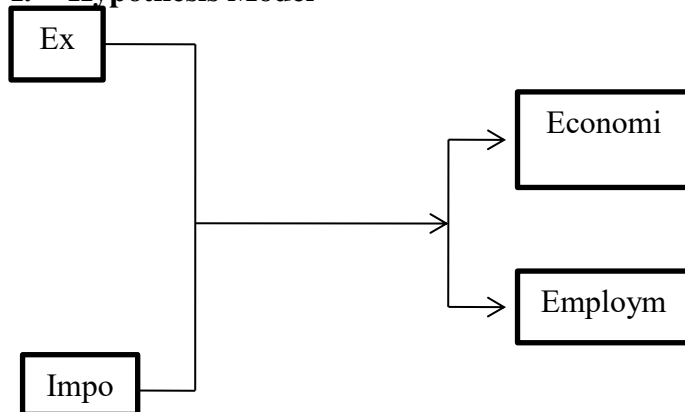


Figure 1. Hypothesis Model

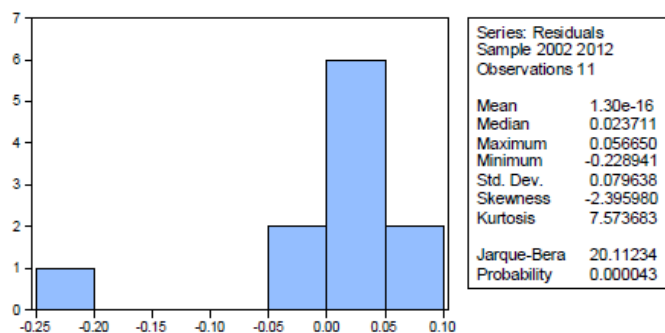
1. Hypothesis 1 : Export has influence on economic growth.
2. Hypothesis 2 : Export has influence on employment.
3. Hypothesis 3 : Import has influence on economic growth.
4. Hypothesis 4 : Import has influence on employment.

### RESEARCH METHOD

The type of research used is explanatory research with quantitative approach. This research is implementing in Directorate of Traffic Goods of Batam Indonesia Free Zone Authority (BIFZA). The research also collect related data from the official site of BIFZA ([www.bpbatam.go.id](http://www.bpbatam.go.id)). This research uses annual time series data from 2002 to 2012 (11 years). The data used in this research are secondary data.

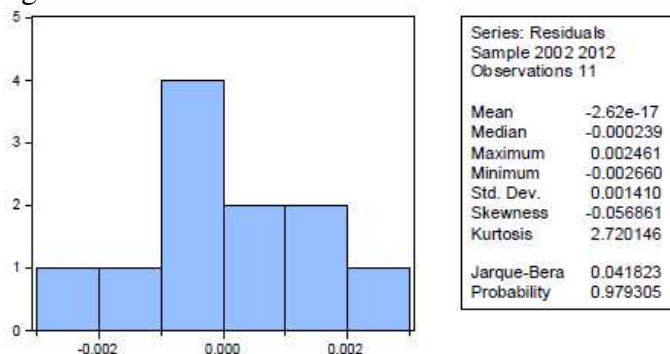
## RESULT AND DISCUSSION

### 1. Normality test



**Figure 2. Normality test on economic Growth (Y1)**

Based on the figure 2 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.



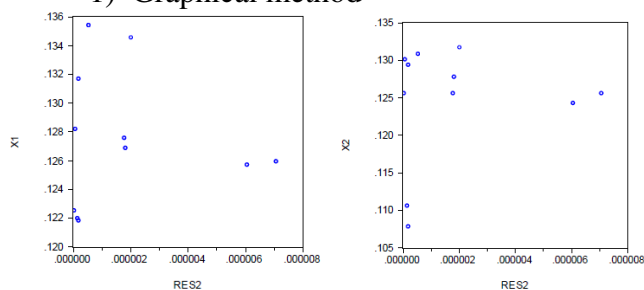
**Figure 3. Normality test on Employment (Y2)**

Based on the figure 3 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.

### 2. Classic assumption test

#### a) Heteroskedasticity test

##### 1) Graphical method



**Figure 4. Residual of Independent Variables**

Based on the figure 4 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.

#### 2) Statistic test method

There are some statistic test can be used to detect the presence of heteroscedasticity.

## CONCLUSIONS AND RECCOMENDATIONS

### A. Conclusions

1. In the result of F-statistic test and t-statistic test, the export does not has influence on the economic growth.
2. In the result of F-statistic test and t-statistic test, the import does not has influence on the 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. Recommendations

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  
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.

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

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